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Multidisciplinary students' self-evaluated competence at the beginning of studies in digital health and social care service specialisation education

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Abstract

Digital transformation in health and social care is a fast-growing sector globally. Multidisciplinary professionals are needed in the development of digital health and social care services. This study aimed to evaluate the self-assessments of students participating in specialisation education on the importance of multidisciplinary digital competences, focusing on competence in the digitalisation of social and health care and how they assess their own competences at the beginning of their education. The purpose was to describe the multidisciplinary competences in this area at EQF level 6 by using a self-assessment tool.

Data were collected from 274 specialised education students in the years 2021 and 2022 from 14 universities of applied sciences. The background information included participants' years of work experience, professional education area and study credits. There were nine competence areas. The survey contains 61 Likert scale questions. Cronbach's alpha was 0.962 (N=126). The paired t-test was used for statistical analyses to determine the relationship between the importance of a competence and students' current levels of competence. For each pair, the arithmetic mean for the how important variable was higher than the current competence variable. The average means of all competences' differences was 1.04 between how important the competence was to the students and their current understanding of their own level of the particular competence. Service design competences have both the highest average level of student competence and variance in competence. The second-largest variance was in online guiding competences, which is one of the clearest competences for students to understand the content. These results may be explained by expert bias, where a person with a lot of knowledge rates their own level of knowledge lower, while a person with less knowledge does the opposite. The gap between current competence level and the assessed importance of the particular competence shows that there is a need for specialisation education in multidisciplinary competences for developing digital health and social care services. The overall result is a self-assessment tool that can be used to assess the

level of competences in different competence areas in specialisation education. It is important for health and social care organisations to manage the competences and continuing education of their professionals.

Keywords: competence, health informatics, health care, social welfare, multidisciplinary, specialisation education

Introduction

Among the European Union's (EU) targets ahead of 2030 is to pursue a human-centric, sustainable vision for digital society to empower citizens and businesses. The four main goals are to develop a digitally skilled population and highly skilled digital professionals, secure and sustainable digital infrastructures, the digital transformation of businesses and the digitalisation of public services [1].

Finland has been implementing an extensive reform of its social and health services that aims to deliver services cost-effectively by digitalising health and social services and their related practices [2-5]. At the beginning of 2023, the social welfare and health care system will undergo a major change. The coordination and integration of services will enable more client-centred care and service delivery and improve the quality and efficiency of services [6].

The effective use of digital services in social and health care requires professionals to be competent in digital environments and services, not forgetting client support and guidance [7-9], and multidisciplinary teams need expertise in developing digital tools and services for social and health care [10-14]. However, there is also a need to strengthen professionals' and students' digital skills [15-17]. In informatics competences, documentation in the electronic health record systems is one of the basic skills of every professional and has been at the core of bachelor studies for more than 10 years [18]. International biomedical and health informatics educational recommendations [12] have been update in 2023 to reflect even better the societal changes related digitalisation in health care [19]. Despite developments and changes, there remains a strong emphasis on values and ethics [20,21], role and responsibilities, multidisciplinary communication and teamwork skills [21]. Finnish bachelor's level education in health and social care uses multidisciplinary definitions of health and social care IT competences, which are divided into 12 competence areas [10]. In developing health and social care in a multidisciplinary way the professionals are increasing the competencies to exam the questions, methods, and theoretical starting points from the perspective of different fields, considering a common research problem or area, while respecting the boundaries of their own discipline. In addition to the above, multidisciplinary also includes the administrative and organizational aspects of teaching in a common environment [14].

The need for digitalisation skills will increase significantly in all sectors by 2035, according to EU indicators. Finland uses more e-services in social and health care than its neighbours, despite greater labour productivity and investment in information communication technology (ICT) services in those countries [22]. The need for digital competence and continuous learning will increase in all areas in the future [22,23,8]. Digital service development expertise and expertise in co-creation [24] also bring opportunities to strengthen digitalisation. Expertise related to digitalisation, such as digital solutions and platform use expertise, will become

important skills in the future [8,25]. Efficacy and the growth of service needs require the organisation and production of services, both locally and virtually, therefore, education actors, in cooperation with working life, must develop pedagogies and curricula to produce the versatile digital skills required in hybrid environments as part of their degree training and in the provision of professionals' ongoing learning and training [26].

The development of lifelong learning is a key objective of the EU, and it has published a wide and varied range of strategies in this area. Lifelong learning is an important element in professionals' personal development and their co-creation activities [24]. In health [27] and social care [28], there is also legislation requiring professionals to maintain levels of competence and obliging employers to provide annual opportunities for continuing education. Education should be inclusive by providing support, collective reflection, guidance, and skills assessments [29,20]. One of the EU's objectives is to promote appropriate and high-quality education through certification, skills anticipation, and complementary training among stakeholders, to stimulate demand and synergies between them and education ecosystems [22,24,2].

In Finland, universities of applied sciences (UAS) have worked cooperatively to produce and implement specialisation education [30] that aims to contribute to professional development and competence at Level 6 of European Qualification framework (EQF), and in bachelor-level education [31]. In specialisation education, the studies' content is at a specialisation level. This means that the education does not deepen, but rather broadens, students' competences [32]. The minimum scope of specialisation education is 30 credits [30]. Its strengths include research orientation, the development of expertise, cooperation with working life and the expansion of participants' cooperation networks [32]. The participating UAS have also diversified their working life connections through educational cooperation [33]. In this study, we describe the specialisation education content at EQF Level 6 based on knowledge, skills, responsibility, and autonomy [31].

This study is part of the project, which aims to strengthen the digitalisation competences of social and healthcare professionals. In cooperation with 14 UAS, the project has produced a specialisation curriculum, 'Multidisciplinary competences in the development of digital social and health services' [34], based on the competences and context of the social and health sector developed by the national project (2018–2020) [10,35]. The core of multidisciplinary education is the multidisciplinary teacher team [36]. The coordinating teachers are mostly from the health and social care sectors, and service design. The project implemented a new pedagogical model for implementing specialisation education [34].

This study aimed to evaluate the self-assessments of students participating in specialisation education on the importance of multidisciplinary digital competences, focusing on competence in the digitalisation of social and health care and how they assess their own competences at the beginning of their education. The purpose was to describe the multidisciplinary competences in this area at EQF level 6 by using a self-assessment tool. This study seeks to answer the following research questions:

1) What is the difference between students' self-evaluated levels of multidisciplinary competence and the competences they consider important?

2) How do students evaluate their current multidisciplinary competence and the importance of the competence area related to the digitalisation of health and social care?

Material and methods

Data were gathered from 274 students in specialisation education in 2021 and 2022. Background information included years of work experience, area of professional education and study credits. A questionnaire with 4 background questions; 61 Likert scale questions (scale, 1=disagree to 4=agree); and 9 open questions, one for each competence area, was constructed. The structure of the questionnaire was based on areas of competence used in earlier studies [10]. The questionnaire was modified so that students answered from their own perspective on each of the competences at two levels. First, they responded by describing how important it would be to acquire the skills described in this sentence for their own professional competence. Then, they assessed their current level of competence in relation to the sentence in question.

Cronbach's alpha was 0.962 (N=126) for all materials. SPSS 28.0 with t-test was used for statistical analyses to find the relationship between the importance of the competence and the level of students' current competences. Paired t-tests between variables were calculated and standardised using an average of the variances. Paired t-test is a significancy test between two variables means, a to test for differences between questions according to significance. The confidence interval for the differences was 95%; the significance level was 5%. Correspondence analysis is valuable for considering relationships between question options and attributes and giving a quick view of attribute relationships that cannot be shown with other graphs. Correspondence analysis shows the relative relationships between and within two groups of variables in a contingency table.

Grönroos [37] introduced the concept of 'perceived service quality' borrowing elements from the disconfirmation paradigm view of satisfaction in the consumer behaviour literature. After an initial divergence between satisfaction and service quality research, the two concepts began to develop independently from each other. As gap analysis describes perceived differences between expectations and experiences, the idea of a disconfirmation of expectations is borrowed from the consumer behaviour literature on satisfaction research.

The gap model focuses on describing the gap between expected and the experienced perspective. Gap analysis requires measuring and defining the existing situation and expectations to verify the magnitude of the difference as gap. In this study, we used the gap model to investigate whether there is a difference between peoples' current competences and how important they consider a particular competence to be. (Table 1). The gap is equal to experience minus expectations, and the t-test shows whether there is a difference between them. We need two values, the current value, and the comparable value – the experience and the expectation.

Results

Of the 180 participants, 2.80% had been working for 1.1–2.0 years; 3.90% for 2.1–3.0 years; 2.80% for 3.1–4.0 years; 1.10% for 4.1–5 for years; 16.10% for 5.1–10.0 years; and 73.30% for 10 years or more. Nurses were the largest group of graduates, at 53.90%. Bachelor of social services graduates accounted for 20.60% of respondents, and psychotherapy graduates accounted for 8.90%

of them. Those holding a master's degree in social and health care accounted for 6.10%, another master's degree 3.30%, a vocational degree 2.80% or a double degree 2.80%. A bachelor's in business administration in information technology accounted for 0.60% of participants, and a bachelor's in business administration described 0.60% of all participants.

Pairs were formed based on the respondent's description of the importance of the content for his/her own competence and his/her current competence. In t-test all pairs differed from one another. Significant level is 0.000. as can be seen in the supplement table (Table S1).

The most meaningful difference between the grouped competences was the arithmetic mean of the service design competence (Table 1).

Table 1. The difference between the average of current competence and the importance the student attaches to the content.

Current Competence	Average	How Important Average	Differences
Informatics Competence			
Compatibility	3.0167	3.7833	
Accessibility	2.8111	3.7389	
Mobility	2.6056	3.4222	
Records	3.2056	3.7333	
Profiles	2.8722	3.6480	
Legislation	3.0222	3.7944	
Reliability	3.2179	3.7778	
Principle of Guidance	2.3933	3.4022	
Protection	2.8778	3.7333	
Total	**2.8914**	**3.6704**	**0.7790**
Knowledge-based Management Competences			
Knowledge management	2.6167	3.5889	
Terminology	2.0223	3.3000	
Decisions knowledge	2.4667	3.6667	
Evidence	2.6389	3.6111	
Developing	2.6333	3.7000	
Clients' producers	2.7222	3.6833	
Total	2.5167	3.5917	**1.0750**
Competence in Monitoring Health and Well-being			
Adequacy	2.7444	3.6611	
Sensors	2.3667	3.3500	
Result sensors	2.4111	3.4222	
AI	2.4167	3.5111	
IoT	2.0000	3.2235	
Wearable	1.8333	2.9777	
Remote	2.4833	3.4944	
Robotics	2.0167	3.1667	
Total	**2.2840**	**3.3508**	**1.0668**
Client-oriented Digital Service Competence in Health and Social Care			
Use information	3.0559	3.7167	
Client-appropriate	2.7598	3.6167	

Use eTools	3.1278	3.8500	
Multidisciplinary	3.2611	3.7667	
Client-centred	3.3889	3.8667	
ePaths	2,.111	3.7444	
Assess	2.5363	3.5810	
Costs	2.6722	3.6722	
Total	**2.9391**	**3.7268**	**0.7877**
Ethical Competence			
Ethical dilemmas	3.0111	3.7167	
Related decisions	2.9500	3.7833	
eEnvironments	3.0838	3.7778	
Ethical comp	2.7667	3.6556	
Analyse AI rob	2.0335	3.3017	
Ethical management	2.1461	3.4749	
Total	**2.6652**	**3.6183**	**0.9531**
Online Interaction Competence			
Interaction	2.4222	3.4667	
Factors affecting	2.5500	3.5556	
Own competence	2.7944	3.6333	
Successful guidance	2.6000	3.6444	
Teams	3.1778	3.8111	
Use chat	2.7151	3.5444	
SoMe	2.5722	3.4778	
Total	**2.6903**	**3.5905**	**0.9002**
Online Guiding Competence			
Describe eProcess	2.1556	3.3722	
Clients' needs	2.4444	3.5722	
Evaluate eSession	2.3611	3.5611	
Copyright	2.3000	3.5667	
Video	2.0500	3.4167	
Audio	2.0167	3.3611	
License	**1.7263**	3.3000	
Assess effect	2.2056	3.5833	
Total	**2.1574**	**3.4667**	**1.3092**
Societal Competence in Digital Health and Social Care Services			
Inclusion	2.6278	3.7222	
Inequalities	2.5889	3.6333	
Aware discriminatory	2.6889	3.7374	
Life	2.8278	3.8278	
Total	**2.6833**	**3.7302**	**1.0469**
Service Design Competence			
Key concepts SD	2.1629	3.6500	
Tools methods SD	2.0500	3.7278	
Evaluate SD project	1.9889	3.6816	
Multidisciplinary	2.9056	3.8101	
Develop business	1.9444	3.4607	
Total	**2.2104**	**3.6660**	**1.4557**
Average mean of means	0.031876138	0.056732363	-0.0248562

The greatest difference in the arithmetic means was in service design competence, with the highest value for the importance of the content: 'I can operate in multidisciplinary teams and bring my own competence to co-creation'. The most relevant content was included in the correspondence analysis. Correspondence analyses measure the similarities between options for questions containing different attributes.

The current competence of work experience and multidisciplinary content showed that the options 'partially agree' and '5.1 to 10 years' are near to each other in the correspondence analysis, as are the options 'agree' and '10 years and more'. These two pairs show a connection (Figure 1).

The importance of multidisciplinary competence, compared to work experience, showed that 'partly agree' and '10 years and more' are close in the correspondence analysis, as are the options 'agree' and '1.1–2 years' and '2.1–3 years. These show a connection to each other (Figure 2).

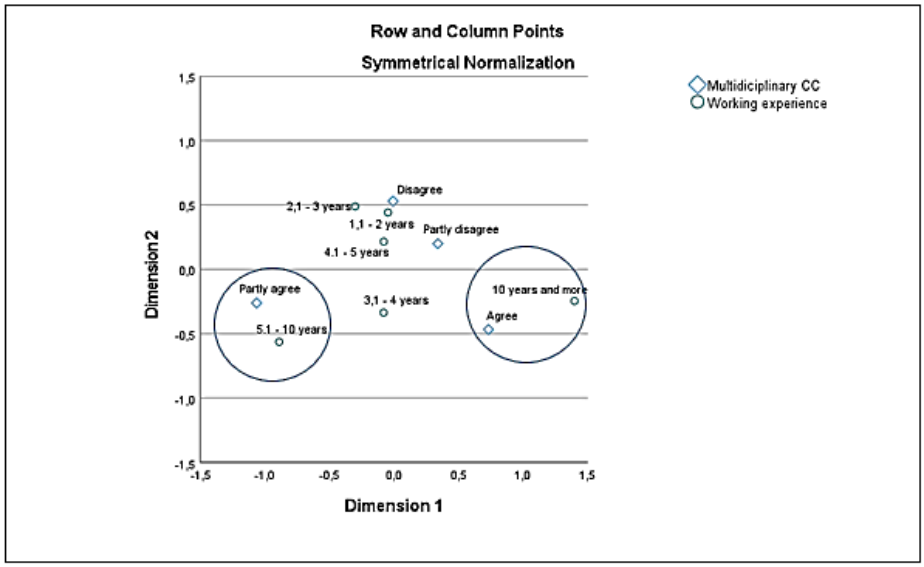

Figure 1. Correspondence analysis between the current competence content 'I can operate in multidisciplinary teams and bring my own competence to co-creation' and work experience.

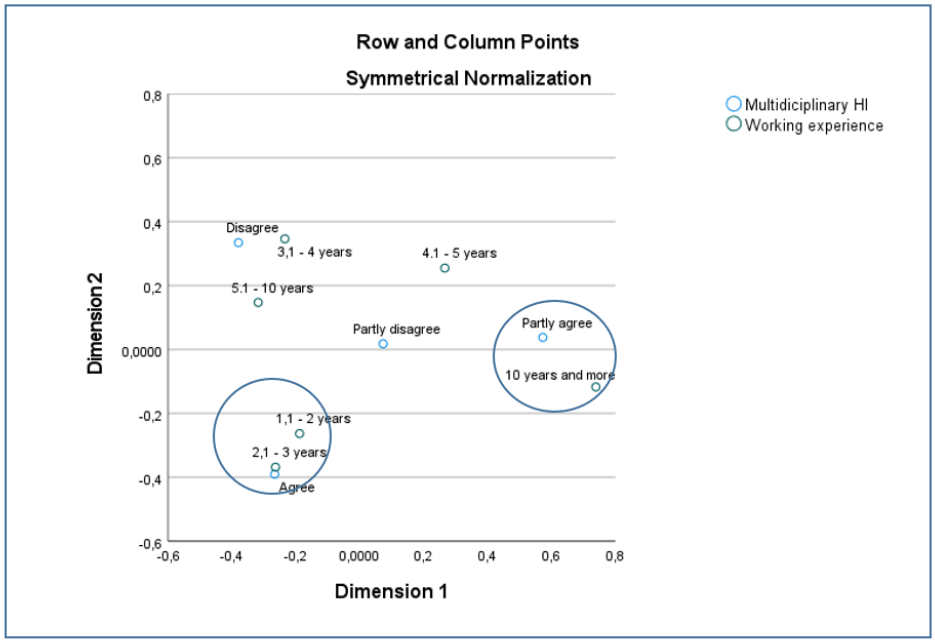

Figure 2. Correspondence analysis between 'I can work in multidisciplinary teams and contribute my skills to co-development' and the importance of work experience.

Discussion

This study provides answers to what is the difference between students' self-assessed levels of multidisciplinary competences compared to what competences they consider important and how students assess their current competences and the importance of the competences in the digitalisation of social and health care.

In this study a majority of students in specialisation education are health and social care professionals with more than 10 years' work experience. The working environment for health and social care professionals is changing, with digitalisation playing a major role in daily work [6] and requiring new skills [10-12]. The need for lifelong learning is also based on health and social care legislation [27,28] The students who participated in the education were multidisciplinary, which is evident among health and social care professionals, but the group also included some ICT and business professionals. Aungst [36] found that multidisciplinary teams of teachers are needed to inspire multidiciplinary groups of students to collaborate. The development of digital health and social services requires multidisciplinary collaborations among professionals from health and social care, ICT and business, working together during the digitalisation process [14].

The results show a difference between students' self-evaluated levels of multidisciplinary competence and the competences they consider important. Competences are defined in nine area groups [10]. All variable competence pairs differed from one another. There was a statistical t-test difference between expectations and experiences, meaning there is a difference between current competence and how important the student considers those competences to be in their work (Table S1).

Based on students' assessment, the competence levels and the assessed importance of the competences from the perspective of their work varied. None of the current competence averages were better than how important respondents evaluated the competence area. Societal competence was assessed as the most important competence while the highest current competence was client-oriented digital service in health and social care. It´s important to understand the needs of society from a broader perspective, while providing tailored support to user groups who need specific support in using digital services [9]. The results also show that service design competences have the highest difference among students' competences. Students generally do not have much previous experience with service design [7]. All these competences, which were assessed important, are central to putting the client at the centre [10]. These findings need to be even more considered in education [34].

Respondents assessed their current competence in online guiding low. This competence is one of the most concrete areas of competences. Other competences are more abstract at the beginning of their studies. This result may be explained by the so-called 'expert bias', wherein a person with a lot of knowledge rates his or her own level of competence lower than a person with less knowledge. An optimism bias may also explain the results [38]. Similar phenomena appeared in Lang's study [39]. Professionals should understand the context of the competencies and their own competence level [15]. Teachers should do even more to help students understand the content of the competence areas at the beginning of the studies [14].

Based on these results (Table 1), students need to increase their competence levels in the competence areas which have the biggest gap, these were service design, online guiding competence, knowledge-based management, monitoring health and well-being, ethical and societal competence in digital health and social care services [38]. Silvennoinen [21] also found that social and health professionals' competence in digital working practices is lacking in master's programmes. Critical self-assessment of ethical competence is one of the most important tools to ensure the best possible service to clients [20].

The smallest difference was in informatics competence (Table S1.) which includes the understanding of clients' care documentation and how to use documented data. This has been among the core competences of professionals for many years, yet it requires continuous education in working environments [18].

According to the study results, we can conclude that lifelong learning requires new cooperation between working life and higher education to strengthen workers' competences to meet the needs of future workplaces. The results of this study support the findings by Jarva et al. [25], that health professionals' perceptions of digital health competences focus on the ability to provide client-centred care by assessing the need for and potential of digital health services in combination with more traditional methods. In addition, more thought should be given to the importance and relevance of different levels of education [31], or whether specialisation education should be at a higher level.

The students' evaluations in this study revealed differences between their work experience and the importance they attached to their competences in multidisciplinary teamwork and to bringing their own expertise to the co-creation process. [23]. Students with more than 10 years' work experience assessed their competence in multidisci-

plinary co-operation and contributing their skills to co-development highest. Those with less than three years' experience agreed mostly on the importance of multidisciplinary approaches. (Figure 1 and 2.) Today's bachelor degree equips students to work with multidisciplinary phenomena and gives them a better understanding of the importance of multidisciplinary work [35]. Future research should evaluate the effectiveness of education on competences, taking into account the participants' years of graduation.

Understanding the self-assessment results and the factors that contributed to them is often challenging [17,20]. This study has produced a new evaluation tool of the specialisation education. It is relevant for the self-assessment of the students' own competences ´ at the beginning of education. The self-assessment skills of health and social care professionals are a very important part of their professionalism and an important dimension of service development. As professionals, students need to know their current level of competences and what kind of further education they will need in the future.

The researchers have tried to interpret these results as objectively as possible, despite the educational development role in specialisation education. The research has aimed to objectively bring out both successes of the education process and areas in need of development [40]. The questionnaire used in this study was purposeful, using categories and content from Tiainen et al. [10] and the EQF 6 [31] levels. Quantitative data from the questionnaire were reported in this study. Our results are not from a representative sample, because it mainly reflects the opinions of the health and social care student participants however, these results imply that students have the competence to take part in multidisciplinary digital health and social care service development. In this study, the competences were contextualised to specialisation education. The questionnaire was evaluated with Cronbach's alpha (0.962), and the reliability of the questionnaire was found to be good.

This study and measurement instrument were evaluated by the Human Sciences Ethics Committee of the Helsinki Region Universities of Applied Sciences 14/2021. Good ethical research methods were followed in the implementation of the research [41,42]. Students were informed about the study and that completing the questionnaire was voluntary. They were encouraged to participate because of the importance of the project, which may have affected the response rate and results.

Conclusion

All specialisation students assessed a gap between their current competences and the importance they ascribe to the competences relative to their work. This shows that there is a need for specialisation education on multidisciplinary competences in digital health and social care services.

The effective use of digital services in health and social care services requires professionals to have the skills to work in digital environments and services, not forgetting customer client support and guidance. The results show that long work experience builds competence in working in multidisciplinary teams and in presenting one's own professional contribution. However, students with less work experience consider multidisciplinary co-operation to be highly important. Multidisciplinary co-development is essential for developing digital services in health and social care.

The overall result is the produced a self-assessment measurement tool to evaluation of the specialisation education competences. Self-

assessment is an important method for identifying professional's own competences. In addition, organisations should outline future competence needs, for which this assessment tool can be used. In large perspective health and social care organisations need to have plan for they professionals continuing education.

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Conflict of interest

The authors declare no conflicts of interest.

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Appendix

Table S1. Paired samples T-test for differences between questions according to significance.

Name of Pairs	Paired Differences			df	Sig. (2-tailed)
How Important (HI)- Current Competences (CC)	Mean	Std. Deviation	Std. Error Mean		
I understand the principles of **accessibility**, storing, saving, disclosure and ownership of electronic information.	0.92778	0.78413	0.05845	179	**0.000**
I understand the principles of **compatibility** of in relation to my own work.	0.76667	0.73310	0.05464	179	**0.000**
I understand the **mobility** of information in electronic information systems.	0.81667	0.80830	0.06025	179	**0.000**
I can explain the importance and principles of keeping electronic **records**.	0.52778	0.78698	0.05866	179	**0.000**
I understand the different user **profiles** of electronic information use and the related responsibilities.	0.77654	0.76827	0.05742	178	**0.000**
I am aware of the key content of health and social care **legislation** from the perspective of my own work and can act accordingly.	0.77222	0.75362	0.05617	179	**0.000**
I know how to critically assess the **reliability** of information sources.	0.55866	0.67928	0.05077	178	**0.000**
I understand the special **principles** and methods of **guidance** and cooperation in relation to informatics.	1.01695	0.86913	0.06533	176	**0.000**
In my own work, I can apply the special features of data **protection** and data security in the informatics of health and social care.	0.85556	0.77042	0.05742	179	**0.000**
I can describe what is meant by '**knowledge**-based **management**'.	0.97222	0.82848	0.06175	179	**0.000**
I can describe the concepts, related concepts, value chain and **terminology** of knowledge-based management.	1.27933	0.91195	0.06816	178	**0.000**
In my work, I can base my **decisions** according to the principles of **knowledge**-based management.	1.20000	0.81467	0.06072	179	**0.000**
I can describe the principles of **evidence**-based activities.	0.97222	0.85502	0.06373	179	**0.000**
I can collect, assess, analyse and use information collected in healthcare and social welfare for the purpose of **developing** my own work.	1.06667	0.82962	0.06184	179	**0.000**
I can assess the role of **clients** in healthcare and social welfare as **producers** and users of information.	0.96111	0.74267	0.05536	179	**0.000**
I can assess and interpret the reliability and **adequacy** of information related to the monitoring of health and well-being.	0.91667	0.80414	0.05994	179	**0.000**
I can describe the different **sensors** and digital tests used to measure health and well-being, as well as their usability.	0.98333	0.89988	0.06707	179	**0.000**
I can make use of the **results** of different types of **sensors** and digital tests that measure health and well-being.	1.01111	0.8906	0.06638	179	**0.000**
I understand how **AI** (artificial intelligence) can be used in health and social care services.	1.09444	0.85022	0.06337	179	**0.000**
I understand the potential of **IoT** in clients' self-management.	1.22346	0.96297	0.07198	178	**0.000**
I know how to use and take advantage of **wearable** technology in the care of individuals.	1.13966	1.06399	0.07953	178	**0.000**
I know how to use the solutions of **remote** healthcare in the treatment of clients.	1.01111	0.89060	0.06638	179	**0.000**
I can explain the purposes of **robotics** in health and social care.	1.15000	0.98862	0.07369	179	**0.000**

I can search for and **use information** related to health and social care legislation.	0.65922	0.79398	0.05934	178	**0.000**
I can help a **client** choose the **appropriate** electronic health and social care service.	0.85475	0.81497	0.06091	178	**0.000**
I can **use** electronic service environments and **tools** in my work.	0.72222	0.77716	0.05793	179	**0.000**
I understand the role of my professional group in **multidisciplinary** and client-oriented health and social care.	0.50556	0.74367	0.05543	179	**0.000**
I understand what is meant by placing the **client** at the **centre** of the service system.	0.47778	0.66396	0.04949	179	**0.000**
I recognise and manage different electronic service **e-paths** of clients and the related tools.	1.03333	0.81123	0.06047	179	**0.000**
I can **assess** different electronic services and digital appointments from the user's perspective.	1.04469	0.86649	0.06476	178	**0.000**
I understand factors affecting **costs** in the development of health and social care services.	1.00000	0.82557	0.06153	179	**0.000**
I recognise the existence of **ethical dilemmas** in the digital operating environment of health and social care services.	0.70556	0.79592	0.05932	179	**0.000**
I can propose solutions and present arguments, and I know how to make **related decision**s and act accordingly.	0.83333	0.80153	0.05974	179	**0.000**
I can act professionally in a variety of interaction situations in digital operating **environments**.	0.69274	0.86147	0.06439	178	**0.000**
I can apply and assess professional **ethical** competences in different digital operating environments.	0.88889	0.80424	0.05994	179	**0.000**
I can **analyse** special characteristics related to artificial intelligence and robotics **AI Rob**.	1.275281	0.906696	0.06796	177	**0.000**
I can present ways to implement **ethical** and encouraging **management** in digital health and social care services.	1.33333	0.96922	0.07285	176	**0.000**
I can describe the characteristics of online **interaction**.	1.04444	0.96776	0.07213	179	**0.000**
I can analyse **factors affecting** online interaction.	1.00556	0.94246	0.07025	179	**0.000**
I can assess and analyse my **own competence** in online interactions.	0.83889	0.9103	0.06785	179	**0.000**
I can plan, implement and assess a **successful** online **guidance** situation.	1.04444	0.96776	0.07213	179	**0.000**
I can make use of electronic environments in online interaction, such as Zoom or **Teams**.	0.63333	0.89630	0.06681	179	**0.000**
I know how to **use chat** when providing guidance to a client.	0.83240	1.06257	0.07942	178	**0.000**
I can assess and compare the use of social media **(SoMe)** applications in online professional interaction.	0.90556	0.97280	0.07251	179	**0.000**
I can **describe** the process of online guidance. **e-process**	1.21667	0.97611	0.07276	179	**0.000**
I can assess **clients' needs** for online guidance and their IT competence.	1.12778	0.92169	0.06870	179	**0.000**
I can plan, implement and **evaluate** an online guidance **e-session** with a client.	1.20000	0.98253	0.07323	179	**0.000**
I can prepare accessible guidance material for online use, taking into account **copyright** issues.	1.26667	0.98367	0.07332	179	**0.000**
I can produce a **video** for online guidance in accordance with the accessibility instructions.	1.36667	1.00223	0.07470	179	**0.000**
I can create an **audio** file for the purposes of providing guidance to a client.	1.34444	1.01013	0.07529	179	**0.000**
I can choose the correct **license** for my guidance material, and I understand the meaning of licenses.	1.56983	1.05436	0.07881	178	**0.000**

I can **assess** the **effects** of online guidance.	1.37778	0.95224	0.07098	179	**0.000**
I can use my own role to promote the **inclusion** and opportunities for participation of people in an increasingly technological society.	1.09444	0.83027	0.06188	179	**0.000**
I can analyse the **inequalities** taking place in society as a result of technological development.	1.04444	0.88956	0.06630	179	**0.000**
I understand the inequalities related to technological development. I am **aware** of the **discriminatory** structures and practices related to technology.	1.03911	0.82355	0.06156	178	**0.000**
I understand how the technological development of electronic health and social care services and society affect the well-being and everyday **life** of people.	1.00000	0.70908	0.05285	179	**0.000**
I can define the **key concepts** of service design (**SD**).	1.48315	0.99277	0.07441	177	**0.000**
I can use the **tools** and **methods of SD** in the development of the world of work.	1.67778	1.00087	0.07460	179	**0.000**
I can plan, implement and **evaluate** an **SD project**.	1.69274	1.01699	0.07601	178	**0.000**
I can operate in **multidisciplinary** teams and bring my own competence to co-creation.	0.90503	0.92221	0.06893	178	**0.000**
I can apply the possibilities of service design to the development of **business** activities.	1.52247	1.02072	0.07651	177	**0.000**