

The design of a handbook for dietetics educators on the needed competencies and training of dieticians in virtual nutrition counselling

Master Thesis

For attainment of the academic degree of
Master of Science in Engineering (MSc)

in the Master Programme Digital Healthcare
at St. Pölten University of Applied Sciences

by

Dennis Rosner BSc

[51804638]

First advisor: FH-Prof. Anita Kidritsch, PT MSc

Vienna, 25.05.2022

Declaration

I declare that I have developed and written the enclosed Master Thesis completely by myself, and have not used sources or means without declaration in the text. Any thoughts from others or literal quotations are clearly marked. This work was not used in the same or in a similar version to achieve an academic grading or is being published elsewhere.

Vienna, 25.05.2022

.....
Place, Date



.....
Signature

The European Commission's support for the production of this publication does not constitute an endorsement of the contents, which reflect the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

Preface

I would like to take this opportunity to thank everyone who supported me during the process of writing my master's thesis.

First and foremost, I would like to thank my supervisor, Prof. Anita Kidritsch, PT, MSc. Thank you very much for the helpful suggestions and constructive feedback. I would also like to thank the workshop participants for their time and for supporting the research work. I would also like to thank my family, who have supported and motivated me throughout my studies. A special thanks go to my girlfriend Stefanie for her solid emotional support and always being sympathetic.

Abstract

Introduction: Since the onset of the Covid-19 pandemic and the resulting measures, the importance and use of virtual nutrition counselling have increased dramatically. Dieticians have had to switch from a face-to-face to a digital setting to provide nutritional counselling to patients. To ensure effective and safe use of virtual nutrition counselling, training in digital technologies is essential.

Aim: This work aims to determine which competencies dieticians need when conducting virtual nutrition counselling and how dietetics educators should design a course on virtual nutrition counselling.

Methods: A group survey was conducted in the sense of a design thinking workshop. Dieticians, dietetics students, dietetics educators and people with health concerns participated in the workshop. The collected data were analysed qualitatively by using inductive, summarising qualitative content analysis according to Mayring.

Results: Dieticians should have the ability to communicate using digital technologies and be aware of the different ways they can be used and the relevance and functions of the various digital communication methods. The evaluation of the workshop showed that dieticians need to develop skills and abilities for virtual nutrition counselling to compensate for the reduced perception of gestures and facial expressions. Furthermore, it can be concluded from the workshop results that for training in virtual nutrition counselling, a combination of a theory part and practical exercises can be a suitable method.

Discussion: Based on the results of the research work, a handbook was created. The handbook is intended to support dietetics educators in planning and designing courses on virtual nutrition counselling. To determine whether the handbook meets the needs of dietetics educators, a usability test could be carried out in the future.

Kurzfassung

Einleitung: Seit dem Beginn der Covid-19 Pandemie und den daraus resultierenden Maßnahmen, hat die Bedeutung und der Einsatz von digitaler Ernährungsberatung drastisch zugenommen. Diätolog*innen mussten vom Face-to-Face Setting auf ein digitales Setting umstellen, um den Patient*innen eine Ernährungsberatung zu ermöglichen. Um eine wirksame und sichere Nutzung der digitalen Ernährungsberatung zu gewährleisten, ist eine Schulung im Umgang mit den digitalen Technologien unerlässlich.

Ziel: Das Ziel dieser Arbeit ist es, herausfinden, welche Kompetenzen Diätolog*innen bei der Durchführung einer digitalen Ernährungsberatung benötigen und wie Lehrende eine Lehrveranstaltung zum Thema digitale Ernährungsberatung gestalten sollten.

Methodik: Um das herauszufinden, wurde eine Gruppenbefragung in Sinne eines Design-Thinking Workshops durchgeführt. An dem Workshop haben Diätolog*innen, Diätologie Studierende, Diätologie Lehrende und Personen mit Gesundheitsanliegen teilgenommen. Die erhobenen Daten wurden qualitativ mittels induktiver, zusammenfassender qualitativer Inhaltsanalyse nach Mayring analysiert.

Ergebnisse: Diätolog*innen sollten die Fähigkeit besitzen mithilfe digitaler Technologien zu kommunizieren und über die unterschiedlichen Einsatzmöglichkeiten, die Sinnhaftigkeit und Funktionen der unterschiedlichen digitalen Kommunikationsmethoden Bescheid wissen. Die Auswertung des Workshops hat ergeben, dass Diätolog*innen Skills und Fähigkeiten für die digitale Ernährungsberatung entwickeln müssen, um die geringere Wahrnehmung von Gestik und Mimik zu kompensieren. Außerdem kann aus den Ergebnissen des Workshops abgeleitet werden, dass für die Lehre der digitalen Ernährungsberatung eine Kombination aus einem Theorieteil und praktischem Üben eine geeignete Methode darstellen kann.

Diskussion: Basierend auf den Ergebnissen der Forschungsarbeit wurde ein Handbuch erstellt. Das Handbuch soll Diätologie Lehrende bei der Planung und Konzeptionierung von Lehrveranstaltungen zur digitalen Ernährungsberatung unterstützen. Um herauszufinden, ob das Handbuch den Bedürfnissen der Diätologie Lehrenden erfüllt, könnte in weiterer Folge eine Usability Testung des Handbuchs durchgeführt werden.

Table of Content

Declaration	II
Preface	III
Abstract	IV
Kurzfassung	V
Table of Content	VI
1 Introduction	1
1.1 Problem	1
1.2 Research Questions	2
1.3 Goal	2
2 Background and Related Work	3
2.1 Possible applications of digital technologies in dietetics	3
2.2 Virtual nutrition counselling	5
2.2.1 Types of virtual nutrition counselling	6
2.2.2 Technical equipment	8
2.2.3 Characteristics of professional virtual nutrition counselling	8
2.2.4 Effectiveness of the virtual nutrition counselling	11
2.2.5 The cost-effectiveness of digital nutrition counselling	12
2.2.6 Use of virtual nutrition counselling in the dietetic practice	13
2.3 Competences of dieticians for the implementation of virtual nutrition counselling	14
2.3.1 General competences	14
2.3.2 Competency Framework	14
2.3.3 Competency framework for dieticians	16
2.3.4 Digital competencies of dieticians	17
2.3.5 E-Health readiness of dieticians	20
2.4 Courses to strengthen the digital competence of dieticians	22
2.4.1 How competencies are developed	22
2.4.2 Career readiness in the curriculum of dieticians	23
2.4.3 Dietetic educators	24
3 Methodology	26
3.1 Description of the method	26
3.2 DIRENE Project	26
3.3 Workshop	27
3.3.1 Participant of the workshop	27

3.3.2	Recruitment of the participants	28
3.3.3	Moderators of the workshop	29
3.3.4	Workshop Guide	29
3.3.5	Mural Board	30
3.3.6	The execution and procedure of the workshop	31
3.3.7	Recording of the workshop	34
3.4	Data analysis	34
3.5	Handbook dietetic educators	37
4	Results	38
4.1	Sampling	38
4.2	Workshop results	38
4.2.1	Preparations and requirements for virtual nutrition counselling	39
4.2.2	Patient's perspective	41
4.2.3	Needed competencies of dieticians	43
4.2.4	Planning and designing courses for virtual nutrition counselling	45
4.3	The Handbook	49
5	Discussion	55
5.1	Needed competencies of dieticians for the implementation of virtual nutrition counselling	55
5.2	Planning and designing courses for virtual nutrition counselling	57
5.3	The Handbook for dietetic educators	59
5.4	Limitations	60
6	Conclusion	61
7	References	63
	List of Figures	69
	List of Tables	70
	Appendix	71
A.	Workshop invitation letter	71
B.	Declaration of consent for participants	72
C.	Short questionnaire for participants	76
D.	Workshop guide	78
E.	Screenshots of the handbook	86
F.	Screenshot of the Mural Board	107

1 Introduction

Since the onset of the Covid 19 pandemic and the resulting measures such as social distancing, the importance and use of virtual nutrition counselling have increased dramatically. Video consultations have increased tenfold in the USA due to the Corona pandemic. Dieticians had to switch from face-to-face consultations to virtual nutrition counselling, which are remote technology-assisted (audio or video) visits to provide nutritional therapy for the clients. This has created some challenges for many dieticians (Farid, 2020).

The consequences of the Corona pandemic, the increasing number of chronically ill people and the associated rise in healthcare costs present the healthcare system with a significant challenge that must be overcome. Virtual nutrition counselling can provide effective and cost-efficient medical nutrition therapy for a large number of people (Kelly et al., 2020). The use of virtual nutrition counselling can have other benefits, such as increasing patient compliance, improving access to dietary advice for people in rural areas and reducing healthcare costs (Kaufman-Shriqui, Sherf-Dagan, Boaz, & Birk, 2021).

1.1 Problem

An understanding of technology and virtual nutrition counselling is already considered a key factor for working in dietetics practice and will be more important in the future. In the UK, Australia and Canada, dietetic training standards describe digital competencies such as appropriate and effective use of technology as an essential competency for dieticians. To ensure the effective use of virtual nutrition counselling, training on using the technologies is essential (Rollo, Collins, & MacDonald-Wicks, 2017). The demand for training on the topic of telemedicine is also increasing. A survey among dieticians showed that 82% of dieticians would like to receive further training in virtual nutrition counselling (Koemel, Shafieizadeh, & Farr, 2021).

The Academy of Nutritionists and Dietetics in the USA also advocates the further inclusion of digital competencies in the training of dieticians to strengthen

knowledge and skills on this topic. One problem is that in dietetics degrees, the use of digital technologies is often left to self-study or assumed to be learned in dietetics practice (Hamady et al., 2021). A survey among the professional group of dietitians in Austria showed that the most common reason dietitians do not use information and communication technology is a lack of knowledge and experience. In addition, the survey revealed that 88% of the dietitians would like to receive further training in virtual nutrition counselling (Rosner, 2020).

For these reasons, it is important to train and educate dietitians to strengthen their digital competencies. The development of such learning opportunities should be guided by a clear framework and should be tailored to the health profession's settings, context, and activities (Nazeha et al., 2020). Therefore it is essential to identify which competencies are needed for virtual nutrition counselling and how they should be taught.

1.2 Research Questions

The research questions of this master thesis are:

- Which competencies do dietitians need to provide virtual nutrition counselling?
- How should dietetics educators design courses on virtual nutrition counselling to strengthen the digital competencies of dietitian students?

1.3 Goal

The work aims to determine which competencies and skills dietitians need for the optimal implementation of virtual nutrition counselling. Another aim of the work is to identify how education should be designed to strengthen the digital competencies of dietitian students. To figure this out, a design thinking workshop will be conducted with dietitians, people with health concerns, dietetics students, and dietetics educators. The results will be analysed qualitatively by inductive qualitative content analysis according to Mayring. The results will then be used to develop a handbook intended to guide teachers from the dietetics program in developing courses on virtual nutrition counselling.

2 Background and Related Work

2.1 Possible applications of digital technologies in dietetics

The term digital health describes the use of information and communication technologies in the field of medicine as well as health professions to treat diseases and health risks remotely (Ronquillo, Meyers, & Korvek, 2022). Digital health has a broad field of applications and includes mobile health (mHealth), for example smartphone apps, telemedicine and wearables. The term also includes electronic medical records and emerging application areas such as artificial intelligence and big data. (Kelly et al., 2021). The use of information and communication technology can improve health care and patient safety and reduce costs (Maunder, Walton, Williams, Ferguson, & Beck, 2018).

Digital health technologies can help provide personalised nutrition care through the use of personal data. This will change the way nutrition counselling and therapy are delivered. Figure 1 shows how digital technologies can be used during the four phases of the Nutrition Care Process (NCP): nutrition assessment, diagnosis, intervention and monitoring and evaluation (Kelly et al., 2021).

The Nutrition Care Process promotes a consistent approach among dietitians and contributes to more effective nutrition advice. It is a systematic method and supports the dietitian in making the nutrition diagnosis and planning the resulting nutrition therapy for the patient. In addition, the NCP can facilitate the evaluation of patient outcomes. This makes it easier to evaluate the effectiveness of nutrition counselling (Chen, Gemming, Hanning, & Allman-Farinelli, 2018).

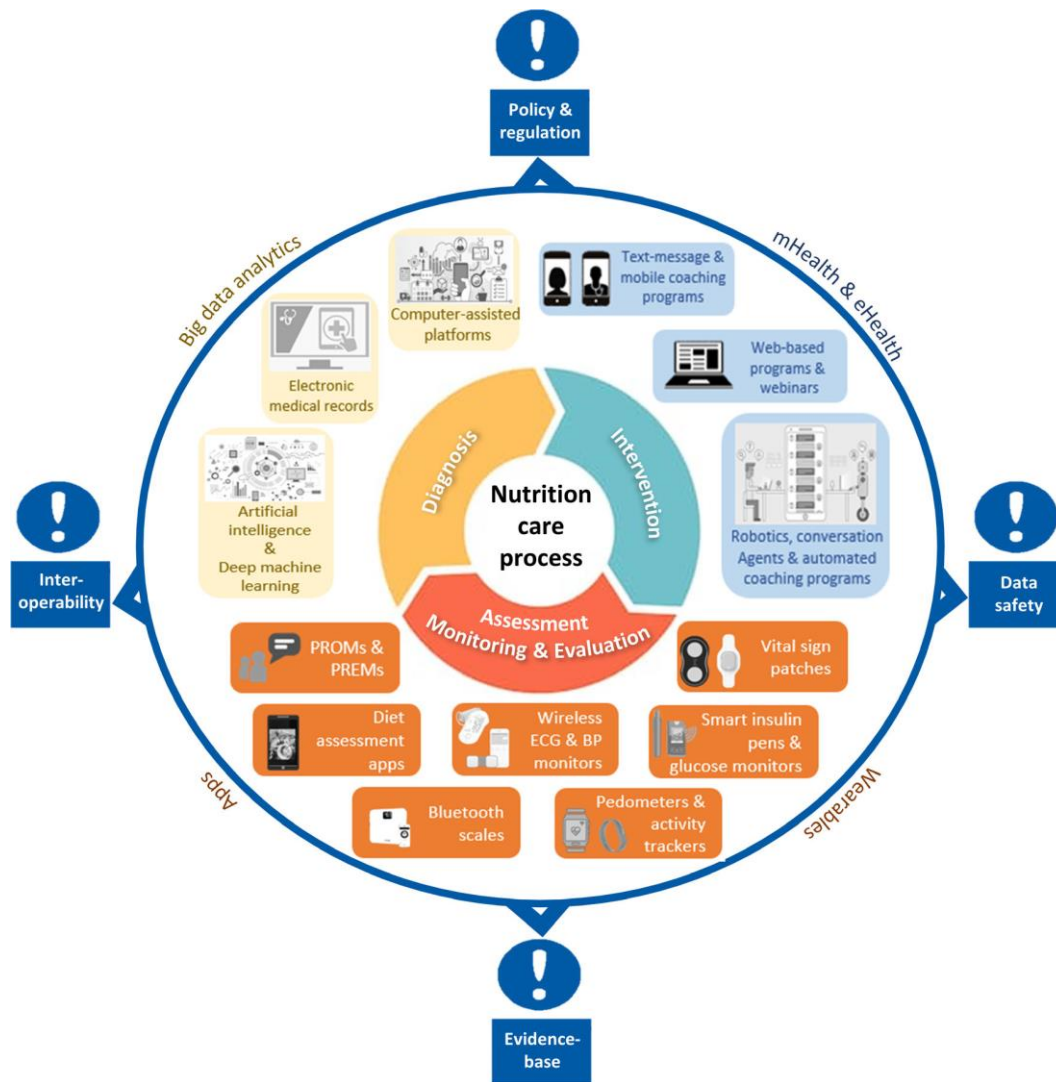


Figure 1 Digital technologies to compliment the Nutrition Care Process

In the first phase of the Nutrition Care Process, the nutrition assessment, smartphone apps, sensors, and wearables can be used. Linked to the electronic health record data, the collection and assessment of the patient's nutritional status can be improved (Kelly et al., 2021).

Programmes and software platforms that work with the help of artificial intelligence and machine learning can support the dietitian in making the dietary diagnosis. Data from the patients, such as medical history, medication and results of physical examinations, are processed and put into context using text recognition with natural language processing. However, it should be mentioned that there are only a few examples of the use of artificial intelligence and deep learning to make a dietary diagnosis (Verma, Hontecillas, Tubau-Juni, Abedi, & Bassaganya-Riera, 2018).

Effective nutrition interventions aim to bring about individual behaviour change. Long-term behaviour change and maintenance principles include motivation, habit formation, self-control, access to resources, and environmental and social influences. Telephone and video counselling, on-demand webinars and text messaging are interventions that can promote behaviour change and increase patient self-management (Kelly et al., 2021).

The use of digital technologies can improve the patient's self-monitoring and thus promote self-efficacy and motivation. This is made possible by recording health data or food intake using apps or wearables. This data can be shared with the treating dietician to track and evaluate previously set treatment goals. This allows the dietician to evaluate the progress of a nutrition intervention remotely. In the future, machine learning and algorithms could improve the monitoring and evaluation of eating behaviours (Kelly et al., 2021).

Digital health offers many benefits and opportunities for the dietetics profession, but there are challenges and obstacles to consider. For example, one challenge is making digital health accessible to all social classes. Other barriers are the interoperability of different devices and systems, data security, the legal framework, and evidence-based application (Kelly et al., 2021). In the further course of the chapter, the phase of nutrition intervention, particularly virtual nutrition counselling, will be discussed in more detail.

2.2 Virtual nutrition counselling

Nutrition counselling is a method to support patients in changing their diet. As part of the nutrition counselling, goals are set, and measures are created. The basis of a counselling session is a cooperative relationship between the therapist and the patient (Barkmeijer, Molder, Janssen, & Jager-Wittenaar, 2021).

In virtual nutrition counselling, the counselling/communication does not occur face-to-face. Instead, it takes place remotely via digital media, such as computers or smartphones. A distinction is made between synchronous and asynchronous forms of communication. In the synchronous form, the interaction between the dietician and the patient coincides. Examples are video conferences, chat, and telephone conversations. If the counselling process is carried out with a time delay, it is called asynchronous interaction. The exchange of information occurs via e-mail, text messaging or voice recordings. This form of communication is independent of time and place for patients and dieticians. The forms of virtual nutrition counselling are manifold, but it is important to note that the counselling

process should not be transferred one-to-one into the virtual world. Instead, the core of the previous procedure should be redesigned online with the help of creativity (Götz, 2020).

Figure 2 graphically represents the different types of virtual nutrition counselling.

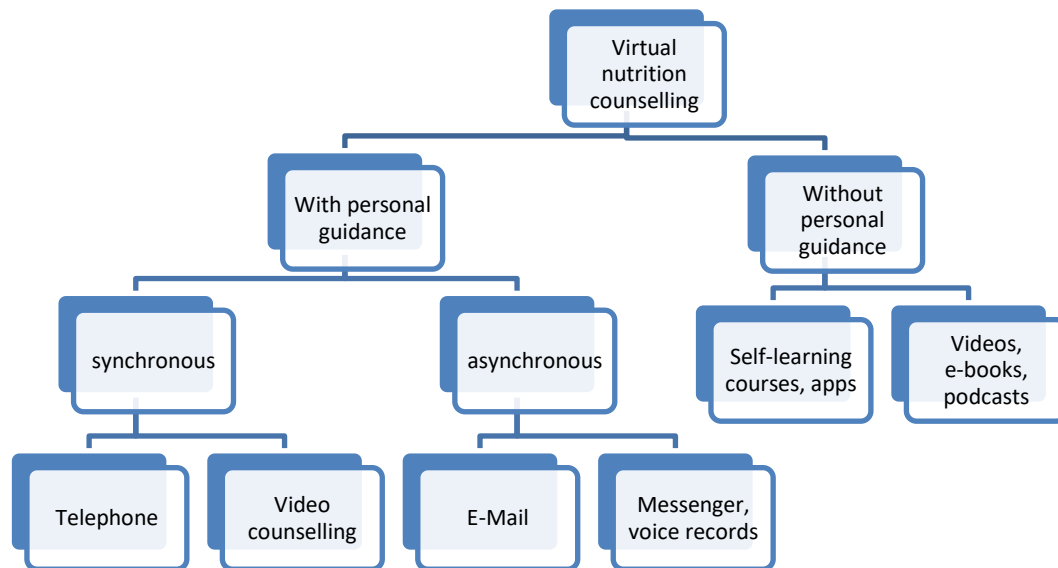


Figure 2 Types of virtual nutrition counselling, adapted from (Götz, 2020)

2.2.1 Types of virtual nutrition counselling

Without personal accompaniment

Counselling services without the personal accompaniment of a dietician include, for example, apps, videos, podcasts, e-books and self-learning courses. These counselling formats can be seen as a supplement and can in no way replace professional nutrition counselling (Götz, 2020).

With personal accompaniment

Forms of virtual nutrition counselling with personal guidance include, for example, email and messenger services, video and telephone counselling and live webinars.

E-mail and messenger services are forms of time-delayed written communication that many are familiar with and frequently use in everyday life. The text can be expanded with photos, information material, eating and drinking logs, and voice recordings, thus increasing the information content. The advantages of e-mail are that frequent contact is possible, and it is a documented process through the message history. It should be noted that misunderstandings can arise in e-mail

2 Background and Related Work

communication, as reading and writing skills are necessary. In addition, the lack of gestures, facial expressions and voice, means that there are only limited possibilities for expression. Furthermore, data security and data protection must be ensured. Messenger services are suitable for additional impulses to increase the patient's motivation (Götz, 2020).

Telephone counselling

The most significant difference between telephone communication and a face-to-face setting is the absence of visual channels. Telephone counselling has been offered in Germany since around 1995 and has the advantage of a low barrier to entry, as many find talking easier than writing. The disadvantages include reduced sensory perception and the fact that no visualisation is possible. Communication via the telephone can be used in addition to or independently of other counselling formats (Götz, 2020).

Video counselling

Video counselling is most similar to face-to-face counselling and is therefore well suited as an introduction to the counselling process. In contrast to telephone counselling, facial expressions, gestures and body posture become visible during video counselling. In addition, this medium offers a wide range of intervention and visualisation possibilities. The screen sharing function makes it possible to work together on a document and by using a camera, food can be shown, for example. A disadvantage could be the requirement of sufficient bandwidth for video counselling. A virtual workspace could additionally extend the simple video counselling. This is a space on the web where collaborative work can be done and offers a variety of visualisation possibilities (Götz, 2020).

Another possibility is integrated online counselling platforms, which are adapted to the therapist's needs and offer wide-ranging aids and tools to increase the possibilities in counselling. With the help of virtual three-dimensional learning worlds, for example, the patient's attention can be increased and situations can be simulated in a real environment. Virtual reality will play an increasingly important role in patient counselling in the future (Götz, 2020).

The term blended counselling describes the combination of several media formats. On the one hand, face-to-face counselling can be combined with an online format or two or more online formats can be offered (Götz, 2020).

Group courses can take place virtually with the help of digital technologies. Digital pinboards and whiteboards enable interaction within the group in the online setting (Hille, 2021).

2.2.2 Technical equipment

To implement virtual nutrition counselling, dieticians and patients need adequate technical equipment. The basic technical equipment includes a PC or laptop, a microphone, a stable internet connection, webcam, lighting and a headset (Krotz, 2021, p. 593). Decisive factors for a professional appearance are the sound quality, the camera angle and the light (Tewksbury, Deleener, Dumon, & Williams, 2021).

When choosing a headset, pay attention to sound quality, fit and comfort. It is advisable to choose a device with noise-cancelling, as this allows undisturbed work. For video counselling, it is not the bass or the surround sound that is decisive, but the speech intelligibility, for which headsets for office purposes are suitable (Kube, 2021).

The light source should be behind the camera and directed at the person's face to ensure optimal lighting. A light source coming from the side, from behind or from above can produce a shadow. This may prevent the patient from clearly recognising the therapist's facial features, making it difficult to perceive facial expressions (Tewksbury et al., 2021). So-called ring luminaires are suitable for optimal lighting. These are inexpensive, easy to transport and can be placed flexibly. Softboxes are another option (Krotz, 2021).

The camera lens should be at eye level. Stands or other objects can be used to place the camera at eye level. The camera view that can be seen should be subtle, uncluttered and neutral, thus offering as few distractions as possible. The therapist's clothing should contrast with the background and have no reflective print that could be distracting. The camera can be oriented so that only a wall or minimal decoration is visible. (Tewksbury et al., 2021).

The software for video counselling should comply with the provisions of the General Data Protection Regulation. The choice of the tool should be adapted to the needs and abilities of the patients, paying attention to user-friendliness and intuitive operation (Krotz, 2021).

2.2.3 Characteristics of professional virtual nutrition counselling

Before the appointment

Once a suitable counselling tool has been selected, the dietician must familiarise him/herself with it. Before using the tool for the first time, a test run should be carried out to know the functions (Kube, 2021). In order to optimally prepare the patient for the appointment, information can be sent to the patient in advance to

prepare him or her for virtual nutrition counselling. This includes, for example, the equipment the patient needs, how the login works, and how to deal with error messages. Furthermore, the patient should test the technology beforehand and go to a quiet place (Tewksbury et al., 2021).

The therapist should be online at least five minutes before the scheduled appointment and carry out a system check before the counselling session. This should include checking that the internet connection is stable, that the camera is placed at eye level and activated and that the light is sufficient. In addition, the function of the microphone and the loudspeaker should be tested to ensure an optimal start. It is important to have an alternative ready in case of a technical malfunction. For this, the session could be continued by telephone. This scenario must be communicated with the patient at the beginning (Kube, 2021).

In order to be able to assess another person and trust and believe them, the person's appearance and body language are often used. Therefore, the screen effect is of great importance in video counselling. Since only a small section of the respective persons can be seen during a video counselling session, what can be seen gains more value. This effect is also called the "magnifying glass effect". An optimal appearance can convey security and professionalism and is the basis for further trust-building (Krotz, 2021).

Professionalism also includes checking what the camera is capturing and that the background is tidy or that there are no private objects that should not be shown. One possibility is to use a self-designed background or a soft-focus to blur the background. It is also advisable to switch the mobile phone to silent to avoid distractions and keep the focus on the patient (Kube, 2021).

Shaping the start

In the virtual setting and face-to-face counselling, a successful start to the conversation is crucial for establishing a relationship between patient and therapist. The beginning of a counselling session should aim to create a positive and trusting atmosphere. This is achieved by giving the patient time to arrive and orientate himself. For this purpose, the patient should have the opportunity to enter the virtual room before the counselling begins. Visual and auditory elements can create a pleasant atmosphere (Krotz, 2021).

Dealing with each other in a virtual setting is new for many people. At the same time, social rules, rituals and norms have not yet been consolidated in the digital world. Because of this, the following questions buzz through the patient's mind: What is the process of virtual counselling? How can I ask a question? How does

2 Background and Related Work

communication work? The therapist should answer these questions at the beginning of the counselling session and gather essential communication rules and manners (Krotz, 2021).

Another question to clarify at the beginning is whether the patient's camera should be switched on or not. Some reasons speak in favour of it. The camera image of the patient creates a more personal atmosphere, and the therapist can recognise facial expressions and gestures. This makes it easier for the therapist to understand what the patient is saying. The "social presence" in the virtual space increases by switching on the camera. This means that the patient has a greater feeling of personal closeness and social presence. One reason that could speak against this is a weak internet connection (Krotz, 2021).

Interaction during counselling

The attention and willingness to listen are shorter in online counselling than in face-to-face counselling. Due to the strong fixation on the screen, communication requires an even higher cognitive performance on both sides. The patient's attention and concentration can be increased through a targeted change of method or form of work and the use of interactions. For example, various types of quizzes can create a "gamification" atmosphere (Krotz, 2021).

Discretion during counselling

In face-to-face counselling, the patient can see that privacy is maintained because they can see who is in the room. It is different in the virtual room because the counterpart can only see a section of the picture here. The patient cannot see who is on the right, left or in front of the therapist. Subconsciously, this lack of knowledge can hinder the establishment of a trusting and safe atmosphere. For this, it can be helpful to communicate to the conversation partner that there is no other person in the room and that the door is closed. If there is another colleague in the room, headphones can be used to maintain discretion (Krotz, 2021).

At the end of counselling

At the end of the counselling session, it is important to clarify how the information material, such as counselling brochures, will be passed on to the patient. It is advisable to send only PDF documents and no Word documents. The documents can be sent by e-mail or via counselling platforms. Another option is to send the materials as a print version by post. This way, the patient has the brochures in the same format as after a face-to-face appointment (Kube, 2021).

2.2.4 Effectiveness of the virtual nutrition counselling

Nutritional counselling via telephone for weight management

The number of studies showing the effectiveness of telephone counselling for people overweight or obese is increasing. A randomised controlled trial from 2013 with 295 participants showed that weight loss for people overweight and obese was similar to telephone counselling as face-to-face counselling. In addition, it could be shown that the costs for the weight loss programme by telephone are lower (Donnelly et al., 2013).

The authors Appel et al. (2011) come to the same conclusions in their study. The randomised controlled trial with 415 participants examined the difference between a weight loss programme conducted exclusively by telephone and a programme conducted face-to-face. The results showed that the change in weight from baseline did not differ significantly between the two intervention groups.

Eaton et al. (2016) investigated whether an additional weekly telephone counselling intervention in a weight loss programme leads to greater weight loss success (n= eleven participants). After twelve months, 47.8% of the intervention group had lost 5% of their body weight, compared to 11.6% of the control group who had not received telephone counselling.

A meta-analysis from 2020 with thirteen randomised controlled trials examined the effects of telephone counselling conducted by dietitians on improving a range of dietary habits. This included the daily intake of fruit, vegetables, fibre and fat. The research showed the superiority of telephone counselling compared to traditionally delivered dietary counselling. Furthermore, the studies showed that telephone counselling could significantly reduce body weight and waist circumference and increase physical activity. However, the meta-analysis showed contradictory results concerning the following outcomes: quality of food intake, salt intake and the clinically relevant parameters HbA1c, blood pressure, blood lipids and quality of life. The authors conclude that more extensive randomised controlled trials are needed to confirm the effect of telephone nutrition counselling on these outcomes (Kelly et al., 2020).

Another systematic review by Marx et al. (2018) (n= nine RCTs) has shown that telephone counselling is effective for malnourished older people. The included studies significantly improve patients' protein intake and quality of life compared to face-to-face intervention or no intervention. In addition, the studies show a trend towards improvement in nutritional status and energy intake and a reduction in hospital readmissions and mortality. However, further research is needed to improve the evidence in this regard.

Nutrition counselling by video compared to face-to-face counselling

A 2019 randomised controlled study investigated the feasibility and effectiveness of twelve-week telemedicine intervention for weight loss. The study involved a total of 59 men aged 40 to 70 years. They were randomly divided into an intervention group and a control group. Both groups received an energy-reduced diet and information material on nutrition for weight reduction. Only the intervention group received additional weekly support from a dietitian via video counselling or telephone. Body weight, body fat and calorie intake improved significantly from baseline in both groups. After twelve weeks, 70.4% of participants in the intervention group had lost at least 5% of their body weight, compared to 41.4% in the control group. Adherence and satisfaction were over 80% in the intervention group. The authors conclude that telemedicine interventions via video can increase access to nutrition counselling and improve the treatment of obesity (Ventura Marra, Lilly, Nelson, Woofter, & Malone, 2019).

Vincze, Rollo, Hutchesson, Callister, & Collins (2018) conducted a feasibility study to evaluate the acceptability and effectiveness of a personalised telemedicine nutrition and exercise programme for postpartum women. During the eight-week intervention period, five participants received video counselling from a dietitian and a physiotherapist. After eight weeks, a statistically significant improvement in waist circumference, body composition, dietary habits and physical fitness was observed. The study results show that video counselling is feasible and can lead to positive outcomes in postpartum women.

Another study underlining these findings was conducted by Johnson et al. (2019). The study investigated the effectiveness of health coaching via video counselling to reduce weight and increase physical activity in obese people. Participants were randomised into a face-to-face group, video counselling group and control group. Video health coaching led to greater weight and physical activity changes among the participants than in the face-to-face or control group.

2.2.5 The cost-effectiveness of digital nutrition counselling

Radcliff et al. (2012) investigated the cost-effectiveness of a twelve-month lifestyle maintenance programme following a six-month weight loss programme. The study included 215 participants aged 50 years and older from rural areas. After the initial 6-month weight loss programme, participants were randomly divided into three groups. One group received individual telephone counselling, one group received face-to-face group counselling and the control group received no intervention. The study compared the expected weight loss with the programme costs of the three

groups. For the face-to-face group counselling, the average cost per expected weight loss was \$47/kg, which was higher than in the other two groups (\$33/kg).

Studies in diabetes, hypertension, chronic renal failure, and cardiovascular diseases have shown that nutritional counselling via telephone is more cost-effective than traditional treatment methods. It can be concluded that there may be a cost advantage, especially for chronic diseases (Kelly et al., 2020).

2.2.6 Use of virtual nutrition counselling in the dietetic practice

The use of virtual nutrition counselling has increased significantly since the start of the Corona pandemic. A survey of dietitians in the USA in 2020 (n= 2198) showed that before the pandemic, 37% of participants conducted digital nutrition counselling, and since the start of the pandemic, 78.2% have done so. Of these, 35.1% conduct consultations only via telephone, 16.2% exclusively via video and 48.7% conduct both video and telephone consultations (Rozga et al., 2021).

A survey that was also conducted in 2020 shows similar results. In the survey, 98 dieticians from Austria took part. 49% of the participants in the survey stated that they offer telephone consultations, and 31% offer their patients consultations via e-mail. Nutritional counselling via video is offered by 27% of the participants. 61% of the respondents have used digital technologies more frequently since the Corona pandemic (Rosner, 2020).

The application possibilities and the forms of virtual nutrition counselling are versatile and bring advantages for the patient and the therapist. The studies cited show that virtual nutrition counselling is effective and cost-efficient. Furthermore, the USA and Austria surveys show that digital technologies in dietetics have increased significantly since the Corona pandemic. In order to be able to use the advantages of the use of digital technologies, specific competencies are necessary for the application of virtual nutrition counselling. These are discussed in more detail in the following chapter.

2.3 Competences of dieticians for the implementation of virtual nutrition counselling

2.3.1 General competences

The Latin origin of the word competence is *competencia* which means to be suitable, capable or authorised to do something. There are a large number of different definitions of competence in the scientific literature, but no consensus has yet been reached (North, Reinhardt, & Sieber-Suter, 2018, p. 35).

The term competence describes the relationship between a requirement placed on a person and his or her ability to fulfil this requirement. Competence is a learnable ability and is characterised by acting creatively, self-organised and according to the situation in problem and decision situations. Furthermore, competence is described as a process in which personal resources are activated, accumulated, and used to master challenging situations, actions, and tasks. Personal resources are the totality of a person's knowledge, skills, attitudes, personality traits, talents and references. Competent action thus requires the use of knowledge, cognitive and practical skills, as well as social aspects such as motivation, values, feelings and attitudes (North et al., 2018, pp. 35–36).

Information - Knowledge - Competence

Knowledge and understanding are essential components of competencies but do not guarantee them per se. Knowledge arises through a process of purposeful networking and processing of information by the consciousness. The competence becomes concrete only when knowledge is applied with a concrete reference to action (North et al., 2018, p. 41).

Skills are consolidated patterns of psychophysical action processes and are building blocks for developing competencies. Skills are procedures and techniques trained and almost automated through learning and practice. Qualifications are formal proofs such as credentials, diplomas, and certificates. These are usually issued by officially recognised institutions and organisations and certify the qualifications attained (North et al., 2018, p. 39).

2.3.2 Competency Framework

In order to present the competencies and competence requirements in a comprehensible, transparent and easily understandable way for everyone else, the

individual competencies are bundled and meaningfully assigned in categories. A competence profile is thus created from the summarised and grouped individual competence (North et al., 2018, p. 67).

The division of competencies into professional competence, social-communicative competence, self-competence and methodological competence is often used (Becker, Ebert, & Pastoors, 2018, p. 1).

Professional competence

Professional competence refers to the willingness and ability to solve tasks and problems independently and methodically based on professional knowledge and competencies (North et al., 2018, p. 70). Expertise is acquired through good education, experience and specialised training (Becker et al., 2018, p. 2).

Methodological competence

Methodological competencies comprise all interdisciplinary knowledge, skills and abilities that enable us to cope with tasks and problems by selecting, planning and implementing meaningful solution strategies (Becker et al., 2018, p. 3). The methodological competence thus enables to proceed in a goal-oriented and planned manner when dealing with tasks and problems (North et al., 2018, p. 70).

Self-competence

Self-competence describes a person's readiness to assess him/herself realistically and to act in a self-organised and self-determined manner. It also describes the ability to use one's talents, develop oneself, learn, and thus develop one's own identity. Self-competence includes formulating and pursuing one's own goals, developing a healthy thought-out value system and maintaining reliability, courage and integrity even under challenging situations. The following qualities fall under self-competence: self-awareness, self-confidence, critical faculties, and willingness to perform (North et al., 2018, p. 63).

Social-communicative competence

Social-communicative competence includes all the skills and knowledge a person has to establish social relationships. This includes dealing empathically with others, acting socially responsible in interpersonal relationships, and communicating appropriately. Social-communicative competencies include empathy, the ability to deal with conflict, helpfulness, communication skills and the ability to work in a team (North et al., 2018, p. 64).

2.3.3 Competency framework for dietitians

Several competency frameworks exist in the literature for the dietetics profession. To ensure the professionalism of the profession, there are competence standards and other standards such as codes of conduct. The competencies and competence standards are the basis for developing curricula and the education and training of dietitians. In addition, they indicate what a dietitian must be able to do after training to practice the profession (Dart et al., 2019).

The competencies of dietitians in Austria are defined in the Federal Act on the Regulation of Advanced Medical-Technical Services. The competence profile includes the professional-methodical competencies, the social-communicative competencies, the self-competencies and the scientific competencies (Weiss, 2020).

Dart et al. (2019) conducted a systematic review including seven studies and six international competence standards for dietitians. Four main themes emerged that are considered essential competencies for the dietetics profession. These four core themes are Personal Competence, Social-Communicative Competence, Approach to Professional Practice and Willingness to Lifelong Learning. The following figure shows the key topics, including descriptive characteristics.

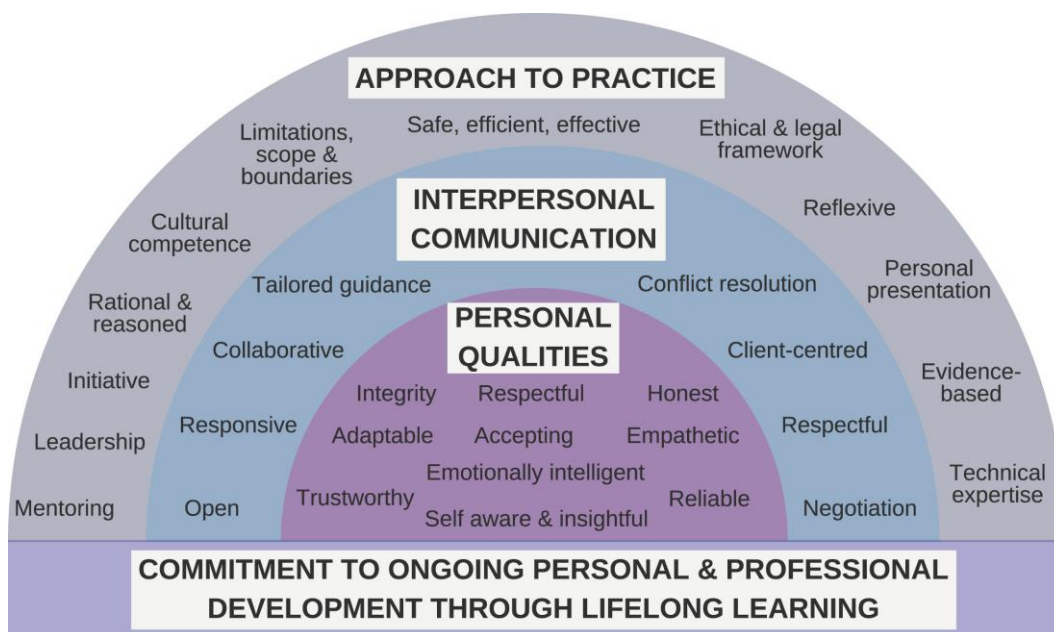


Figure 3 A conceptual model defining professionalism in nutrition and dietetics

Personal qualities were identified as an essential element in all the studies. The trait that was mentioned the most was empathy. Other important characteristics of dietitians are emotional intelligence, resilience, and self-confidence. Furthermore, adaptability and flexibility were strongly emphasised in the studies. The additional traits that stood out from the studies were trustworthiness, honesty, reliability and respect (Dart et al., 2019).

The interpersonal communication of the dietitian with other health professionals but especially with the patient, was an important topic in all studies. The effective communication of content to the patient was particularly emphasised. It emerged from the studies that the interpersonal approach of the dietitian should be patient-centred. This means that communication should be flexibly adapted to the needs of the patient and the context of the consultation. Furthermore, conflict resolution has emerged as a significant factor in the professional interpersonal communication of the dietitians (Dart et al., 2019).

Approach to practice is understood as the linking of personal attitudes and knowledge-based skills concerning the broad working context of dietitians. Examples from the studies were showing initiative and leadership, being proactive and working in an evidence-based manner. Technical skills and the use of technology were also seen as essential in the studies. Adherence to legal and ethical frameworks, national standards and guidelines, and personal and professional boundaries were elaborated from the included studies. Another characteristic of professionalism, according to the review, is cultural competence and the safe and effective practice of the profession (Dart et al., 2019).

The basis of the competencies mentioned above is the willingness to continue personal and professional development through lifelong learning. This serves to build knowledge and improve professional competence and is necessary throughout the entire professional career. This can be achieved by evaluating and reflecting on one's work practice and then taking measures for continuous personal and professional development (Dart et al., 2019).

2.3.4 Digital competencies of dietitians

There are several competence models for digital competencies. One of them is the digital capability framework. Health Education England developed it to help health professionals improve their digital skills. The framework can be used to work out what digital skills a person in the health sector needs to realise digital technologies' full potential. The framework is designed to help healthcare professionals provide the best possible service to patients. This requires digital skills and a positive attitude towards technology and innovation (Health Education England, 2018).

2 Background and Related Work

The framework can be used for self-assessment, identifying learning and development needs, and creating guided and self-directed learning. It can also be used to reflect and set goals and assess progress. It can also be used to create innovative training concepts, measures and resources for improving the digital competencies of health professionals (Health Education England, 2018)

Digital competence is person-centred and can be divided into six dimensions. Each area comprises skills, abilities, behaviours and attitudes that aim to support health workers in their daily practice. The six dimensions are shown in figure four (Health Education England, 2018).

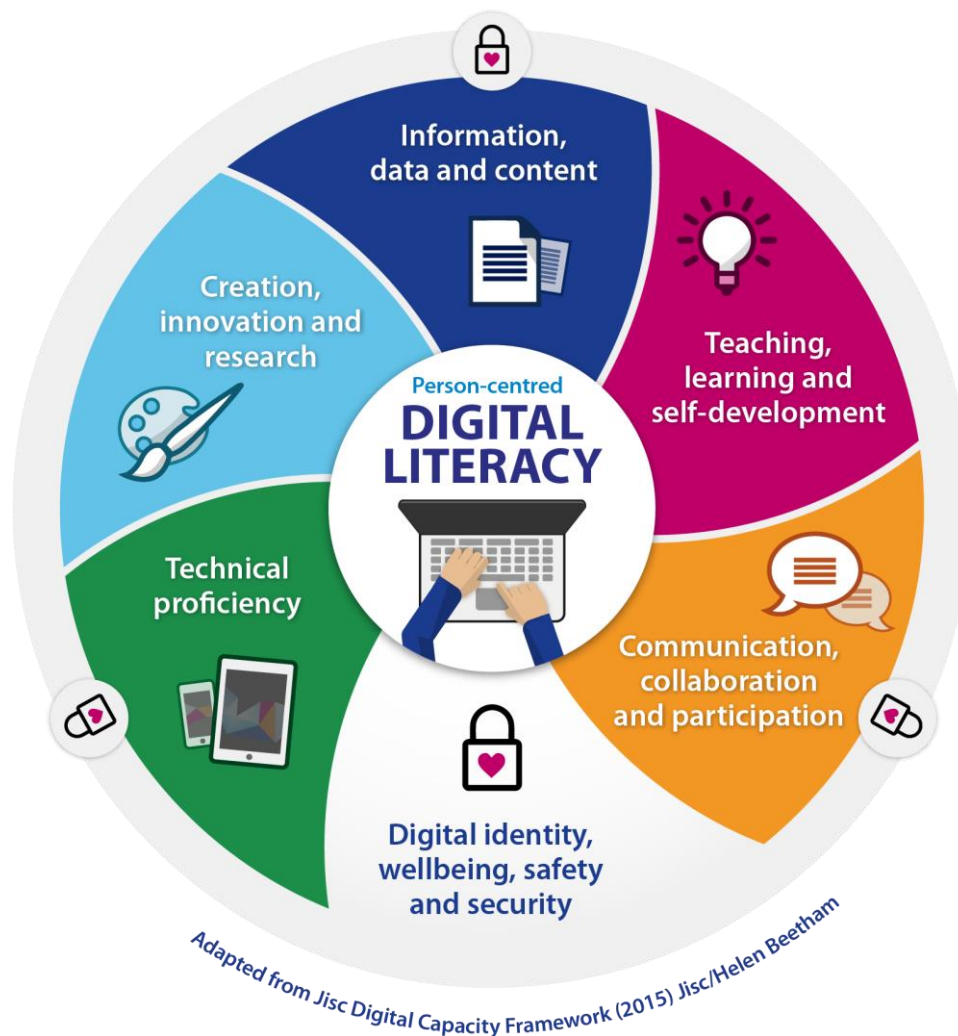


Figure 4 Digital literacy capability framework

2 Background and Related Work

Information, Data and Content

Information, Data and Content include the ability to find, organise, store and share digital information, content and data. The ability to process health data according to applicable guidelines to comply with legal and ethical regulations. The ability to critically analyse, evaluate and interpret data and information and comply with digital copyright, intellectual property and data protection regulations. Finally, the ability to use information and data to solve problems, make decisions and achieve predefined goals (Health Education England, 2018).

Teaching, Learning and Self-Development

This area includes the ability to use digital technologies and tools for personal learning and professional development. It also includes using digital technologies and tools for coaching and mentoring others and finding appropriate tools to make learning more effective. This area also includes the ability to support teaching and learning with purpose-built digital tools, resources and activities and the management and monitoring of self-developed tools (Health Education England, 2018).

Communication, Collaboration and Participation

This area includes the ability to use digital technologies to communicate with other people and the knowledge of the different uses, purposes and functions of different communication media. The ability to work together in an interdisciplinary way using digital technologies to achieve a predefined goal. The ability to show empathy and ethical behaviour during communication and collaboration (Health Education England, 2018).

Technical Proficiency

This area contains the ability to use a wide range of technical devices in personal and professional contexts. Also, the ability to use various software and applications in both professional and personal contexts. Alone or in a group, the ability to solve technical challenges and problems using technical knowledge. This includes the ability to support others, solve technical problems, and overcome these problems with the help of technical possibilities (Health Education England, 2018).

Creation, Innovation and Research

This dimension includes the ability to manage existing digital resources or develop new digital resources alone or in collaboration with others and the use of digital technologies for research, quality improvement and scholarly activities. The ability to use digital technologies to develop new solutions, methods, and ideas guides

digital technologies in research and other activities and act as a digital expert (Health Education England, 2018).

Digital identity, wellbeing, safety and security

The sixth dimension encompasses all the other five areas because all activities carried out by health workers must be done in a secure context. This should consider their own and their counterparts' well-being and ensure the security of data and digital identities (Health Education England, 2018).

Professional relationship building and communication between the therapist and the patient are essential in a counselling interview. The basics of good online counselling are active listening, showing empathy, and giving constructive feedback. Active listening means dealing with the patient's information in a mindful and resource-activating way. It is important to read between the lines and understand the patient's messages. This aspect is crucial in online counselling due to the limited sensory perception. To avoid misunderstandings, feedback loops and precise formulations help. To promote the patient's autonomy, open, solution- and goal-oriented questions should be asked. In order to be able to grasp the patient's gestures and facial expressions, the patient's feelings and body perceptions should be asked, described and visualised (Götz, 2020).

2.3.5 E-Health readiness of dieticians

Whether and to what extent dieticians have the necessary competencies to use digital technologies in dietetic practice has already been investigated in several studies.

A survey addressing this question was conducted in 2019 by the Academy of Nutrition and Dietetics in the USA. The survey aimed to shed light on knowledge gaps and training needs in the digital literacy of dieticians. It also asked about the use of digital technologies. A total of 3793 dieticians participated in the survey. Participants were asked to assess their level of digital technology use in different areas. The response options ranged from "no experience", "beginner", "intermediate" and "expert". The most frequently mentioned nutrition-specific areas in which participants considered themselves experts were nutrition assessment (46.2%), nutrition screening (42.0%) and nutrition history. The three areas in which participants had the least experience were blogging, web development and using sales apps (Hamady et al., 2021).

Another question dealt with how the Academy of Nutrition and Dietetics can support dieticians and dietetics students using digital technologies in practice.

76.2% of participants said they wanted professional development in this area. 76.1% wanted informational materials on digital health in the field of nutrition. The study's authors concluded that it is important to integrate the training of digital competencies into dietetics education so that trained dietitians can take advantage of digital health (Hamady et al., 2021).

Maunder et al. conducted a study in 2016 to investigate the e-health readiness of dieticians in Australia. A total of 747 dieticians participated in the survey. E-health readiness describes the extent to which dieticians have the opportunity and ability to take advantage of the benefits that arise from the use of digital technologies. The study's authors concluded that the professional group of dieticians is not yet ready. They also believe that education and training on digital health in dietetics are crucial. This ensures that dieticians of all ages and practice areas are equipped with the basic digital competencies (Maunder et al., 2018).

Another study by Maunder et al. determined that dieticians in Australia do not use digital technologies in their practice due to a lack of knowledge and expertise in informatics. The authors also emphasised that universities can play an essential role in developing and promoting digital literacy among dieticians. It emerged that a diverse programme should be offered in education. The students should have the opportunity to try out the tools in practice and, on the other hand, knowledge should be imparted on e-health, telemedicine and apps (Maunder, Walton, Williams, Ferguson, & Beck, 2019).

A survey regarding the e-health readiness of dieticians in Austria was conducted in 2020. The answers of 98 participants were included in the evaluation of the results. The survey results showed that dieticians in Austria do not use digital technologies mainly due to a lack of knowledge and experience. In addition, 88% of the participants stated that further education and training on digital technologies in dietetic practice would help them (Rosner, 2020).

Hickson et al. also pointed out the importance of preparing the profession for the future demands of using digital technologies. The authors recommended that it is important to support the profession of dietetics in the use of digital technologies. At the same time, they emphasised the need to expand the evidence base (Hickson, Child, & Collinson, 2018).

2.4 Courses to strengthen the digital competence of dieticians

2.4.1 How competencies are developed

Chapter 2.3.1 described how the term competence is defined, and now we will look at how they develop. A competence arises from the repeated successful solution of specific tasks with the help of the activation and bundling of different resources. Building on this, the acquired knowledge and experience should be reflected and processed. The emergence of competence thus results from an open and dynamic learning process. This kind of learning allows for drawing on personal resources and skills and thus helps meet new, complex challenges and problem situations more appropriately. The development of competencies is influenced by genetic aspects, socialisation, and conscious and organised learning situations (North et al., 2018, p. 46).

In pedagogically organised forms of learning, the question always arises as to how the educational offers should be designed so that the competence development of the learning person is optimally supported. In order for the learnings from the pedagogical situation to be transferred into practice, teaching and learning should be consistently oriented towards the acquisition of competencies. In addition, it is important to design the pathways of competence development individually (North et al., 2018, p. 47).

Education and training should be planned and designed in such a way that work on building up and developing competencies are targeted. A formulated competence profile provides a possible frame of reference for orientation. When designing a teaching unit or continuing education, the format, the structure, the didactic method and the tasks should be chosen so that the acquisition and expansion of the described competence are promoted. This also includes the integration of practical relevance, reflection, cooperation and exchange. Longer-term offers are more suitable for competence-oriented training. However, short courses of two to three hours can also contribute to competence building if they are integrated into a longer-term development process. New formats such as e-learning, mobile learning or blended learning can also be used in competence development (North et al., 2018, p. 55).

E-learning means learning with the help of electronic or digital media. These are used to provide learning materials and enable interpersonal communication (Kumar Basak, Wotto, & Bélanger, 2018).

Mobile learning refers to learning with the help of a mobile device. Learning takes place independently of time and place (Crompton & Burke, 2018).

The concept of blended learning combines traditional face-to-face events and online teaching in a meaningful way. This form of learning is suitable if, in addition to imparting knowledge, practical application is also to be practised (Kumar Basak et al., 2018)

2.4.2 Career readiness in the curriculum of dieticians

As described in the previous chapter, there are a variety of competency frameworks that define the level of competency required to enter the profession of dietetics. Dieticians are expected to acquire this specified knowledge and skills during their training and the internships included in the framework. If a dietician lacks any of these skills, they must undertake further education to improve their competencies (Koemel et al., 2021).

In 2021, the Academy of Nutrition and Dietetics examined the extent to which the curriculum of dietetics education in the USA provides the necessary competencies that dietetics professionals need to practice. They compared the current Accreditation Council for Education in Nutrition and Dietetics (ACEND) requirements with the job preparation skills recognised by the National Association of Colleges and Employers (NACE). They concluded that digital competencies are documented as relevant skills for dieticians, but are not consistently addressed in the curriculum. The knowledge and skills to use digital technologies are often left to self-study or expected to be learned in practice after training. The authors believe that the teaching of digital skills should be increasingly included in the current curriculum. For already trained dieticians, the strengthening of digital competencies should be focused on further education and training (Koemel et al., 2021).

Butler-Hendeseron et al. conducted a meta-analysis of the competence standards of health professions to find out to what extent digital competencies are integrated into them. In the process, 18 competence standards were analysed. It was found that there is a lack of digital health competencies in the occupational standards for health professions. It was also found that the learning outcomes on digital health in the standards are often classified at a low level and with low importance (Butler-Henderson, Dalton, Probst, Maunder, & Merolli, 2020).

Aungst & Patel (2020) mentioned that integrating digital health into the curriculum of many degree programmes could be difficult. For this reason, they recommend teaching digital skills as courses or certificate programmes at this stage, as these

are easier to administer. The authors emphasise that the training of currently working health professionals is also important. Health study programmes could create continuing education materials for this and develop new opportunities for postgraduate training.

In order to make recommendations for the development of future education or training initiatives, Nazeha et al. (2020) conducted a scoping review of digital health competence frameworks. Thirty frameworks were included in the review. The results show that a small selection of competencies should always be focused on when designing education and training programmes. From the authors' point of view, it is not possible to cover all competencies presented in the frameworks. The selection of competencies depends on the activity of the healthcare professional, their function, seniority and the healthcare setting. They recommend including the following topics in all education and training: general concepts and processes in digital health, handling of patient data, communication, ethical aspects, legal framework, privacy and data protection. In addition, the teaching units in digital health could be integrated into existing parts of the curriculum and thus be made more practice-oriented.

A survey conducted among dietitians in 2020 during the Corona Pandemic explored dietitians' experiences in implementing virtual nutrition counselling. They were asked about resources that would support them in using digital dietary advice. Responses included tips on remote counselling, conducting virtual nutrition counselling professionally, and doing anthropometric measurements and design group training (Rozga et al., 2021).

2.4.3 Dietetics educators

To equip dietitians with the necessary competencies, dietetics educators are needed. In dietetics, these are defined as a dietitian employed at a university or university of applied sciences to train and prepare dietetic students for the profession. Dietetics educators thus have a significant impact on the professional development of dietetics students and graduates, thus. They are also responsible for providing quality learning experiences for students (Morgan, Reidlinger, Sargeant, Crane, & Campbell, 2019).

Dietetics educators design appropriate courses based on the given syllabus. The design of the course includes the definition of student learning outcomes and appropriate feedback and assessment procedures, as well as the selection of effective teaching methods and delivery mode of the course (online, face-to-face or hybrid variant). The interaction between teachers and students during the learning activity is essential. Interaction between educators and students can be

promoted through discussions, role-plays, simulations, feedback and mentoring (Border, Endrizal, & Cecil, 2019).

It is essential for dietetics educators to keep up to date with the latest knowledge in their field and reflect on changes in dietetics. They must keep up to date with teaching methods and technological advances. This includes the use of interactive distance learning. Dietetics educators are faced daily with the complex task of meeting the learning needs of each student and providing appropriate learning experiences. To assist dietetics educators, the Professional Association of Dietitians in the USA, for example, provides practical guides and handbooks. These are designed to support dietetics educators in providing effective and high-quality teaching (Border et al., 2019).

Rollo et al. have shown how such a course for strengthening digital skills can look. The study's authors investigated the introduction of a digital health workshop to dietetics students in Australia. The workshop consisted of a lecture in which the students were taught the theory regarding digital health concepts and digital technologies. The second part of the workshop included four stations where students could practise what they had learned. In the end, a group discussion was held (Rollo et al., 2017).

At the first station, information and communication technology such as computers and tablets were available for the students to try out video counselling. They also talked about additional features that can be used in counselling, such as the screen-sharing function. The task at station two was to watch two videos on the most important aspects of face-to-face counselling. These included anthropometric measurements, dietary history using portion size estimation and nutrition education using food moolah. The students were then asked to discuss the challenges of carrying out these activities during video counselling and to come up with appropriate solutions together. Students learned about the Mobile Application Rating Tool at station three and used it to conduct a quality assessment of three popular nutrition apps. At the last station, students discussed the advantages and disadvantages of digital technologies and when best to use which ones. Ethical issues and data protection and privacy were also discussed (Rollo et al., 2017).

After the workshop, the students had to fill in a questionnaire regarding the evaluation of the teaching content and its influence on the students' knowledge. The study's authors concluded that the workshop led to an improvement in the dietetics students' knowledge of digital health in dietetics practice. The students also emphasised the importance of specific skills in using digital technologies in dietetics (Rollo et al., 2017).

3 Methodology

3.1 Description of the method

A qualitative research approach was chosen to answer the research question of this thesis. With the help of qualitative research, open research questions are examined in great detail in a small number of research units. Unstructured or partially structured data collection methods are used. Qualitative research developed from the humanities and works primarily hermeneutically. This means that text materials such as interview transcripts, observation protocols, and visual material can be interpreted systematically. The qualitative research approach amounts to theory building and adapts as flexibly as possible to the object of research (Bortz & Döring, 2016, p. 184). A qualitative research design was chosen for this work because the object of study is new and little researched and thus the formation of new theories and hypotheses is paramount.

3.2 DIRENE Project

The research work was carried out within the framework of the DIRENE project. The DIRENE project is funded by the EU within the scope of Erasmus+ (2020-1-FI01-KA226-HE-092634). The research project aims to improve the digital skills of teachers, students and therapists in rehabilitation. This will make it possible to prepare the health systems for future challenges. The project runs from April 1st 2021 – to March 31st 2023 and is carried out by the University of Applied Sciences St. Pölten with partner universities from the Balearic Islands, Greece, Finland and Germany. The project is divided into several steps. In order to determine the applicability of digital technologies in rehabilitation, the first step brings together which topics represent future trends. The second step deals with the exploration of possible competence gaps and barriers. Based on this, it can be concluded how learning offers should be developed so that learners use digital technologies effectively in the field of rehabilitation. Based on the previously gained knowledge, a digital handbook will be developed that supports educators of health and social professions in designing user-centred digital learning modules on the use of digital technologies. Based on this, the project partners will develop a study module. The results of this master's thesis will complement the information material of the DIRENE project (Fachhochschule St. Pölten GmbH).

3.3 Workshop

The research activity in qualitative research is primarily a communication between researchers and researched persons. In this process, the researchers enter into a direct or media-mediated dialogue with the research subjects. This happens, for example, through different types of qualitative interviews (Bortz & Döring, 2016, p. 68). In a scientific survey, verbal statements of interviewees on selected aspects of their knowledge, experience and behaviour are generated and recorded in a targeted, systematic and rule-guided manner. In qualitative interviews, open questions are used so that the respondents can express themselves verbally in their own words. There are various interview methods (Bortz & Döring, 2016, p. 356).

According to Bortz & Döring, scientific interviews can be classified according to six important criteria. The first criterion is the degree of structuring of the interview situation. A distinction is made between unstructured, semi-structured and fully structured. Another distinguishing feature is the number of people interviewed at the same time. A distinction is made here between an individual interview and a group interview. The third criterion is the type of interview contact. The three main variants are face-to-face, telephone or online. Furthermore, classification can also be made according to the number of interviewees. The type of interviewee is the fifth classification criterion; here, a distinction can be made between expert, lay and stakeholder interviews. The sixth criterion is the type of interview technique (Bortz & Döring, 2016, p. 360).

To answer the research question of this thesis, a group survey was conducted in the sense of a design thinking workshop. The Design Thinking method focuses on collaborative work and a user-centred approach. The participants should be a group from different disciplines to view the topic from different perspectives (Grots & Pratschke, 2009). The group survey in this thesis looked at virtual nutrition counselling through four target groups who use it with the help of digital technologies. The perspectives of people with health concerns, dietetics educators, dietetics students and dieticians were elaborated. Participants were asked to imagine a scenario and then collect ideas, answer questions, share opinions and discuss. The workshop was conducted online using a guide.

3.3.1 Participant of the workshop

The ideal group size for group interviews is between six and ten participants. The group's composition must ensure that the participants have enough in common to

3 Methodology

talk about a topic (Baur & Blasius, 2019, p. 698). Before the subjects were recruited, inclusion criteria were defined, which are presented in table 1.

Table 1 Inclusion criteria

• 18 years or older
• Male, female or diverse
• Dieticians - With several years of practical experience - one dietician with experience in virtual nutrition counselling - one dietician without experience in virtual nutrition counselling
• Persons with health concerns - Partly from a rural area - one person who has had virtual nutrition counselling before - one person who has not yet had virtual nutrition counselling
• Dietetics students - from the fifth or sixth semester
• Dietetic Educators - Several years of practical experience in the training of dietetics students

It was thus planned that eight subjects would be needed for the workshop. Two dieticians, two persons with health concerns, two dietetics students and two lecturers in the dietetics course.

3.3.2 Recruitment of the participants

The aim of the recruitment was to achieve a high diversity of participants with a balanced distribution of gender and age. The recruitment of dieticians for this workshop was done by contacting dieticians from the professional network of the author of this paper.

The recruitment of the dietetics students and the educators of the dietetics program was done by contacting the head of the dietetics program of the University of Applied Sciences St.Pölten and the head of the dietetics program of the University of Applied Sciences Campus Vienna. With the approval of the program directors,

the students of the 5th semester and the educators of the respective program were contacted by e-mail. The e-mail contained an invitation letter with information about the workshop and the request to contact the author of this paper personally if they were interested in participating. It was noted that participation in the study was voluntary for the students and would not affect their academic success. Furthermore, it was stated that the participation of the educators in the study program dietetics is voluntary and has no consequences regarding the employment relationship with the respective university of applied sciences.

People with health problems were recruited through the private network. The participation of people with health limitations in the study is voluntary. The group of people was included in the workshop to better address their needs. No measures or recommendations were made for the individuals that could impact their health status.

Before the workshop, the participants received an information sheet explaining the aims and contents of the group survey. They also received a consent form containing information on data processing. The participants were asked to sign and return the consent form. In addition, the participants were asked to fill out a short questionnaire with information on age, gender, profession, number of inhabitants in the place of residence and whether care hours were provided in the family. Their queries were discussed. The consenting persons were then invited to a pre-arranged workshop date.

3.3.3 Moderators of the workshop

The moderators of a group survey are primarily responsible for the success and reliability of the results. They ensure that a trusting and understanding atmosphere prevails during the survey. This is achieved by paraphrasing, active listening, and slowing down to make more details visible (Baur & Blasius, 2019, p. 699). A total of 3 facilitators were present at the workshop. This had the advantage that the facilitators could take turns in the different sections and thus had a better overview of the situation. In addition, the implementation was more manageable from a technical point of view.

3.3.4 Workshop Guide

The group survey was conducted in a semi-structured way. This means that the survey was conducted with the help of a guideline. This usually contains a questionnaire with open questions and the order of the questions. The interview guide forms a basic framework and can be flexibly adapted to the individual

interview situation. This means that the interviewees may spontaneously deviate from the guide to ask additional questions or questions for more depth that arise from the course of the interview (Bortz & Döring, 2016, p. 372).

The guidelines for this group survey were developed within the scope of the DIRENE project. In the beginning, questions were collected together in the project team, which an ethics committee then approved in Greece. Afterwards, the questions were supplemented with different pedagogical methods of group work. Since the guide was designed for four different surveys, it still had to be adapted for the survey of this work. The general workshop guide was adapted to the professional group of dieticians and the application of virtual nutrition counselling.

The questionnaire was divided into three different sections and contained 25 questions. The first section included questions regarding the patients' perspectives and needs regarding virtual nutrition counselling. The second section dealt with the perspective of dieticians, students and educators. In this context, the competencies required by dieticians and students in the implementation of virtual nutrition counselling were asked. It also asked what competencies teachers need to train students. The third section dealt with how training and courses should be designed to increase the digital competence of dieticians, students, teachers and patients. The complete workshop guide can be found in the appendix.

3.3.5 Mural Board

To enable the participants of the group survey to work collaboratively, as in a face-to-face workshop, a mural board was created in advance. A mural board is a virtual whiteboard and can be used for several purposes. For example, Mural enables virtual brainstorming, where all participants can create, change and move notes simultaneously. Documentation for virtual group tasks can also be made on the Mural Board. In addition, information can be collected, shared and added to by others (Mural). The Mural Board was created based on the workshop guide and contained four areas delimited by dividing lines (see appendix). The Mural Board provided the participants with the tasks, the questions from the workshop guide and the post-its for the answers.

3.3.6 The execution and procedure of the workshop

The workshop took place on January 31st 2022, from 1:00 to 4:30 pm. The group survey was conducted online via Zoom. The invitation link to the Zoom meeting was sent to the participants by email before the workshop. The schedule of the workshop was as follows:

1. 13.00-13.05: Check-in
2. 13.05-13.15: Introduction by the moderator
3. 13.15-14.00: The client's perspectives – Empathize and identify needs
4. 14.00-14.15: Break 1
5. 14.15-15.00: The professionals/student's perspectives and the educational setting
6. 15.00-15.15: Break 2
7. 15.15-16.00: Concerns or motivations for applying mobile learning
8. 16.00-16.30: Final conclusions (plenary discussion) and Flashlight round in the plenary

At the beginning of the workshop, the participants introduced themselves one after the other and answered the following introductory question: "When I think of virtual nutrition counselling as part of rehabilitation, I think of...". Then the facilitators introduced themselves and explained the DIRENE project. Then the term virtual nutrition counselling was defined, and the workshop's goals were presented. Then the functions of Zoom and Mural were demonstrated and explained.

Section one

The workshop consisted of three sections. The first section of the workshop focused on the clients' perspectives. In the beginning, all participants were asked to put themselves in a patient's role. The following scenario was described to the participants:

"Imagine a patient who has had knee surgery due to an accident and is now in rehabilitation. The patient has already had a four-week rehab stay. The patient attended a 50-minute lecture on healthy nutrition and numerous other therapies during the rehabilitation. During the lecture, the patient noticed that his eating habits did not correspond to the recommendations. Therefore, after the lecture, he set himself the goal of eating a more balanced diet to increase his performance and well-being. As the patient lives in a rural area, he would like to receive further dietetic support "digitally".

Now the participants had to imagine that they had an appointment with a dietitian where nutritional counselling is carried out via video. The participants were then

divided into three groups of two and one group of three. They were sent to their own virtual rooms using Zoom's break-out session function. The participants then had to answer seven questions from the perspective of an assigned persona and make notes on the mural board. They had 25 minutes to do this. The questions in this section were:

1. What do you think will the client need for being able to attend this appointment? (e.g., Does the client have to dress in a special way? To prepare something? To collect data on things like body weight and height or things he/she ate in the days before?)
2. What do you think will the client need within the appointment? (What is necessary to create /maintain an atmosphere of adherence during the appointment?)
3. What would be needed in group settings, and what in single settings?
4. What does the client rely on?
5. Which competencies and resources will he/she develop?
6. Which emotions or wishes does he/she experience within the appointment?
7. What concerns might a client have about virtual nutrition counselling?

After 25 minutes, the participants were brought back to the main session. The second task in this section was as follows:

"You are still the client who has now had several appointments with a dietician. Now you are asked to continue the dietary change without personal guidance, with the help of mobile nutrition apps or self-learning courses until the next follow-up appointment in six months. You will meet with other clients and talk about the following questions".

Participants were asked to discuss themselves based on the following guiding questions and the facilitators made notes on the mural board.

- 1) Which of the measures used in the contact meetings will you now use without personal accompaniment? Let your imagination flow freely.
- 2) From your point of view, what would it take at the contact appointments for you to be able to continue your dietary change without personal guidance for the next six months?
- 3) How will your approach change if you are asked to continue the dietary change without personal guidance for the next six months?
- 4) How is it possible to ask questions to the professional during the phase until the next appointment?
- 5) How can the client monitor his/her eating behaviour and other health parameters such as body weight, physical activity, and sleep duration until the next appointment?

Section two

The second block focused on the perspective of dieticians, students and educators. The participants were first asked to take on the role of a dietician or a student and then switch to an educator's role in the second task of this section. The participants individually and silently answered the following questions and made notes on the mural board.

1. The first assignment of this section was: Now, please assume that you are in the role of a dietician or a student doing his internship and supporting the client.
 - a. Which competencies does he/she need to support the client in a digital appointment?
 - b. How is the continuing support of the client organized?
 - c. If the professional/student is not used to virtual nutrition counselling (/does not know how to apply it): Which competencies would the professional need to develop?
2. The second assignment of this section was: The student returns to his/her university of applied sciences.
 - a. What would he/she ask the educator to teach him/her?
 - b. If the lecturer does not know virtual nutrition counselling: Which competencies would the lecturer need to educate the student?

Section three

The third section of the workshop looked at developing competencies for virtual nutrition counselling from the perspective of the dietician, student, teacher, and patient. They were asked to imagine themselves living in the future where learning has evolved satisfying, fantastic, and mind-blowing.

The participants were divided into two groups and had to answer the following questions and discuss them among themselves. The facilitators took notes on the mural board.

The task was: If you are a dietician/student/teacher/patient and want to develop virtual nutrition counselling competencies, please think about and answer the following (The education/training could also be offered in mobile learning).

1. Why would you learn more about how to apply virtual nutrition counselling?
2. When / in which situations / where would you invest in learning?
3. How long / How much would you learn per learning unit?
4. What content would you be interested in?

5. In which way would you be motivated the most to learn this content?
6. Why would you be motivated to learn via mobile technical solutions?
7. Which are your concerns concerning learning via mobile settings? What are your concerns concerning costs to access (mobile) technical solutions?
8. What would be your additional benefit from mobile learning?

After a 30-minute brainstorming session, the two groups presented their collected ideas and discussed them.

At the end of the workshop, the participants gave feedback on the workshop and the facilitators thanked them for their participation.

3.3.7 Recording of the workshop

For the later evaluation of the group interview, the entire workshop was recorded with the help of audio and video recordings. The third section of the workshop was automatically transcribed using speech recognition, and then the transcript was compared with the audio recording. In addition, the facilitators took notes during the workshop. The discussion notes contain the facilitator's thoughts on what the participants said. Furthermore, the participants' non-verbal communication and important content-related statements were documented. Furthermore, the participants' answers were recorded in a short form on the mural board either by the participants themselves or by the moderators. Thus, the mural board is an essential documentation of the workshop.

3.4 Data analysis

The qualitative content analysis aims to analyse material from some kind of communication. A characteristic of qualitative content analysis is the systematic, rule-governed and theory-guided procedure. Nevertheless, the qualitative content analysis have to be adapted to the concrete subject, the material and the research question. A central point in qualitative content analysis is forming a category system. It is the central instrument of the analysis and enables others to understand the analysis (Mayring, 2015, p. 13).

A distinction is made between deductive and inductive category formation when creating categories. In deductive category formation, the categories are formed based on an already existing systematisation of content. This means that the categories are formed independently of the collected data material. In inductive category formation, the categories are formed directly from the empirically

collected data. The inductive categorisation was used for the data analysis of the workshop (Kuckartz, 2016, p. 64).

In qualitative content analysis, three basic forms of interpretation can be distinguished: summarising, explicating and structuring. The summary form of analysis was chosen for the data analysis of this work. The aim of the analysis is to create a manageable corpus that represents the basic material. This is done by reducing and abstracting the material while retaining the essential content (Mayring, 2015, p. 67).

Thus, inductive category formation based on summary techniques was used for the data analysis.

1. At the beginning, it was determined which material should be the starting point for the category definition. In this case, the material to be analysed was a mural board on which the workshop participants and supporting facilitators recorded answers and statements. The Mural Board was supplemented with the recordings and the interview notes after the workshop. The notes were reviewed step by step and compared with the answers on the Mural Board. Notes were added to the mural board if the information was missing. The transcript of the third and final workshop section was compared with the corresponding Mural Board section. After the comparison, it was found that the Mural Board recorded all essential answers and statements of the participants. For this reason, a detailed analysis of the transcript of the last workshop section was not carried out.

After completing the mural board, the individual mural sections were coded to trace where the results came from.

As already described, the workshop was divided into three sections. The individual sections and associated questions are described in chapter 3.3.6. Section one was coded with the code M1 on the Mural Board and the seven questions of the section were coded with the letters a-g. This means that the fifth question from section one has the code M1e. The five additional questions that complete the first workshop section have been assigned the code M1g. The first task of the second section of the workshop was coded M2a on the Mural Board. The second task of this section, the teacher competencies, was coded M2b. The third section of the workshop was coded on the Mural Board with M3 and the eight questions contained the letters a to h. The graphical representation of the coding can be found in the appendix.

The transcript was created from the recordings of the two group discussions in the third section of the workshop. Therefore, two transcripts exist. As described above, the transcript was not subjected to detailed analysis. The transcript was only used

to support the paraphrased statements of the workshop participants from the mural board in the results section with the "original" quotes. For this purpose, the respective statements were searched for in the transcript and referenced with the respective line number in the presentation of the results. It must be mentioned that the texts were translated into English beforehand because the workshop was held in German. For this purpose, the transcript of group one was assigned the code T1 and the transcript of group T2. The code T1 or T2 can then be found with the corresponding line number in the presentation of the results.

2. After coding, the post-its were sorted on the mural board according to questions and topics and arranged under each other.

3. Afterwards, the statements were paraphrased and thus rewritten in a concise form limited to the content. All parts of the text that were not relevant to the content were deleted. The text passages relevant to the content were translated to a consistent linguistic level and put into a short grammatical form. This process happened to a large extent during the workshop, as the participants recorded the answers in short form as a note on a post-it.

4. In the next step, the paraphrases were generalized to a level of abstraction. The resulting paraphrases with the same content were deleted. Unimportant and meaningless paraphrases were also omitted. This process is called the first reduction. In the second reduction, several paraphrases referring to each other were combined and reproduced by a new statement. For example, the post-its "Explanations about the technique, data protection and possible costs" and "Information about the conditions and the procedure (which medium), instructions for the procedure" were combined with the statement "Instructions for preparing the patient".

5. The next step was to summarise the statements into a category system. The post-its on the mural board were gone through one after the other and assigned to a category. If the following statement could not be assigned to the already-formed category, a new category was formed.

In the end, the individual categories form a category system with main categories and subcategories that reflect the source material.

3.5 The Handbook for dietetics educators

This chapter describes the procedure for producing the handbook and defines the term handbook.

Definition handbook

A handbook serves as a reference work and provides a collection of instructions for the reader. It contains helpful information such as facts about a topic or instructions for certain activities. A handbook should be designed to be easy to read and provide quick answers on a certain subject area (Handbook).

The handbook was developed to provide step-by-step guidance to teachers of dietetics students in designing courses on digital nutrition counselling. The basis for creating the handbook was the literature research and the design thinking workshop, which were carried out as part of the research work. The target group of the handbook are dietetic educators at universities of applied sciences who train students in the field of digital health.

The handbook was created with Word and exported to a PDF format. After exporting, the PDF was edited with Adobe Acrobat Pro. Checkboxes to click on and text boxes to fill in were added. The PDF format was chosen because the original layout remains the same regardless of the device or operating system. Furthermore, the teachers can easily print out the document and edit it in paper form if required.

4 Results

This chapter presents the results of the workshop and describes the sample.

4.1 Sampling

A total of nine participants took part in the workshop. Of these, three were male and six were female. The average age of the workshop participants was 41 years, the youngest participant was 21 years old and the oldest participant was 64 years old. There were two dietetics students at the workshop, three dietetics educators, two people working as dietitians, and two people with health concerns. Of the nine participants, three were from a rural area (population of the place below 10,000) and three with family care times.

4.2 Workshop results

This chapter describes the results in the same order as the workshop process. In the beginning, the patient perspective is explained. Then the needed competencies of dietitians for virtual nutrition counselling are presented. Finally, the design of education and training for dietitians to strengthen their digital literacy is shown. Five main categories and 23 subcategories were formed. The following figures graphically represent the main category with green post-its and its subcategories in yellow post-its. In the description of the respective categories, direct quotations, so-called anchor examples, are given. For this purpose, individual text passages from the transcript with line numbers or the post-its in the raw version from the mural board with the respective origin code are shown in italics (e.g. M1a).

4.2.1 Preparations and requirements for virtual nutrition counselling

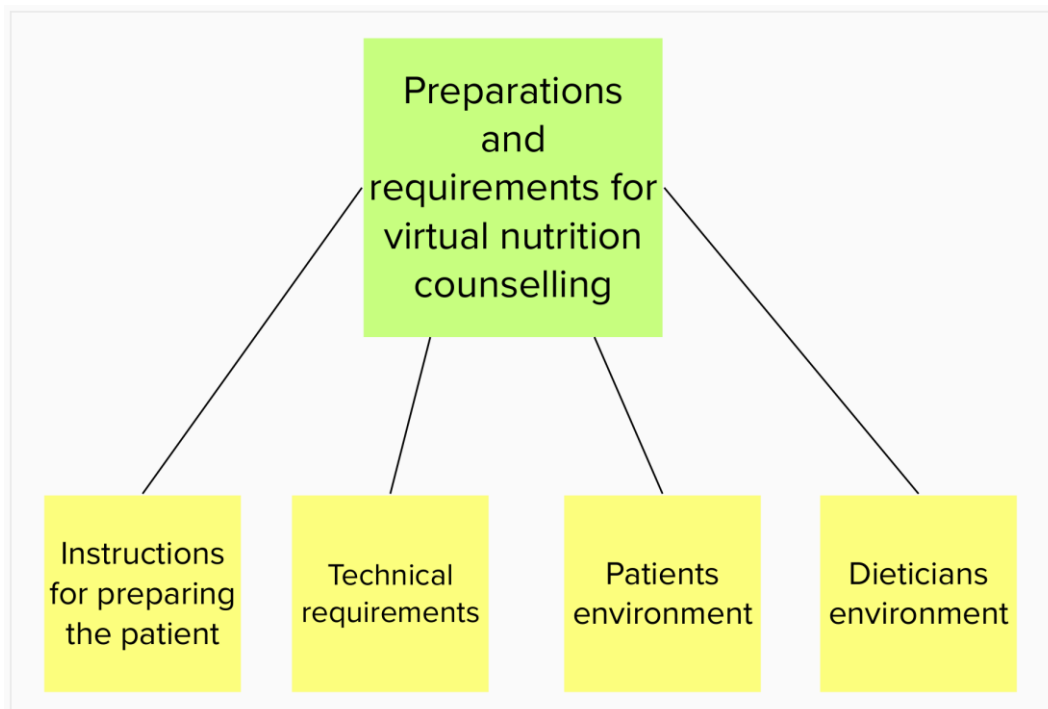


Figure 5 Preparations and requirements for virtual nutrition counselling

Instructions for preparing the patient

According to the workshop participants, patients should receive information about the framework conditions and the counselling process before an appointment for virtual nutrition counselling. The information letter should explain the technology and the medium used and the indication that a data protection-compliant tool will be used. The choice of the tool depends on the patient's possibilities and abilities. To participate in the meeting, the patient needs the access data for the meeting and instructions on how the tool works. Furthermore, the patient should know whether he/she has to prepare findings, a list of medications or a nutrition protocol and what costs he/she will incur (M1a).

Technical requirements

Participation in virtual nutrition counselling requires functioning technical equipment and a stable and fast internet connection. According to one participant, a stable internet connection is important for building the relationship between patient and therapist. Due to an unstable internet connection and a resulting choppy sound and image transmission, one is constantly interrupted and the conversation is thus disturbed (M1a & M1b).

4 Results

Participants state that a smartphone is not optimal for video counselling because the picture is too small and for this reason, it is better to use a desktop computer. Furthermore, headphones should be used for a private atmosphere. In addition, it was mentioned that therapists need to allow more time at the first appointment and that patients should have the opportunity to try out the technology. If necessary, the patient should organise a second person who can help them in case of technical problems (M1a).

Patients environment

When asked what the patient needs during the counselling, the participants answered a quiet and private atmosphere with as little noise as possible. One participant states that the patient should be prepared to turn on the camera to get as close as possible to a personal conversation. The therapist should communicate this in advance. The camera image of the patient is also important to recognise the patient's emotions and check whether the available findings also match the patient's image (M1b).

Dieticians environment

The dietician should be in a private atmosphere, with no distracting background noise, so that the patient has full attention. According to one participant, the dietician should tell the patient where they are at the beginning of the conversation (M1d).

4.2.2 Patient's perspective

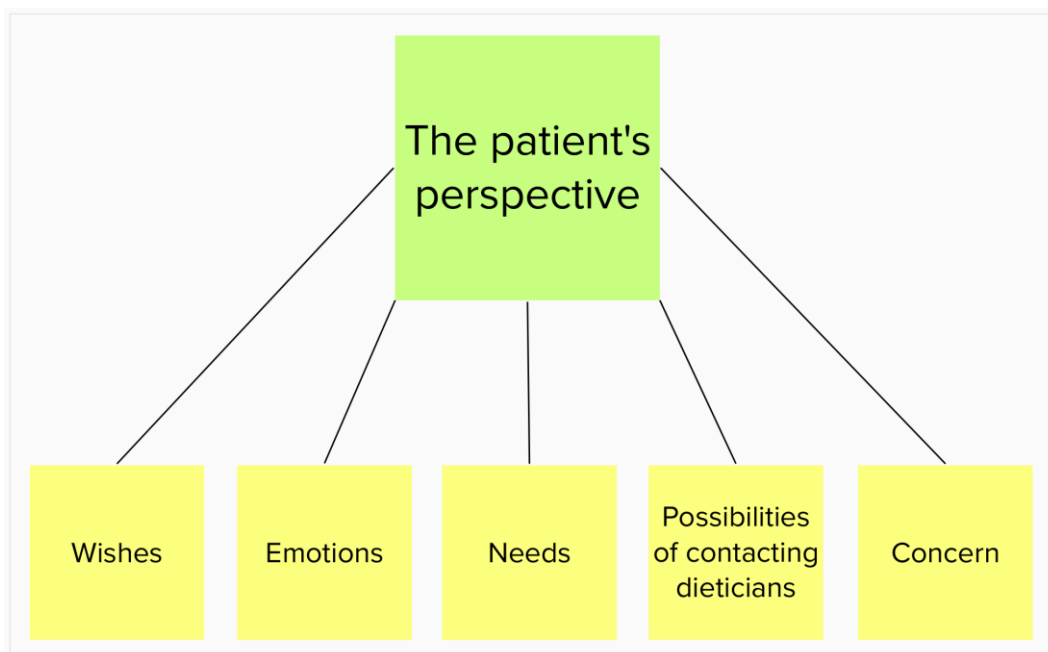


Figure 6 The patient's perspective

Wishes of the patient

When asked what wishes the patient might have during the counselling appointment, the participants answered the wish to change something, the wish to improve the complaints and the wish for information and support. The patient also wants the therapy to be equivalent to a face-to-face appointment. Furthermore, the patient relies on the therapist to be competent, work professionally and adhere to the duty of confidentiality (M1f).

Emotions of the patient

According to the participants, the patient may feel curiosity, gratitude and fear during the appointment. The participants further stated fear of change, fear of being embarrassed because of the technique and fear of not having counselling materials in hand (M1f).

Patient needs

The participants state that the patient feels the need for individual counselling, where he feels understood and is spoken to in a language that suits him. In order to create an atmosphere of adherence, the patients need enough time to describe their concerns and a particular empathy on the part of the therapist. Another need

4 Results

of the patient is that the counselling takes place at a time that suits the patient (M1b & M1f).

"Basic needs met, conversation not at noon if hungry or at 8 in the evening if tired" (M1b).

Regarding the patient's needs, they were asked what they would need as a patient to continue the dietary change without personal supervision for the next six months. According to the participants, the patient needs counselling documents, self-monitoring, and external monitoring. The counselling documents should be digital and contain concrete recommendations and easy-to-implement recipes as examples. *"A form of self-monitoring, for example, an app, or a log where I can enter my results to see successes"* (M1h). The external control can be motivational messages via email or SMS or that a therapist controls the patient's entries in an app (M1h).

The participants mentioned that the patient would need an urgent appointment and the possibility of contacting a therapist in case of critical questions (M1h).

Ways of contacting dieticians

When asked how it would be possible to contact a therapist during the phase until the next appointment, the participants mentioned asynchronous communication methods and synchronous ways of communication. For asynchronous methods, text messages and messenger bots were mentioned. For synchronous options, telephone consultations were mentioned, and it was mentioned that it is important for the patient to know in which time frame they can call. One participant stated that a combination of many options would be good in order to be able to cover individual needs in the best possible way (M1h).

Patient concerns

Among the patient's concerns about virtual nutrition counselling, participants mentioned data protection, confidentiality, no individual counselling, and technical difficulties. The participants mentioned that a patient might be concerned that the conversation is recorded and uploaded to a cloud regarding data protection. Also, that data security is not guaranteed. The participants stated that there could be an invasion of privacy due to virtual nutrition counselling. From the aspect of confidentiality, the therapist should use his "real" background and show the workroom. One participant states that a patient might feel that they are not taken seriously because they are only seen as a number, making the counselling more impersonal. According to the participant, other concerns are that the patient is in

their own home, so the service is missing and it might also be more challenging to create a feel-good atmosphere (M1g).

4.2.3 Needed competencies of dietitians



Figure 7 Needed competencies of dietitians

Among the necessary competencies that dietitians and students in the internship need to carry out digital nutrition counselling, the following crystallised: digital competence, professional competence, personal competence, social-communicative competence, methodological competence and intercultural competence.

Digital competence

The participants state that the dietitian needs the ability to communicate with digital technologies. For this, the dietitian needs a technical affinity and knowledge of how to use the camera, light, and background optimally. The therapist should be used to different tools and not be limited to learning only one system or tool, as patients also use different apps (M2a).

In addition, the therapist must be familiar with the tool used and know which tool to use for which target group. The dietitian should be able to evaluate the data received from the patient critically. Another important skill, according to the participants, is that the dietitian should be able to help the patient with technical problems and have an alternative prepared in case of a technical failure (M2a).

"Technical competencies to support the patient in case of difficulties, remote control, second alternative" (M2a).

Digital competencies also include the creation of digital content. This includes the creation of counselling materials and videos, for example. For this, the dietitian must be able to use image and video editing programmes and know about copyright guidelines when using images and videos (M2a).

One participant stated that the dietitian should also use interactive elements in the counselling, such as VR glasses, to take advantage of digital technologies. The participant underlined that physical counselling should be transferred to the digital setting without taking advantage of it (M2a).

Professional competence

For virtual nutrition counselling, the dietitian also needs the necessary expertise to support the patient (M2a).

Personal competence

Among the personal competencies that a dietitian needs, the participants mentioned self-reflection, flexibility, willingness to cooperate and curiosity about new tools and possibilities. Professionalism on the therapist's part, figurative thinking and not being afraid of technology was also mentioned (M2a).

Social-communicative competence

Social-communicative skills focus on conversation techniques, communication skills, empathy, patience and understanding. The participants stated that dietitians need to develop skills and abilities for virtual nutrition counselling to compensate for the reduced perception of gestures and facial expressions. In the digital setting, questioning techniques are even more important than when the patient is in the same room. These include the WWSZ, chunk and check and teach-back methods. WWSZ means to wait, repeat, mirror and summarise what the patient has said. In the Chunk and Check technique, the therapist should give the patient the information in small units and have the patient repeat what the therapist has said. In addition to the questioning techniques, the patient's expectations, needs and perceptions of the therapy process should also be asked (M2a).

According to the participants, the dietitian must speak a simple language, be able to get to the point and adapt the wording to the patient. Furthermore, the dietitian must have empathy and be patient. One participant stated that the professional needs empathy and patience when the patient cannot dial in right away and when he or she arrives too late (M2a).

Methodological competence

One participant stated that the therapist needs to be more structured in the digital appointment and that patient-centredness plays an important role. The methods used should be adapted to the patient's abilities. In addition, the start of the conversation should be designed in such a way that a good basis for further counselling can be created (M2a)

Intercultural competence

Regarding the intercultural competence of dieticians, it was mentioned that cultural openness is important and that the therapist should know about different socio-cultural backgrounds. According to the participants, technical knowledge and access to technology depend on the patient's socio-cultural background (M2a).

4.2.4 Planning and designing courses for virtual nutrition counselling

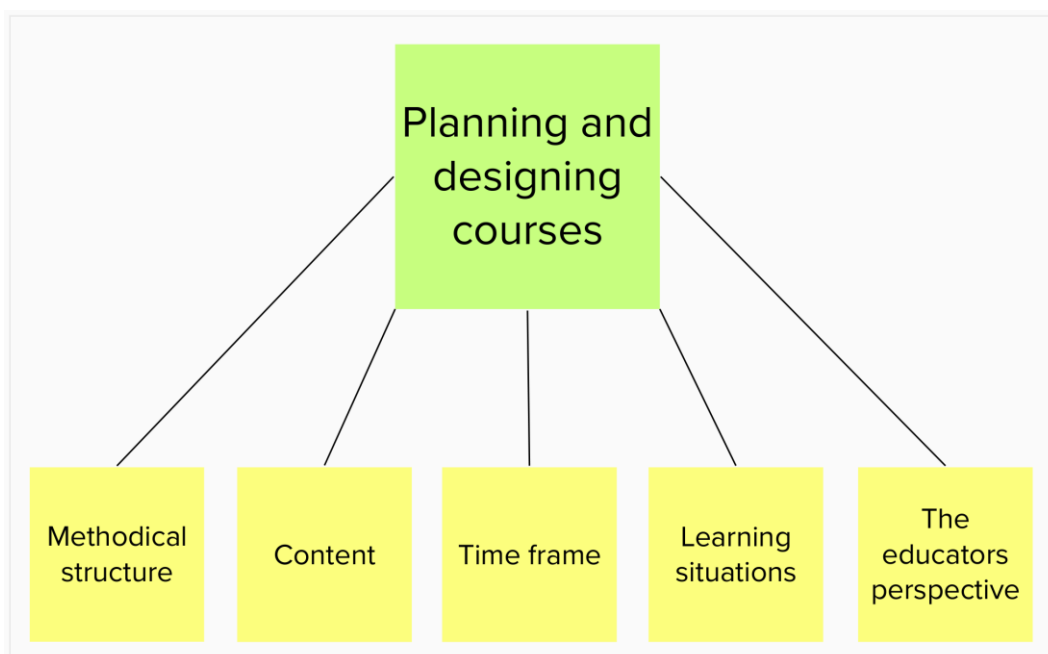


Figure 8 Planning and designing courses

When designing education and training to strengthen digital literacy, the methodological structure, content, and timeframe of the teaching units must be taken into account and the situations in which learners are learning.

Methodical structure of the teaching units

According to the participants, the content should be easy to understand and the learning offer should be designed so that the content can be easily changed without the teaching staff having to invest much time. The knowledge transfer should be playful and asynchronous learning should be made possible. The participants mentioned that there should also be an exchange with other professionals and communication among students (M3e).

"Well, I am glad, thank God, that the students still talk to each other and that the institution has not degenerated into a distance learning institute." (T2 2394-2397)

The workshop participants would like the units to be recorded so that they can be looked at in more detail afterwards and so that they can press pause. Furthermore, the training for dietitians is coupled with a final questionnaire to collect training points (M3e).

Contents of the teaching units

When asked what content the students would like to learn, the participants answered: dealing with data protection, legal frameworks, dealing with disruptive factors. Also how to communicate digitally and how to create digital content. The participants state that the teaching of counselling techniques should be held as a hybrid course to enable the practice of virtual nutrition counselling (M2b).

Furthermore, according to the participants, students would like teachers to give an overview of the possible media and tools and discuss their usefulness and use in counselling (M2b).

On the topic of data protection, from the participants' point of view, it would be interesting to know how to store data securely online and how to deal with the loss of data, for example, through a hacker attack. Another topic that should be included in training or further education is one's digital positioning and learning how to maintain the patient's attention during the virtual consultation (M3c).

The time frame of the teaching units

According to the participants, learning opportunities should consist of shorter units. One participant stated that for mobile learning, a duration of one to two hours is optimal to avoid straining the eyes too much. Another participant stated that the individual units should last twenty minutes. If videos are used, they should not be longer than twenty to thirty minutes. The positive thing about videos is that several can be watched consecutively and the time of learning can be used according to

4 Results

availability. The participants think shorter teaching units pay off in mobile learning because there is no need to travel to and from the course (M3d).

Learning situations

When asked when and in which situations the participants would invest time in learning, they answered that it is important that the information is always and everywhere available. The learning materials should be available for different activities (M2b).

"I can activate the coffee machine in my kitchen and watch an educational video at the same time". (T1 249 – 250)

"I live in (...) and take the train to (...), there I am on the train for half an hour and I always have my mobile phone with me and that I then use the time for that instead of reading a newspaper somewhere or surfing around on social media somewhere". (T1 601-606)

One participant pointed out that a private atmosphere is also important for the learner in the case of mobile learning (M2b).

The educators perspective

According to the participants, the educators who train virtual nutrition counselling need practical experience using digital technologies. Teachers could gain experience with the help of experimental groups, which can then be communicated to the students (M2b).

Concerns and motivation for mobile learning

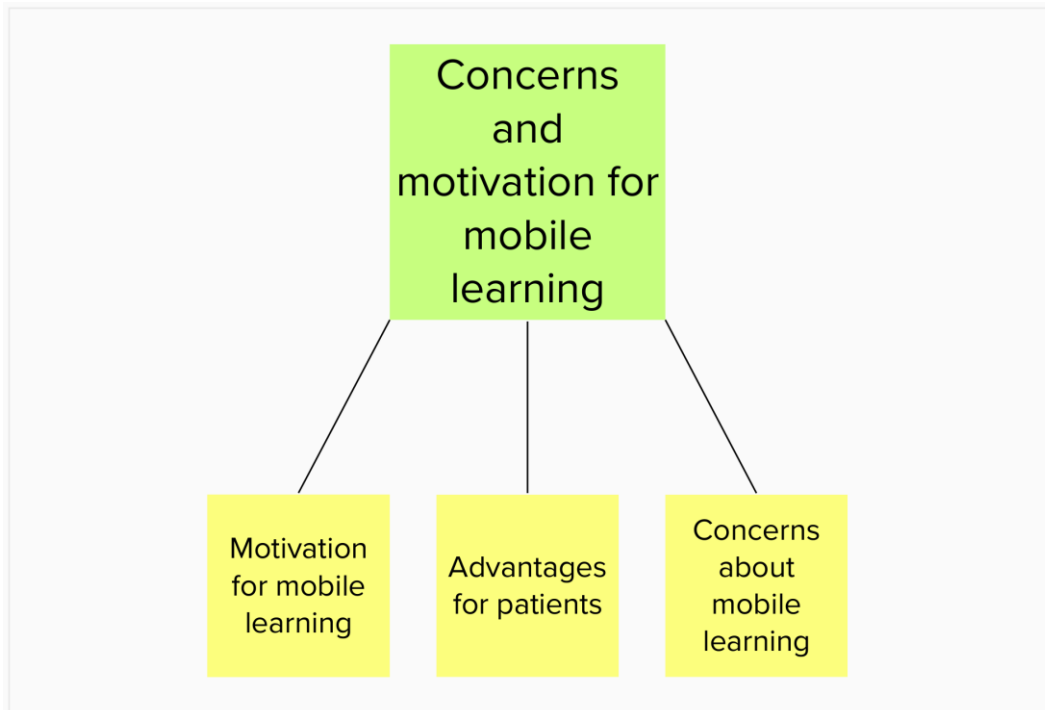


Figure 9 Concerns and motivation for mobile learning

Motivation for mobile learning

When asked why participants would be motivated to learn through mobile learning, they answered that it would make them more flexible and because of curiosity. Other reasons were to be innovative, keep up with the times, and save time and money by not having to travel (M3e).

Advantages of mobile learning for patients

The advantages of a dietician providing mobile learning to a patient are that the patient also has follow-up at home, the patient is more flexible and can learn for as long as their attention span is. It may be possible to reach a larger number of patients and the offer can be customised to the patient. *"Games or digital tools can be customised for patients; for example, foods that are not tolerated can be hidden in advance"* (M3f).

Concerns about mobile learning

Regarding concerns about mobile learning, participants mentioned that lack of communication could lead to loneliness and that professional exchange among colleagues could be neglected. In addition, one participant mentioned that there

could be stress due to too long teaching units and that something is more pleasant to read on paper than digitally. In this regard, learners should manage their time resources well and self-hygiene must be considered. Other concerns expressed are data protection, the possibility that access to various websites and programmes may be blocked at the workplace, and learning may not be possible in case of a power cut (M3g).

4.3 The Handbook

The handbook title is "Handbook for dietetics educators - planning and designing courses on virtual nutrition counselling". The handbook is intended to guide educators of dietetics and dietetics students step by step in designing courses on virtual nutrition counselling. The format of the handbook is an interactive PDF. It can either be edited digitally or printed out in a paper form. The handbook was produced in German, as the target group were teachers at universities of applied sciences in Austria. In addition, the workshop was conducted with students, educators and dietitians from Austria. The workshop, together with the literature work of this Master's thesis, forms the basis for creating the handbook. The handbook contains general information on virtual nutrition counselling, which competencies dietitians need to implement virtual nutrition counselling and how learning content should be designed to strengthen students' digital competence. Furthermore, literature recommendations and further information and examples are given for better understanding. The structure, content and didactic and technical considerations are described below. The handbook can be downloaded from the following link:

https://fhstp-my.sharepoint.com/:b/g/personal/dh201823_fhstp_ac_at/EY8B9cmGkzpOovGJV1fFqQUBqlRwMFwYzxcCuteKY8ASBQ?e=fZyINY

Inhaltsverzeichnis	
1	Einleitung 3
2	Digitale Ernährungsberatung 4
2.1	Begriffsdefinition 5
2.2	Patient*innenperspektive 5
2.3	Technische Ausstattung 6
3	Planung und Konzipierung der Lehrveranstaltung 7
3.1	Kontext der Lehrveranstaltung 7
3.2	Erforderliche Kompetenzen von Diätolog*innen/ Lernziele – Was?..... 8
3.2.1	Kompetenz Rahmenwerke für Diätolog*innen 9
3.2.2	Ergebnisse aus dem Design Thinking Workshop..... 10
3.3	Methode und Inhalt – Wie?..... 12
3.4	Beispiel zur Planung einer Lehrveranstaltung 15
4	References 20

Figure 10 Table of contents of the handbook

The table of contents provides an overview of the structure and rough contents of the handbook.

Introduction

The handbook begins with the chapter Introduction. It describes the problem of the research topic and the relevance and importance of a handbook for dietetics educators. Furthermore, the aim is presented and how the handbook will be used. At the end of the chapter, the research questions that guided the development of the handbook are stated and the cooperation with the DIRENE project is explained.

Virtual nutrition counselling

The chapter on virtual nutrition counselling follows the introduction. In order to provide the educators with background information on virtual nutrition counselling, the term is defined in the chapter and the forms and possible applications of virtual nutrition counselling are presented.

All definitions of terms are presented in the handbook in a rectangular frame with a green filling (see the following figure). The uniform presentation was chosen so that the reader immediately recognises that it is a definition.

2.1 Begriffsdefinition

Bei der digitalen Ernährungsberatung findet die Beratung/Kommunikation nicht Face-to-Face statt, sondern räumlich getrennt über digitale Medien, wie zum Beispiel über einen Computer oder ein Smartphone. Bei der Kommunikationsform wird zwischen synchron und asynchron unterschieden. Bei der synchronen Form findet die Interaktion zwischen Diätolog*innen und Patient*innen gleichzeitig statt. Unter anderem zählen dazu Videotelefonie, Chat und Telefongespräche. Wenn der Beratungsprozess zeitversetzt durchgeführt wird, spricht man von einer asynchronen Interaktion. Der Informationsaustausch findet dabei über E-Mail, Text Nachrichten oder Sprachaufzeichnungen statt. Diese Form der Kommunikation ist für Patient*innen und Diätolog*innen zeitlich und örtlich unabhängig (Götz, 2020).

Figure 11 Presentation of the definitions of terms in the handbook

In order to support the educators in teaching virtual nutrition counselling practice-oriented and patient-centred, the needs of the patients are also listed in this chapter. In addition, the necessary technical equipment is described so that the educators know what equipment is needed for virtual nutrition counselling.

In order to keep the handbook compact but not withhold any information from the educators, further information with a hyperlink to articles and studies were integrated into the individual sections of the handbook. This type of information has always been presented in a rectangular frame with orange filling. For the subchapter Technical Equipment, it looks like this:

Detaillierte Informationen zur technischen Ausstattung und eine Checkliste zur professionellen Bildschirmwirkung finden Sie im Artikel „Videotherapie: Von Equipment bis Datenschutz“ von Sören Kube (2021) UND im Artikel „Live Online Präsentieren in der Einzel- und Gruppenberatung“ von Simone Krotz (2021)

Figure 12 Visualisation of the further information in the handbook

At the end of the chapter on virtual nutrition counselling, there are literature recommendations on the possible applications, effectiveness and patient needs of virtual nutrition counselling. The literature references have been provided so that teachers can study the topic in depth. These are shown in a rectangular frame without colour filling (see appendix).

Planning and designing the course

The third chapter of the handbook offers teachers a step-by-step guide for planning and designing a course on virtual nutrition counselling. The chapter is divided into the subchapters Context of the course, Required competencies of dieticians/Learning objectives - What? and Method and content - How?

Context of the course

This chapter is intended to help educators analyse the framework and context at the beginning of the planning process. The subchapter lists guiding questions that educators can use to consider the influencing factors that need to be taken into account when planning a course. The guiding questions were formulated on the following topics:

- The specific context of the course
- The general context of the course
- The subject
- Student perspective
- Teacher's perspective

At the end of the sub-chapter, a fillable text field was added so that users of the handbook can make notes right in the document.

Im folgenden Textfeld können Sie Notizen bezüglich dem Kontext und den Rahmenbedingungen Ihrer Lehrveranstaltung machen:

Figure 13 Example of a text field in the handbook

Required competencies of dieticians/ Learning objectives - What?

After the educators have analysed the context, the next step is to define the learning objectives and required competencies for their course. For this purpose, frameworks for dieticians have been listed in the chapter on competencies. The frameworks listed range from general competence profiles to specific digital frameworks. The frameworks have been linked with bullet points and the respective links. This allows teachers to access the selected framework with a single mouse click.

4 Results

The chapter also describes the workshop's results regarding the required competencies for dieticians. At the end of the chapter, there is again a text field where teachers can make notes on their course's relevant competencies.

Method and content - How?

This chapter explains how educators should teach the content to the students. Formats such as e-learning, mobile learning or blended learning are also discussed. The contents of the chapter are:

- Methodical structure of the course
- Contents of the teaching units
- Time frames and situations for learning
- Concerns and motivations for mobile learning

At the end of the chapter, the required competencies of dietetics educators are discussed. Educators are encouraged to reflect on their digital competencies with the help of the "European Framework for the Digital Competence of Educators".

Example of planning a course

The chapter gives an example of how educators should proceed step by step. Example tables are given, which teachers can use as a guide.

3.4 Beispiel zur Planung einer Lehrveranstaltung			
Zur Planung Ihrer Lehrveranstaltung nehmen Sie eine Tabelle zur Hand und gehen Sie die nachfolgenden Schritte durch. Achten sie darauf, dass die einzelnen Punkte aufeinander abgestimmt sind.			
Lernziel/Kompetenz	Didaktische Methode, Hilfsmittel, digitale Werkzeuge	Aufgabe für Studierende	Beurteilung/Feedback

Tabelle 1. Vorlage Planung Lehrveranstaltung

Figure 14 Example of a table in the handbook

The following steps are described in the handbook as examples:

1. select learning objectives/competences
2. select didactic methods and content
3. the task for the students
4. determine feedback/assessment

Under each of these steps, an example table or text box has been included in the handbook.

At the end of the handbook, educators can use a checklist to check whether they have thought of all aspects when planning. After each statement, a checkbox can be ticked off if the item has been completed.

Checkliste

Anhand der Checkliste können Sie prüfen, ob Sie an alle Aspekte bei der Planung und Konzeption Ihrer Lehrveranstaltung gedacht haben.

Ich habe für meine Lehrveranstaltung...

- ... die Rahmenbedingungen und den Kontext analysiert. ☐
(räumliche und technische Gegebenheiten, institutionelle Rahmenbedingungen, Charakteristiken der Studierenden, eigene Erfahrungen)
- ... klar definierte und kompetenzorientierte Lernziele festgelegt. ☐
- ... anhand der Lernziele die didaktische Methode und den Inhalt der Lehrveranstaltung ausgewählt. ☐
- ... die Hilfsmittel und digitalen Werkzeuge bestimmt. ☐
- ... eine Aufgabe für die Studierenden anhand der Lernziele und der didaktischen Methode überlegt. ☐
- ... eine Form der Leistungsbeurteilung die an den Kontext, an die Studierenden und der didaktischen Methode angepasst ist. ☐

Figure 15 Checklist and checkboxes from the handbook

5 Discussion

At the beginning of this chapter, the results of the workshop are interpreted and related to the underlying theory. Reference is made to which findings apply specifically in the digital setting. At the end of the chapter, the limitations of the research are described.

5.1 Needed competencies of dieticians for the implementation of virtual nutrition counselling

The research work investigated the necessary competencies of dieticians to implement virtual nutrition counselling. In addition, the patient's perspective was also worked out, especially which wishes, needs and concerns the patients have regarding virtual nutrition counselling. This will enable the further education and training of dieticians on virtual nutrition counselling to be designed in a patient-centred way.

Digital competence

According to the workshop participants, the dietician must have the ability to communicate using digital technologies, be familiar with the tool used and adapt the choice of the tool to the needs of the patient. The patient also relies on the therapist's mastery of the technology and ability to use the tool. In the NHS digital literacy capability framework, the ability to use digital technologies to communicate with other people and the knowledge of the different uses, purposes and functions of the different communication media are also considered necessary (Health Education England, 2018).

The workshop results show that the dietician should have the ability to support the patient with technical difficulties. On the one hand, the patient relies on being helped with technical difficulties. On the other hand, the patient's concerns about technical difficulties and the fear of being embarrassed by technology can be alleviated.

The dietician needs the ability to create digital content, such as counselling materials or videos. For this, the dietician needs knowledge of image and video editing and knowledge of applicable copyright guidelines. The counselling

materials should contain concrete recommendations and simple recipes. In order to relieve the patient of the fear of not having any counselling documents in hand after a counselling session, the counselling documents can also be sent by post.

The workshop results showed that the dietician should have the ability to include interactive elements in the counselling process and not just try to move the conversation that otherwise takes place face-to-face into the virtual space. In this way, the advantages that arise through digital technologies should be utilised.

Professional competence and personal competence

In order to be able to carry out professional virtual nutrition counselling, the dietician also needs the necessary specialist knowledge. An existing professional competence was also a named need from the patient's point of view. These requirements for dieticians do not differ from face-to-face counselling. In terms of personal competence, curiosity about new tools and not being afraid of technology stand out. This is considered a prerequisite for working on strengthening one's digital competence.

Social-communicative competence

The evaluation of the workshop showed that dieticians need to develop skills and abilities for virtual nutrition counselling to compensate for the lower perception of gestures and facial expressions. Specific questioning techniques are even more important in the digital setting than in face-to-face counselling. These include the WWSZ, chunk and check and teach-back methods. These are used so that the therapist can feel what the patient is feeling and to determine whether the patient understands what the therapist is trying to tell him. When communicating with the patient, it is important to note that the wording should be adapted to the patient. The results align with the patient's need to feel understood and that the language used is simple for the patient. Also, Götz (2020) believes that due to limited sensory perception, active listening, showing understanding and reading between the lines play an important role in online counselling. He recommends using precise wording and feedback loops to avoid misunderstandings. In addition, the patient's feelings and body perceptions should be asked about, described and visualised.

Methodological competence and intercultural competence

The study showed that the structure of the counselling and the patient-centredness are essential in virtual nutrition counselling. The beginning of the conversation should be designed so that a good basis is created for the further course of the conversation. This also includes providing the patient with information about the process and the framework conditions and giving the patient time to arrive. It must

be mentioned that even in face-to-face counselling, the counselling structure and patient-centredness play an important role.

Regarding the intercultural competence of the dietitian, it has become clear that knowledge about the patient's socio-cultural background is important. This enables the dietitian to better adapt the tool and the counselling setting to the patient's needs.

Planning and designing courses for virtual nutrition counselling

A survey of dietitians in Austria revealed that 88% of the dietitians questioned would like to receive further training on digital technologies in dietetics (Rosner, 2020). In addition, the literature also emphasised that the acquisition of digital competencies should be increasingly included in current curricula. For this reason, the research work investigated how education and training offered for dietitians on the topic of virtual nutrition counselling should be created. The previously described required competencies of dietitians form the basis for this. According to the literature, a competence profile should serve as a frame of reference when creating learning offers.

The development of learning opportunities should follow a clear guideline and be tailored to the health profession's setting, context, and activities. Learning opportunities should also be consistently focused on acquiring competencies, which ensures that what is learned can be transferred into practice. According to the literature, integrating reflection, cooperation and exchange in the teaching units is crucial for learning success. Formats such as mobile learning or blended learning can also be used.

Methodological structure

The workshop results show that care should be taken to enable an exchange between students and professionals. The knowledge transfer should be playful and the learning opportunities should be designed so that the contents are easy to understand. The literature shows that courses consisting of a theoretical part and a practical part with station operation can improve knowledge about digital health in dietetic practice. Therefore, it can be concluded that the combination of theory and practice with mutual exchange could be a suitable teaching method.

Contents of the teaching units

According to the workshop participants, students would like to learn about data protection and the legal framework in the teaching units. Furthermore, they would like to get an overview of possible forms of virtual nutrition counselling and the use

and meaningfulness of different media and tools. Educators should also teach students how to communicate digitally and create digital content. Emphasis was placed on the practical practice of virtual counselling situations. The results align with the contents presented at the Digital Health Workshop from the study of Rollo et al. (2017). There, the focus was on trying out information and communication technology in practice, the sensible use of digital media and the discussion of ethical and legal issues. Also, Nazeha et al. (2020) recommend, based on the results of their scoping review, including the contents mentioned above in education and training.

Time frames and situations for learning

The participants had different opinions regarding the duration of digitally supported teaching, such as mobile learning. The answers ranged from short units of 20 minutes to a maximum of one or two hours. However, it was emphasised that several breaks should be taken due to the stress caused by screen work. North et al. (2018) believe that even short courses of two to three hours can contribute to competence building if they are integrated into a longer-term development process.

It is important to learners that information is always and everywhere available in mobile learning. Learning can occur during different everyday activities such as making coffee or taking the train.

Concerns and motivations for mobile learning

According to the workshop results, the motives for mobile learning are that it makes learners more flexible and saves time and money by eliminating the need to travel to and from work. If a mobile learning offer is developed, professional exchange and communication among the learners should be given. In addition, the learners should have the possibility to print out the contents to learn on paper if desired.

5.2 The Handbook for dietetics educators

The handbook was developed based on the results of the literature research and the design thinking workshop. The handbook is intended to support dietetics educators in planning and designing courses on virtual nutrition counselling. The teachers are guided step by step through the process of designing the course. Further information, examples and literature recommendations are also included.

The development process of the handbook can also be transferred to other health professions. A survey of the required competencies of the health profession is an essential basis. In addition to the competencies of the dietitians, the patient's perspective, the needs of the students, and the teachers' views were also surveyed, making it possible to look at the topic from several perspectives. On the one hand, this makes it possible to design the training in a practice-oriented and patient-centred way and, on the other hand, to adapt the content to the expectations and wishes of the students. This approach could be considered in designing handbooks for other health professions.

The structure of the handbook and the sequence of the individual steps in planning a course are independent of the profession. Thus, the handbook structure can be used as an orientation guide for other professions.

The handbook for dietetics educators was developed in cooperation with the Erasmus+ funded project DIRENE (Competences for the new era of user-driven digital rehabilitation). The handbook entitled "Pedagogical Handbook on Mobile Education & Training of Digital Rehabilitation Competencies" was developed from the research results of the DIRENE project. The handbook is included on the Jamk University of Applied Sciences website and can be accessed at the following link: <https://www.jamk.fi/en/project/direne/handbook>. From a technical point of view, the handbook differs from the preparation of the handbook for dietetics educators. Both handbooks aim to support educators in designing learning opportunities. The DIRENE handbook addresses all educators of health and social professions and focuses on strengthening digital rehabilitation competencies and is therefore more general than the handbook for dietetics teachers (DIRENE, 2022).

In cooperation with the DIRENE project, two further developments were made by students of the Master's programme in Digital Healthcare. The first is a handbook for educators who train doctors in video consultation. The handbook was designed in the form of a website with six learning modules and was developed by Anna Stadler. Like the handbook for dietetics educators, the content focuses on a specific professional group and a specific use case, in this case, video consultation (Stadler, 2022). The second development, entitled "What to consider when

developing a mobile learning course on digital rehabilitation for health professionals in sub-Saharan Africa?" was created by Nina Pietsch. It is a digital guidebook that contains four learning videos. From a technical point of view, it is different from the developments described above. The target group of the learning videos are educators who develop mobile learning courses for health professionals in Sub-Saharan Africa (Pietsch, 2022).

The four developments described differ in terms of technical implementation, the specific use case and the target group addressed. However, the overall aim is to support teachers in the health sector in the design of learning offers to improve the learners' digital competencies.

Finally, it should be mentioned that the handbook does not claim to be complete, nor is it possible to keep the handbook up to date.

5.3 Limitations

It should be noted that although the procedure of data evaluation is systematic and rule-governed, it is still a process that is subjectively influenced by the knowledge and experience of the evaluator. Furthermore, it should be noted that the research results cannot be generalised but only apply to the research sample.

There was an imbalance in the gender aspect of the workshop sample, with three male and six female participants. This imbalance was expected, as women dominate the professional group of dieticians.

The fact that the workshop was conducted online could have influenced the sample's composition. This setting requires technical equipment and the ability to communicate using digital media. Another possible factor influencing the results is the facilitators of the workshop. During the workshop, care was taken to avoid the influence of a moderator on the content. However, in a group discussion, it cannot be completely ruled out that the moderators do not influence the participants' statements.

6 Conclusion

The master's thesis investigated which competencies dieticians need to conduct virtual nutrition counselling and how educators should design a course on the topic of virtual nutrition counselling. For this purpose, a group survey in the form of a design thinking workshop was conducted with dieticians, dietetics students, dietetics educators and people with health concerns.

Digital literacy plays an essential role in dieticians' competencies for virtual nutrition counselling. The data collection showed that in addition to the ability to communicate using digital technologies, dieticians need to know about the different uses, benefits and functions of the different digital communication methods. Furthermore, dieticians need the ability to support patients in case of technical difficulties. A key finding from the workshop is that dieticians should include interactive elements in the digital counselling process and not just try to move the conversation that usually takes place face-to-face into the virtual space. This should make it possible to use the advantages that arise through the use of digital technologies. Another important competence is social-communicative competence. The evaluation of the workshop showed that dieticians need to develop skills and abilities for virtual nutrition counselling to compensate for the lower perception of gestures and facial expressions. Therefore, specific questioning techniques to determine whether the patient understands the therapist and vice versa play an even more important role in the digital setting than in face-to-face counselling.

The ascertained competencies represent the basis for designing a training course because teaching and learning should be consistently oriented towards acquiring competencies. The workshop results show that for teaching virtual nutrition counselling, a combination of a theory part and practical exercises can be a suitable method. In doing so, attention should be paid to an exchange among the students. In order to test the hypothesis, further research is necessary, in which, for example, the introduction of a course on the topic of virtual nutrition counselling is evaluated.

Based on the results of the research work, a handbook was created. The handbook is intended to support dietetics educators in planning and designing courses on virtual nutrition counselling. The handbook contains general information on virtual nutrition counselling, which competencies dieticians need to implement, and how teaching content should be designed to strengthen students' digital competence.

6 Conclusion

Furthermore, literature recommendations and further information and examples are given for better understanding. The educators are guided step by step through the process of designing the course. In order to find out whether the handbook meets the needs of dietetics teachers, a usability test of the handbook could be carried out in which the educators plan a course with the help of the handbook.

7 References

- Appel, L. J., Clark, J. M., Yeh, H.-C., Wang, N.-Y., Coughlin, J. W., Daumit, G., . . . Brancati, F. L. (2011). Comparative effectiveness of weight-loss interventions in clinical practice. *The New England Journal of Medicine*, 365(21), 1959–1968. <https://doi.org/10.1056/NEJMoa1108660>
- Aungst, T. D., & Patel, R. (2020). Integrating Digital Health into the Curriculum- Considerations on the Current Landscape and Future Developments. *Journal of Medical Education and Curricular Development*, 7, 2382120519901275. <https://doi.org/10.1177/2382120519901275>
- Barkmeijer, A., Molder, H. T., Janssen, M., & Jager-Wittenaar, H. (2021). Towards effective dietary counseling: A scoping review. *Patient Education and Counseling*. Advance online publication. <https://doi.org/10.1016/j.pec.2021.12.011>
- Baur, N., & Blasius, J. (Eds.) (2019). *Handbuch Methoden der empirischen Sozialforschung* (2. Aufl.). Wiesbaden: Springer VS. Retrieved from http://ebooks.ciando.com/book/index.cfm/bok_id/2639697 <https://doi.org/10.1007/978-3-658-21308-4>
- Becker, J. H., Ebert, H., & Pastoors, S. (2018). *Praxishandbuch berufliche Schlüsselkompetenzen: 50 Handlungskompetenzen für Ausbildung, Studium und Beruf*. SpringerLink Bücher. Berlin, Heidelberg: Springer. <https://doi.org/10.1007/978-3-662-54925-4>
- Border, K., Endrizal, C., & Cecil, M. (2019). Academy of Nutrition and Dietetics: Revised 2018 Standards of Professional Performance for Registered Dietitian Nutritionists (Competent, Proficient, and Expert) in Education of Nutrition and Dietetics Practitioners. *Journal of the Academy of Nutrition and Dietetics*, 119(1), 124-136.e29. <https://doi.org/10.1016/j.jand.2018.10.014>
- Bortz, J., & Döring, N. (2016). *Forschungsmethoden und Evaluation in den Sozial- und Humanwissenschaften* (5. vollständig überarbeitete, aktualisierte und erweiterte Auflage 2016). SpringerLink Bücher. Berlin, Heidelberg: Springer. Retrieved from <http://link.springer.com/book/10.1007/978-3-642-41089-5> <https://doi.org/10.1007/978-3-642-41089-5>

- Butler-Henderson, K., Dalton, L., Probst, Y., Maunder, K., & Merolli, M. (2020). A meta-synthesis of competency standards suggest allied health are not preparing for a digital health future. *International Journal of Medical Informatics*, 144, 104296. <https://doi.org/10.1016/j.ijmedinf.2020.104296>
- Chen, J., Gemming, L., Hanning, R., & Allman-Farinelli, M. (2018). Smartphone apps and the nutrition care process: Current perspectives and future considerations. *Patient Education and Counseling*, 101(4), 750–757. <https://doi.org/10.1016/j.pec.2017.11.011>
- Crompton, H., & Burke, D. (2018). The use of mobile learning in higher education: A systematic review. *Computers & Education*, 123(2), 53–64. <https://doi.org/10.1016/j.compedu.2018.04.007>
- Dart, J., McCall, L., Ash, S., Blair, M., Twohig, C., & Palermo, C. (2019). Toward a Global Definition of Professionalism for Nutrition and Dietetics Education: A Systematic Review of the Literature. *Journal of the Academy of Nutrition and Dietetics*, 119(6), 957–971. <https://doi.org/10.1016/j.jand.2019.01.007>
- DIRENE (2022). Pedagogical Handbook on Mobile Education & Training of Digital Rehabilitation Competencies. Retrieved from <https://www.jamk.fi/en/project/direne/handbook>
- Donnelly, J. E., Goetz, J., Gibson, C., Sullivan, D. K., Lee, R., Smith, B. K., . . . Washburn, R. A. (2013). Equivalent weight loss for weight management programs delivered by phone and clinic. *Obesity (Silver Spring, Md.)*, 21(10), 1951–1959. <https://doi.org/10.1002/oby.20334>
- Eaton, C. B., Hartman, S. J., Perzanowski, E., Pan, G., Roberts, M. B., Risica, P. M., . . . Marcus, B. H. (2016). A Randomized Clinical Trial of a Tailored Lifestyle Intervention for Obese, Sedentary, Primary Care Patients. *Annals of Family Medicine*, 14(4), 311–319. <https://doi.org/10.1370/afm.1952>
- Fachhochschule St. Pölten GmbH. DIRENE - Aufbau von Kompetenzen und Fähigkeiten für eine neue Ära der personenzentrierten und mobil gesteuerten digitalen Rehabilitation: Neue Wege in der Rehabilitation durch digitale Technologien. Retrieved from <https://research.fhstp.ac.at/projekte/direne-aufbau-von-kompetenzen-und-faehigkeiten-fuer-eine-neue-aera-der-personenzentrierten-und-mobil-gesteuerten-digitalen-rehabilitation>
- Farid, D. (2020). Covid-19 and Telenutrition: Remote Consultation in Clinical Nutrition Practice. *Current Developments in Nutrition*, 4(12), nzaa124. <https://doi.org/10.1093/cdn/nzaa124>

- Götz, M. (2020). Professionelle digitale Ernährungsberatung: Anforderungen und Einsatzmöglichkeiten verschiedener Formate und Methoden. *Ernährungs Umschau*, (6), 336–343.
- Grots, A., & Pratschke, M. (2009). Design Thinking - Kreativität als Methode. *Marketing Review St. Gallen*.
- Hamady, C. M., Pellechia, K., Atkinson, B. E., Solomon, S., Wootton, A., Evanchak, S., . . . Papoutsakis, C. (2021). 2019 Nutrition Informatics Survey: Results and Future Directions. *Journal of the Academy of Nutrition and Dietetics*, 121(11), 2301–2309. <https://doi.org/10.1016/j.jand.2020.12.009>
- Handbook (n.d.). Retrieved from <https://dictionary.cambridge.org/de/worterbuch/englisch/handbook>
- Health Education England (2018). *A Health and Care Digital Capabilities Framework*. Retrieved from <https://www.hee.nhs.uk/our-work/digital-literacy>
- Hickson, M., Child, J., & Collinson, A. (2018). Future Dietitian 2025: Informing the development of a workforce strategy for dietetics. *Journal of Human Nutrition and Dietetics : The Official Journal of the British Dietetic Association*, 31(1), 23–32. <https://doi.org/10.1111/jhn.12509>
- Hille, V. (2021). Digitale Ernährungsberatung – ein Resümee. *Ernährung & Medizin*, 36(02), 77–81. <https://doi.org/10.1055/a-1386-8740>
- Johnson, K. E., Alencar, M. K., Coakley, K. E., Swift, D. L., Cole, N. H., Mermier, C. M., . . . Gibson, A. L. (2019). Telemedicine-Based Health Coaching Is Effective for Inducing Weight Loss and Improving Metabolic Markers. *Telemedicine Journal and E-Health : The Official Journal of the American Telemedicine Association*, 25(2), 85–92. <https://doi.org/10.1089/tmj.2018.0002>
- Kaufman-Shriqui, V., Sherf-Dagan, S., Boaz, M., & Birk, R. (2021). Virtual nutrition consultation: What can we learn from the COVID-19 pandemic? *Public Health Nutrition*, 24(5), 1166–1173. <https://doi.org/10.1017/S1368980021000148>
- Kelly, J. T., Collins, P. F., McCamley, J., Ball, L., Roberts, S., & Campbell, K. L. (2021). Digital disruption of dietetics: Are we ready? *Journal of Human Nutrition and Dietetics : The Official Journal of the British Dietetic Association*, 34(1), 134–146. <https://doi.org/10.1111/jhn.12827>
- Kelly, J. T., Allman-Farinelli, M., Chen, J., Partridge, S. R., Collins, C., Rollo, M., . . . Campbell, K. L. (2020). Dietitians Australia position statement on

- telehealth. *Nutrition & Dietetics*, 77(4), 406–415. <https://doi.org/10.1111/1747-0080.12619>
- Koemel, N. A., Shafieizadeh, K., & Farr, B. R. (2021). Career Readiness in the Dietetics Curriculum. *Journal of the Academy of Nutrition and Dietetics*, 121(1), 15–24. <https://doi.org/10.1016/j.jand.2020.07.015>
- Krotz, S. (2021). Live Online Präsentieren in der Einzel- und Gruppenberatung: 10 Tipps für das Gelingen. *Ernährungs Umschau*. (10), 588–593.
- Kube, S. (2021). Videotherapie: Von Equipment bis Datenschutz. *Ernährungs Umschau*. (10), 584–588.
- Kuckartz, U. (2016). *Qualitative Inhaltsanalyse. Methoden, Praxis, Computerunterstützung* (3., überarbeitete Aufl.). *Grundlagentexte Methoden*. Weinheim: Beltz. Retrieved from <http://nbn-resolving.org/urn:nbn:de:bsz:31-epflicht-1117809>
- Kumar Basak, S., Wotto, M., & Bélanger, P. (2018). E-learning, M-learning and D-learning: Conceptual definition and comparative analysis. *E-Learning and Digital Media*, 15(4), 191–216. <https://doi.org/10.1177/2042753018785180>
- Marx, W., Kelly, J. T., Crichton, M., Craven, D., Collins, J., Mackay, H., . . . Marshall, S. (2018). Is telehealth effective in managing malnutrition in community-dwelling older adults? A systematic review and meta-analysis. *Maturitas*, 111, 31–46. <https://doi.org/10.1016/j.maturitas.2018.02.012>
- Maunder, K., Walton, K., Williams, P., Ferguson, M., & Beck, E. (2018). Ehealth readiness of dietitians. *Journal of Human Nutrition and Dietetics : The Official Journal of the British Dietetic Association*, 31(4), 573–583. <https://doi.org/10.1111/jhn.12542>
- Maunder, K., Walton, K., Williams, P., Ferguson, M., & Beck, E. (2019). Strategic leadership will be essential for dietitian eHealth readiness: A qualitative study exploring dietitian perspectives of eHealth readiness. *Nutrition & Dietetics: The Journal of the Dietitians Association of Australia*, 76(4), 373–381. <https://doi.org/10.1111/1747-0080.12434>
- Mayring, P. (2015). *Qualitative Inhaltsanalyse: Grundlagen und Techniken* (12., überarb. Aufl.). Weinheim: Beltz. Retrieved from http://ebooks.ciando.com/book/index.cfm/bok_id/1875625
- Morgan, K., Reidlinger, D. P., Sargeant, S., Crane, L., & Campbell, K. L. (2019). Challenges in preparing the dietetics workforce of the future: An exploration of

- dietetics educators' experiences. *Nutrition & Dietetics: The Journal of the Dietitians Association of Australia*, 76(4), 382–391.
<https://doi.org/10.1111/1747-0080.12438>
- Mural. Mural. Retrieved from <https://www.mural.co/>
- Nazeha, N., Pavagadhi, D., Kyaw, B. M., Car, J., Jimenez, G., & Tudor Car, L. (2020). A Digitally Competent Health Workforce: Scoping Review of Educational Frameworks. *Journal of Medical Internet Research*, 22(11), e22706. <https://doi.org/10.2196/22706>
- North, K., Reinhardt, K., & Sieber-Suter, B. (2018). *Kompetenzmanagement in der Praxis: Mitarbeiterkompetenzen systematisch identifizieren, nutzen und entwickeln. Mit vielen Praxisbeispielen* (3., aktualisierte und erweiterte Auflage). Wiesbaden: Springer Gabler. Retrieved from <https://ebookcentral.proquest.com/lib/kxp/detail.action?docID=5399993>
<https://doi.org/10.1007/978-3-658-16872-8>
- Pietsch, N. (2022). What to consider when developing a mobile learning course on digital rehabilitation for health professionals in sub-Saharan Africa? Retrieved from <https://sway.office.com/9koBpBtisZVpgphK>
- Radcliff, T. A., Bobroff, L. B., Lutes, L. D., Durning, P. E., Daniels, M. J., Limacher, M. C., . . . Perri, M. G. (2012). Comparing Costs of Telephone vs Face-to-Face Extended-Care Programs for the Management of Obesity in Rural Settings. *Journal of the Academy of Nutrition and Dietetics*, 112(9), 1363–1373. <https://doi.org/10.1016/j.jand.2012.05.002>
- Rollo, M. E., Collins, C. E., & MacDonald-Wicks, L. (2017). Evaluation of the Introduction of an e-Health Skills Component for Dietetics Students. *Telemedicine Journal and E-Health : The Official Journal of the American Telemedicine Association*, 23(11), 930–933.
<https://doi.org/10.1089/tmj.2016.0250>
- Ronquillo, Y., Meyers, A., & Korvek, S. J. (2022). *StatPearls: Digital Health*. Treasure Island (FL).
- Rosner, D. (2020). *Die E-Health Readiness von Diätolog*innen in Österreich und der Einsatz von E-Health in der diätologischen Praxis* (Bachelorarbeit). Fachhochschule Campus Wien, Wien.
- Rozga, M., Handu, D., Kelley, K., Jimenez, E. Y., Martin, H., Schofield, M., & Steiber, A. (2021). Telehealth During the COVID-19 Pandemic: A Cross-Sectional Survey of Registered Dietitian Nutritionists. *Journal of the Academy*

of *Nutrition and Dietetics*, 121(12), 2524–2535.

<https://doi.org/10.1016/j.jand.2021.01.009>

Stadler, A. (2022). Handbuch zur Videosprechstunde: Das digitale Handbuch für Lehrende. Retrieved from <https://dh201807.wixsite.com/teachingvc>

Tewksbury, C., Deleener, M. E., Dumon, K. R., & Williams, N. N. (2021). Practical considerations of developing and conducting a successful telehealth practice in response to COVID-19. *Nutrition in Clinical Practice : Official Publication of the American Society for Parenteral and Enteral Nutrition*, 36(4), 769–774. <https://doi.org/10.1002/ncp.10742>

Ventura Marra, M., Lilly, C. L., Nelson, K. R., Woofter, D. R., & Malone, J. (2019). A Pilot Randomized Controlled Trial of a Telenutrition Weight Loss Intervention in Middle-Aged and Older Men with Multiple Risk Factors for Cardiovascular Disease. *Nutrients*, 11(2). <https://doi.org/10.3390/nu11020229>

Verma, M., Hontecillas, R., Tubau-Juni, N., Abedi, V., & Bassaganya-Riera, J. (2018). Challenges in Personalized Nutrition and Health. *Frontiers in Nutrition*, 5, 117. <https://doi.org/10.3389/fnut.2018.00117>

Vincze, L., Rollo, M. E., Hutchesson, M. J., Callister, R., & Collins, C. E. (2018). Vital change for mums: A feasibility study investigating tailored nutrition and exercise care delivered by video-consultations for women 3-12 months postpartum. *Journal of Human Nutrition and Dietetics : The Official Journal of the British Dietetic Association*, 31(3), 337–348. <https://doi.org/10.1111/jhn.12549>

Weiss, S. (2020). *Gesundheitsberufe in Österreich*. Retrieved from https://www.sozialministerium.at/dam/jcr:e8c34dd6-725e-465a-a213-b4f1ba9b2b64/Gesundheitsberufe%20in%20%C3%96_2020_pdf.pdf

List of Figures

Figure 1 Digital technologies to compliment the Nutrition Care Process	4
Figure 2 Types of virtual nutrition counselling	6
Figure 3 A conceptual model defining professionalism in nutrition and dietetics	16
Figure 4 Digital literacy capability framework	18
Figure 5 Preparations and requirements for virtual nutrition counselling	39
Figure 6 The patient's perspective	41
Figure 7 Needed competencies of dieticians.....	43
Figure 8 Planning and designing courses	45
Figure 9 Concerns and motivation for mobile learning	48
Figure 10 Table of contents of the handbook	50
Figure 11 Presentation of the definitions of terms in the handbook	51
Figure 12 Visualisation of the further information in the handbook	51
Figure 13 Example of a text field in the handbook.....	52
Figure 14 Example of a table in the handbook	53
Figure 15 Checklist and checkboxes from the handbook	54

List of Tables

Table 1 Inclusion criteria 28

Appendix

A. Workshop invitation letter

Einladung zum Workshop

Sehr geehrte Damen und Herren.

Mein Name ist Dennis Rosner, ich bin Diätologe und studiere zurzeit Digital Healthcare an der FH St. Pölten. Im Rahmen meiner Masterarbeit beschäftige ich mich mit den erforderlichen Kompetenzen von Diätolog*innen zur Durchführung einer digitalen Ernährungsberatung. Zusätzlich möchte ich eruieren, wie ein digitales Handbuch für Lehrende entwickelt werden kann. Die Masterarbeit wird im Rahmen des Forschungsprojekts DIRENE verfasst und von FH-Prof. Kidritsch Anita, PT MSc betreut. <https://research.fhstp.ac.at/projekte/direne-aufbau-von-kompetenzen-und-faehigkeiten-fuer-eine-neue-ara-der-personenzentrierten-und-mobil-gesteuerten-digitalen-rehabilitation>

Um Ideen und Informationen zur optimalen Umsetzung der digitalen Ernährungsberatung in der Praxis zu gewinnen, wird ein Design Thinking Workshop durchgeführt. Zurzeit befinde ich mich auf der Suche nach Proband*innen. Die Proband*innen schließen Diätolog*innen, Lehrende im Studiengang Diätologie, Diätologie Studierende und Personen mit Gesundheitsanliegen ein.

Inhaltlich folgt der Workshop folgendem Aufbau:

1. Nach der Diskussion über den Anwendungsfall einer/eines Klient*in, die/der eine digitale Ernährungsberatung erhält,
2. werden die möglicherweise erforderlichen Kompetenzen der behandelnden Diätologin/des behandelten Diätologen herausgearbeitet, indem die Teilnehmer*innen gebeten werden, imaginär in diese Rollen zu wechseln.
3. Zurück in den Rollen der einzelnen Personen werden mögliche Bildungssettings und die Didaktik des mobilen Lernens diskutiert, ebenso wie die Bedenken und Motivationen der Teilnehmer*innen, mobiles Lernen anzuwenden.

Der Design Thinking Workshop wird am **31. Jänner 2022** in der Zeit von **13 bis 16.30 Uhr online** stattfinden, mit einer Dauer von insgesamt 3,5 Stunden mit jeweils zwei 15-minütigen Pausen.

Für den Workshop sind keine Vorkenntnisse oder Erfahrungen mit digitaler Ernährungsberatung notwendig.

Falls Sie Interesse an der Teilnahme am Workshop haben und mich somit bei meinem Forschungsvorhaben unterstützen, würde ich mich sehr über eine positive Rückmeldung an dh201823@fhstp.ac.at freuen.

Bei Rückfragen können Sie mich jederzeit per Mail an dh201823@fhstp.ac.at erreichen.

Begriffserklärung:

Digitale Ernährungsberatung: Die digitale Ernährungsberatung findet nicht Face-to-Face am gleichen physischen Ort statt, sondern über digitale Medien wie zum Beispiel über Computer oder Smartphone.

Mit freundlichen Grüßen

Dennis Rosner

B. Declaration of consent for participants

St. Pölten University of Applied Sciences

/gesundheit



Teilnehmer*innen-Information und Einwilligungserklärung

Masterarbeit zum Thema

„Die erforderlichen Kompetenzen von Diätolog*innen zur Durchführung einer digitalen Ernährungsberatung“

Sehr geehrte/r Teilnehmer/in!

Herzlichen Dank, dass Sie an dem Design Thinking Workshop teilnehmen.

Kurzinformation über die Forschungsarbeit

Digitale Technologien können zur Gesundheitsversorgung unserer Gesellschaft beitragen, indem sie beispielsweise digitale Ernährungsberatung über Online-Termine ermöglichen. Damit Diätolog*innen Kompetenzen in der Anwendung der digitalen Ernährungsberatung zur Unterstützung von Personen mit Gesundheitsanliegen entwickeln können, benötigen sie unterstützende Lernangebote.

Ziel der Arbeit ist es, herauszufinden, welche Kompetenzen und Fähigkeiten Diätolog*innen für die optimale Durchführung der digitalen Ernährungsberatung benötigen. Ein weiteres Ziel der Arbeit ist es, herauszufinden, wie Lehrinhalte für Diätolog*innen und Diätologie Studierenden gestaltet werden sollten, um deren digitalen Kompetenzen zu stärken. Die Ergebnisse dienen der Entwicklung eines digitalen Handbuchs für Lehrende. Die Masterarbeit trägt dabei dem EU-Projekt DIRENE bei, das unterstützende Lernangebote für Gesundheits- und Sozialberufe in der Anwendung digitaler Technologien entwickelt.

Zweck und Ablauf der Datenerhebung und -verarbeitung

In einem Design Thinking Workshop werden Gedanken zum Thema „Digitale Ernährungsberatung“ erfragt und Diskussion mit den anwesenden Teilnehmer*innen angeregt.

1

Fachhochschule St. Pölten GmbH, Matthias Corvinus-Straße 15, 3100 St. Pölten, T: +43 (2742) 313 228, F: +43 (2742) 313 228-339, E: csc@fhstp.ac.at, I: www.fhstp.ac.at

Der Workshop findet am **31.01.2022 von 13:00 bis 16:30 Uhr** inklusive Pausen online via Zoom statt. Bitte wählen Sie sich unter folgendem Teilnahmelink ein:

Zoom-Meeting beitreten:

<https://us02web.zoom.us/j/81368058609?pwd=anJaTHJJPYZFJcENzVmJpY1djbWh1UT09>

Meeting-ID: 813 6805 8609

Kenncode: 612531

Bitte übermitteln Sie vorab die Einwilligungserklärung der folgenden Seite.

Zu Protokollzwecken wird der Termin aufgezeichnet (Videoaufnahmen). Verantwortlicher Forscher ist **Dennis Rosner, BSc (dh201823@fhstp.ac.at)**.

Ihre Antworten werden zum Zweck der Datenanalyse verschriftlicht, wobei die Daten anonymisiert werden. Kontaktdaten, die eine Identifizierung der teilnehmenden Person zu einem späteren Zeitpunkt ermöglichen würden, werden aus Dokumentationsgründen lediglich den Gutachter*innen der wissenschaftlichen Ausarbeitung zur Verfügung gestellt.

Welche Daten werden gespeichert?

- indirekt personenbezogene Audio- und Videodaten
- nicht personenbezogene, anonymisierte Protokolle
- Schriftliche Notizen in Online-Arbeitsplattformen (Padlet, Mural, Google-Drive)

Wer hat Zugriff auf die Daten?

Nur der/die Organisator/in des Online-Termins hat Zugriff auf die Rohdaten. Das anonymisierte Protokoll wird auf Englisch den Mitarbeiter/innen des DIRENE-Projekts zugänglich gemacht. Ausschnitte des Protokolls können als Teil eines Berichts an ERASMUS+ übermittelt werden.

Im Falle von Rückfragen oder bei technischen Problemen in Zusammenhang mit der Teilnahme wenden Sie sich bitte an Dennis Rosner Tel. 0676 70 70 440.

Kofinanziert durch das
Programm Erasmus+
der Europäischen Union



Einwilligungserklärung

Ich, _____ (Vor- und Nachname),

wohnhaft in _____ (Adresse),

geboren am _____ (Geburtsdatum),

stimme ausdrücklich zu, dass meine personenbezogenen Daten, in Form von

- Bildverarbeitungen (sowohl in Form von Videos als auch Fotos)
- Tonaufnahmen
- Fragebögen
- schriftlichen Notizen zu meiner Person
- Einträge in Online-Arbeitsplattformen (Mural, Padlet, Google-Drive)

welche keine Daten besonderer Kategorien personenbezogener Daten enthalten, im Rahmen des Lehrforschungsprojektes DIRENE durch die Fachhochschule St. Pölten ForschungsGmbH verarbeitet werden.

In wissenschaftlichen Veröffentlichungen werden keine personenbezogenen Daten bekannt gegeben, um gegenüber Dritten sicherzustellen, dass es nicht zu einer Identifizierung der Person führen kann. Auch stellt die Fachhochschule St. Pölten ForschungsGmbH sicher, dass die Daten nicht an unberechtigte Dritte gelangen, und die Speicherung auf sicheren, verschlüsselten Servern bzw. in gesperrten Bereichen erfolgt. Sollte eine Datenverarbeitung in externen Cloud-Systemen (Dropbox, Dropbox for Business, Tresorit, ...) unumgänglich sein, stellen die Forschungsmitarbeiter/innen sicher, dass diese Daten durch eine separate Verschlüsselung von unberechtigten Zugriffen Dritter geschützt werden.

Es gelten die nationalen und internationalen datenschutzrechtlichen Bestimmungen. Nach Beendigung des Forschungsprojekts werden die Daten („Rohdaten“) zum Nachweis der Richtigkeit der Forschungsergebnisse 10 Jahre aufbewahrt und danach gelöscht.

Datum, Unterschrift der/des Teilnehmenden

Bitte Folgeseite beachten!

3

Fachhochschule St. Pölten GmbH, Matthias Corvinus-Straße 15, 3100 St. Pölten, T: +43 (2742) 313 228, F: +43 (2742) 313 228-339, E: csc@fhstp.ac.at, I: www.fhstp.ac.at

Meine Einwilligung stellt die rechtliche Grundlage für die Verarbeitung der personenbezogenen Daten dar.

Diese Einwilligungserklärungen können jederzeit, auch separat voneinander widerrufen werden, ohne dass dadurch die Rechtmäßigkeit der Verarbeitung bis zum Widerruf berührt wird. In diesem Fall werden die von mir erhobenen persönlichen Daten und Gesprächsaufzeichnungen umgehend gelöscht.

Ich bin berechtigt, gegenüber der Fachhochschule St. Pölten ForschungsGmbH um eine umfangreiche Auskunftserteilung zu den zu meiner Person gespeicherten Daten zu ersuchen. Weiters kann ich die Berichtigung, Löschung, ab 25.05.2018 die Datenübertragung und Einschränkung der Verarbeitung verlangen, und habe ab 25.05.2018 ein Beschwerderecht bei der Österreichischen Datenschutzbehörde, welche bei dieser als zuständige Aufsichtsbehörde einzubringen ist.

C. Short questionnaire for participants

ST. PÖLTEN UNIVERSITY
OF APPLIED SCIENCES

Medien & Digitale
Technologien



Kurzfragebogen Workshop

Ihre personenbezogenen Daten werden im Rahmen des Workshops erhoben und innerhalb der wissenschaftlichen Ausarbeitung anonymisiert.
Bitte schicken Sie den Fragenbogen ausgefüllt an dh201823@fhstp.ac.at zurück.

Name: _____

Vorname: _____

Geburtsdatum: _____

Bitte ankreuzen. Geschlecht:

☐ Männlich

☐ Weiblich

☐ Divers

Bitte ankreuzen. Rolle im Workshop:

☐ Person mit Gesundheitsanliegen. Folgenden Beruf übe/übte ich aus: _____

☐ Diätologe/Diätologin. Praxiserfahrung in Jahren: _____

☐ Student/Studentin Diätologie

☐ Lehrende Person Diätologie. Praxiserfahrung in Jahren: _____

Bitte ankreuzen. Bescheinigte körperliche oder geistige Behinderung vorhanden?

☐ Ja.

Brauchen Sie Unterstützung bei der Workshop-Teilnahme? ☐ Ja. ☐ Nein.

☐ Nein

Bitte ankreuzen. Einwohnerzahl in Wohnort?

☐

Fachhochschule St. Pölten GmbH, Campus-Platz 1, 3100 St. Pölten, T: +43 (2742) 313 228, F: +43 (2742) 313 228-339, E: csc@fhstp.ac.at, I: www.fhstp.ac.at

Mehr als 10 000 Einwohner.

☐ Weniger als 10 000 Einwohner.

Bitte ankreuzen. Betreuungszeiten in der Familie (Kinder, Angehörige)?

☐ Ja.

☐ Nein.

D. Workshop guide

ST. PÖLTEN UNIVERSITY
OF APPLIED SCIENCES

health sciences



Workshop digitale Ernährungsberatung

Der Workshop findet am 31. Januar von 13:00 bis 16:30 Uhr statt.

AGENDA

1. 13.00-13.05: Check in
2. 13.05-13.15: Einleitung des Moderators
3. 13.15-14.00: Perspektive des Klienten - Einfühlen und Bedürfnisse erkennen
4. 14.00-14.15: PAUSE
5. 14.15-15.00: Perspektiven der Fachleute/Studierenden und das Bildungsumfeld
6. 15.00-15.15: PAUSE
7. 15.15-16.00: Bedenken oder Beweggründe für die Anwendung von mobilem Lernen
8. 16.00-16.30: Abschließende Schlussfolgerungen (Plenardiskussion) und Blitzlichtrunde im Plenum

Es sind zwei Pausen von je 15 Minuten vorgesehen. Die Pausenzeiten können variieren und an die tatsächlichen Bedürfnisse des Workshops angepasst werden.

1. Check-in (5 Minuten)

Die Teilnehmer stellen sich der Reihe nach in der Rolle der jeweiligen Person vor.

- 1) Hallo, mein Name ist....
- 2) Wenn ich an digitale Ernährungsberatung als Teil der Rehabilitation denke, denke ich an ...

2. Einleitung des Moderators (10 Minuten)

Worum geht es bei DIRENE?

"Erasmus + unterstützt Forschungsprojekte zur Entwicklung eines innovativen Unterrichts. Im Projekt DIRENE soll ein digitales Handbuch entwickelt werden, das Lehrkräfte in Gesundheits- und Sozialberufen anleitet, wie sie Lernmodule nutzerzentriert unter Verwendung digitaler Technologien gestalten können."

Erklärung digitale Ernährungsberatung:

Bei der digitalen Ernährungsberatung findet die Beratung/Kommunikation nicht von Angesicht zu Angesicht (Face-to-Face) am gleichen physischen Ort statt, sondern über digitale Medien.

Fachhochschule St. Pölten GmbH, Campus-Platz 1, 3100 St. Pölten, T: +43 (2742) 313 228, F: +43 (2742) 313 228-339, E: csco@fhstp.ac.at, I: www.fhstp.ac.at



Erläuterung der Ziele des heutigen Workshops:

Im heutigen Workshop wird auf die digitale Ernährungsberatung anhand von vier Zielgruppen geblickt, die diese digitale Technologie anwenden. Es werden die Perspektiven von Klienten*innen/Patient*innen, Lehrenden, Studierenden sowie von Diätolog*innen ausgearbeitet. Dadurch werden Kompetenzen herausgearbeitet, die bei der Anwendung der digitalen Ernährungsberatung benötigt werden. Am Ende dieses Arbeitspakets vom DIRENE Projekt soll ein digitales Handbuch zur Verfügung stehen, weshalb hierfür Bedenken und Gründe für die Anwendung von mobilem Lernen gefunden werden. Heute werden wir gemeinsam Ideen für dieses Handbuch finden und weiterentwickeln. Ein Prototyp des Handbuchs wird im Juni getestet.

3. Perspektive der Klienten – Einfühlungsvermögen und Bedürfnisse erkennen (45 Minuten)

Einleitung:

Die Moderatorin/der Moderator beschreibt verbal eine Situation und das spezifische Gesundheitsthema. Diese kann individuell für die Gruppe gestaltet werden.

Versetzen Sie sich in die Lage eines Patienten: Stellen Sie sich einen Patienten vor, der aufgrund eines Unfalls eine Knieoperation hinter sich hat, und sich nun im Rehabilitationsprozess befindet. Der Patient hat bereits einen 4-wöchigen Reha Aufenthalt hinter sich. Der Patient hat auf der Reha neben zahlreichen anderen Therapien auch einen 50-minütigen Vortrag zur gesunden Ernährung besucht. Dem Patienten fällt während des Vortrags auf, dass sein Essverhalten so gar nicht den Empfehlungen entspricht und hat sich daher nachdem Vortrag das Ziel gesetzt, sich ausgewogener zu ernähren um seine Leistungsfähigkeit und Wohlbefinden zu steigern. Da der Patient im ländlichen Raum wohnt, wünscht sich der Patient eine diätologische Weiterbetreuung auf digitalem Wege.

Jetzt gibt es ein Treffen mit einer Diätologin/einem Diätologen, bei dem digitale Tools und Kommunikationswege zum Einsatz kommen:

Es ist das erste Mal, dass dem/der Patienten/in dieser Termin auf digitalem Wege angeboten wird.

A.

- 1) Was wird die/der Klient/in Ihrer Meinung nach brauchen, um an diesem Termin teilnehmen zu können?
 - a) Muss sich die/der Klient/in auf besondere Weise kleiden? Muss er/sie etwas vorbereiten? Muss er/sie bereits Daten wie Körpergröße und -gewicht, oder Dinge, die er/sie in den Tagen zuvor gegessen hat sammeln?
- 2) Was glauben Sie, wird die/der Klient/in während dem Termin brauchen?
 - a) Was ist notwendig, um während des Termins eine Atmosphäre der Adhärenz zu schaffen/aufrechtzuerhalten?
- 3) Was würde bei einem Gruppentermin benötigt werden und was bei einem Einzeltermin?
- 4) Worauf verlässt sich der/die Klient/in?

- 5) Welche Kompetenzen und Ressourcen wird er/sie entwickeln müssen?
- 6) Welche Emotionen oder Wünsche wird er/sie beim Termin haben?
- 7) Welche Bedenken könnte ein/e Klient/in gegenüber der digitalen Ernährungsberatung haben?

3.1 Entwicklungsphase 1 – Brainstorming (15 Minuten)

Finden Sie sich in Paaren zusammen und wählen Sie eine Benutzer-Persona, aus deren Perspektive Sie die Fragen beantworten. Es gibt vier Benutzer-Personas:

USER PERSONA 1

- Mr. Smith
- 44 years
- Married and father of two teenagers
- Warehouse worker



USER PERSONA 2

- Mrs. Mayer
- 25 years
- Single; lives in a students home
- Psychology student



USER PERSONA 3

- Mr. Maxwell
- 72 years
- Widowed; lives alone
- Retired technical officer



USER PERSONA 4

- Mrs. Huber
- 37 years
- Singlemom of two
- Part-time shop assistant



Durchführung

Bereiten Sie vier Flipcharts (Mural) vor, auf denen in der Mitte das Bild einer User Persona zu sehen ist. Schließen Sie die Augen und denken Sie an Fragen wie:

- Was ist die Körperform der Person? Wie wählt sie/er typischerweise Kleidung aus?
- Wie bewegt er/sie sich typischerweise beim Sprechen, Kochen, bei typischen täglichen Aufgaben?
- Auf welche Weise spricht er/sie (langsam <> schnell / kurze <> lange Sätze / leise <> kräftige Stimme / Blickkontakt halten <> vermeiden ...)?
- Atmen Sie dreimal tief durch und Sie SIND JETZT diese Person!
 - Die Paare beantworten jede Frage aus der Perspektive ihrer gewählten User Persona und machen sich Notizen auf dem digitalen Flipchart.
 -

3.2 Entwicklungsphase 2 – Soziodrama (20 Minuten)

Sie sind immer noch der/die Klient/in, der/die nun mehrere Termine mit einer Diätologin/einem Diätologen hatte. Jetzt werden Sie gebeten bis zum nächsten Kontrolltermin in 6 Monaten, die Ernährungsumstellung ohne persönliche Begleitung, mithilfe von mobilen Ernährungsapps oder Selbstlernkursen weiterzuführen. Sie treffen sich mit anderen Klienten und sprechen über folgende Fragen

- 1) Welche der Maßnahmen, die bei den Kontaktterminen angewandt wurden, werden Sie nun ohne persönliche Begleitung anwenden. Lassen Sie ihrer Fantasie freien Lauf.
- 2) Was würde es aus Ihrer Sicht bei den Kontaktterminen brauchen, damit Sie die nächsten 6 Monate Ihre Ernährungsumstellung ohne persönliche Begleitung weiterführen können?
- 3) Wie wird sich Ihre Herangehensweise ändern, wenn Sie aufgefordert werden, die Ernährungsumstellung für die nächsten 6 Monate ohne persönliche Begleitung weiterzuführen?

Durchführung

Die Workshopteilnehmer*innen führen das Soziodrama gemeinsam durch. Der Moderator macht sich Notizen.

3.3 Nachbesprechung (10 Minuten)

Nach 3.2.: Abschütteln der Rolle (wortwörtlich!), sind Sie wieder Sie selbst! Betrachten Sie gemeinsam die gesammelten Ergebnisse der Notizen und ergänzen Sie weitere Erkenntnisse / wichtige Aspekte auch durch zusätzliche Impulsfragen wie:

- 1) Wie ist es während der Phase bis zum nächsten Termin möglich, Fragen an die Fachkraft zu stellen?
- 2) Wie kann der/die Klient/in sein/ihr Essverhalten und andere Gesundheitsparameter wie Körpergewicht, körperliche Aktivität, Schlafdauer bis zum nächsten Termin dokumentieren?

Die Moderation macht sich Notizen in Mural.

PAUSE (15 MINUTEN)

4. Perspektiven der Fachleute, Studenten und Lehrenden und das Bildungsumfeld – Benötigte Kompetenzen (45 Minuten)

Die Teilnehmer antworten zunächst in der Rolle eines Diätologen/einer Diätologin oder eines Studierenden und werden dann vom Moderator aufgefordert, in die Rolle der Lehrenden zu wechseln. Wenn jemand nicht selbst schreiben möchte, kann der Moderator Notizen machen. Wir haben immer noch die Bedürfnisse des Klienten vor Augen, aber jetzt ändern wir die Perspektive. Wir nutzen das Ergebnis der vorherigen Schritte:

C. Nehmen Sie jetzt bitte an, dass Sie sich in der Rolle eines Diätologen oder eines Studenten befinden, der sein Praktikum macht und den Klienten unterstützt.

- a) Welche Kompetenzen braucht er/sie, um den Klienten während eines digitalen Termin zu unterstützen?
- b) Wie wird die durchgehende Unterstützung des Klienten organisiert?
- c) Wenn der Diätologe/der Student nicht an die digitale Ernährungsberatung gewöhnt ist (z. B. nicht weiß, wie sie/er sie anwenden soll): Welche Kompetenzen müsste der Diätologe/Studierende entwickeln?

D. Der/die Studierende kehrt an seine/ihre Hochschule für angewandte Wissenschaften zurück.

- d) Was würde er/sie den Lehrenden bitten, ihm/ihr über die digitale Ernährungsberatung beizubringen?
- e) Wenn der/die Lehrende sich nicht mit der die digitale Ernährungsberatung auskennt: Welche Kompetenzen würde der/die Lehrende benötigen, um den/die Studierenden auszubilden

Durchführung

Sie müssen ein Mural mit einer geschlechtsneutralen Form eines Schülers (oder Berufstätigen) und eines Ausbilders vorbereiten. Schreiben Sie die Kompetenzen, die diese Person haben muss/sollte, in die Nähe der Figur und ordnen Sie sie den Körperteilen zu (z. B. Wissen, Nutzung der fünf Sinne, der "Boden, auf dem die Person steht", benötigte Ressourcen für bestimmte Handlungen (in der Nähe der Hände), ...).

PAUSE (15 MINUTEN)

Bedenken oder Beweggründe für die Anwendung von mobilem Lernen (45 Minuten)

Die Beschreibung einer idealen Zukunft. Wenn du in der Zukunft wärst und eine Postkarte in die Vergangenheit schicken würdest, was würde darauf stehen. Ich denke für mich selbst einen Satz, der die Fragen 1-9 beantwortet. Die Fragen sind die Leitgedanken für das Schreiben.

Botschaften aus einer wunderbaren Zukunft, mit den folgenden Fragen als Inspiration:

Wenn Sie als Diätologe/Student/Lehrender/Patient Kompetenzen für die digitale Ernährungsberatung (für eine bessere Gesundheitsversorgung) entwickeln möchten, überlegen Sie und beantworten Sie bitte folgendes (Die Ausbildung/Fortbildung könnte auch in Form von mobilen Lernen angeboten werden).

Was denken Sie darüber?

- 1) Warum würden Sie mehr über die Anwendung der digitalen Ernährungsberatung erfahren wollen?
- 2) Wann / in welchen Situationen / wo würden Sie Zeit in das Lernen investieren?
- 3) Für welche Inhalte würden Sie sich interessieren?
- 4) Wie viel Zeit würden sie investieren? Wie lange / wie viel würden Sie pro Lerneinheit lernen?
- 5) Auf welche Weise wäre ihre Motivation am größten, diese Inhalte zu lernen?
- 6) Warum wären Sie motiviert, über mobile technische Lösungen zu lernen?
- 7) Welche Bedenken haben Sie bezüglich des Lernens mit mobilen Geräten? Welche Bedenken haben Sie bezüglich der Kosten für den Zugang zu (mobilen) technischen Lösungen?
- 8) Welchen zusätzlichen Nutzen würden Sie aus dem mobilen Lernen ziehen?

Durchführung

Die Gruppe teilt sich in zwei Gruppen auf, die sich in verschiedenen Räumen treffen; jede Gruppe macht ein 30-minütiges Brainstorming zu Botschaften, die aus einer Zukunft in fünf oder sechs Jahren stammen, in der sich das Lernen im Umgang mit digitalen Werkzeugen und die Art der Kommunikation auf wirklich befriedigende, fantastische und umwerfende Weise entwickelt haben: Schreiben Sie Tweets oder Postkarten aus dieser Zukunft; zeichnen Sie ein Bild, das Details zeigt, -> 2 Mural vorbereiten
→ Sich gegenseitig in 15 Minuten Ideen vorstellen und diskutieren

5. Abschließende Schlussfolgerungen (Diskussion im Plenum) und Blitzlichtrunde im Plenum (30 Minuten)

Finale Diskussion: Sie können Ihre spannendsten Ideen über die Zukunft aus der Diskussion des vorherigen Schrittes mit der ganzen Gruppe teilen.

Die Teilnehmer beantworten abwechselnd die folgenden Fragen:

- 1) Wie war der Workshop für mich?
- 2) Was werde ich mitnehmen?
- 3) Was ich noch sagen wollte...

Teilnehmer geben Feedback zum Workshop

E. Screenshots of the handbook

ST. PÖLTEN UNIVERSITY
OF APPLIED SCIENCES

Medien & Digitale
Technologien



Handbuch für Diätologie Lehrende

Planung und Konzeption von Lehrveranstaltungen
zur digitalen Ernährungsberatung

Dennis Rosner



Co-funded by the
Erasmus+ Programme
of the European Union



Inhaltsverzeichnis

1	Einleitung	3
2	Digitale Ernährungsberatung	4
2.1	Begriffsdefinition	5
2.2	Patient*innenperspektive	5
2.3	Technische Ausstattung	6
3	Planung und Konzipierung der Lehrveranstaltung	7
3.1	Kontext der Lehrveranstaltung	7
3.2	Erforderliche Kompetenzen von Diätolog*innen/ Lernziele – Was?	8
3.2.1	Kompetenz Rahmenwerke für Diätolog*innen	9
3.2.2	Ergebnisse aus dem Design Thinking Workshop	10
3.3	Methode und Inhalt – Wie?	12
3.4	Beispiel zur Planung einer Lehrveranstaltung	15
4	References	20

1 Einleitung

Ein Verständnis für Technologie und die Nutzung digitaler Ernährungsberatung gilt bereits jetzt als Schlüsselfaktor für die Arbeit in der diätologischen Praxis und wird in Zukunft noch wichtiger werden. Im Vereinigten Königreich, in Australien und Kanada ist in den Ausbildungsstandards für Diätolog*innen beschrieben, dass die angemessene und effektive Nutzung von Technologien als wichtige Kompetenz für Diätolog*innen angesehen werden sollte. Um eine effektive Nutzung der digitalen Ernährungsberatung zu gewährleisten, ist eine Schulung im Umgang mit den Technologien unerlässlich (Rollo, Collins, & MacDonald-Wicks, 2017). Darüber hinaus steigt die Nachfrage nach Schulungen immer weiter an. Eine Umfrage unter Diätolog*innen in den USA hat ergeben, dass sich 82 % der Diätolog*innen eine Fortbildung zum Einsatz von digitaler Ernährungsberatung wünschen (Koemel, Shafieizadeh, & Farr, 2021).

Die Academy of Nutritionists and Dietetics in den USA befürwortet die weitere Einbeziehung digitaler Kompetenzen in die Ausbildung von Diätolog*innen, um Wissen und Fähigkeiten zu diesem Thema zu stärken. Problematisch ist, dass in der Diätolog*innen Ausbildung der Umgang mit digitalen Technologien oft dem Selbststudium überlassen wird oder davon ausgegangen wird, dass dieser in der diätologischen Praxis erlernt wird (Hamady et al., 2021). Eine Umfrage innerhalb der Berufsgruppe der Diätolog*innen in Österreich hat aufgezeigt, dass der häufigste Grund, warum Diätolog*innen Informations- und Kommunikationstechnologie nicht einsetzen, mangelndes Wissen und Erfahrung ist. Außerdem zeigte die Befragung, dass 88% der Diätolog*innen sich eine Fortbildung zum Einsatz digitaler Technologien in der diätologischen Praxis wünschen (Rosner, 2020).

Aus den genannten Gründen ist es wichtig, Diätolog*innen und Diätologie Studierende im Bereich der digitalen Ernährungsberatung aus- und weiterzubilden, um deren digitale Kompetenzen zu stärken. Die Entwicklung solcher Lernangebote sollte sich an einen klaren Leitfaden orientieren und auf das Setting, den Kontext und die Tätigkeiten des Gesundheitsberufes zugeschnitten sein (Nazeha et al., 2020). Daher ist das Ziel des Handbuchs Diätologie Lehrende bei der Erstellung von Lehrveranstaltungen zum Thema digitaler Ernährungsberatung zu unterstützen.

Wie verwende ich dieses Handbuch?

Das Handbuch soll Sie als lehrende Person von Diätolog*innen und Diätologie Studierenden Schritt für Schritt anleiten, Lehrveranstaltungen zum Thema digitaler Ernährungsberatung zu gestalten. Sie finden hier allgemeine Informationen zur digitalen Ernährungsberatung, welche Kompetenzen Diätolog*innen für die Durchführung der digitalen Ernährungsberatung brauchen und wie Lehrinhalte gestaltet werden sollten, um die digitale Kompetenz von

Studierenden zu stärken. Das Handbuch enthält Literaturempfehlungen bzw. weiterführende Informationen und Beispiele zum besseren Verständnis.

Das Handbuch ist im Rahmen der Masterarbeit „A survey of the needed competences of dieticians for the implementation of virtual nutrition counselling by using a design thinking workshop as a basis for the development of a digital handbook for teachers“ verfasst von Dennis Rosner an der FH St. Pölten entstanden. Die Masterarbeit ist in Kooperation mit Erasmus+ finanzierten Projekt DIRENE (Competences for the new era of user-driven digital rehabilitation) entwickelt worden. Die Unterstützung der Europäischen Kommission für die Erstellung dieser Veröffentlichung stellt keine Billigung des Inhalts dar, der ausschließlich die Meinung der Autoren widerspiegelt, und die Kommission kann nicht für die Verwendung der darin enthaltenen Informationen verantwortlich gemacht werden.

Die Entwicklung des Handbuchs wurde von folgenden Forschungsfragen geleitet:

- Welche Kompetenzen benötigen Diätolog*innen zur Durchführung einer digitalen Ernährungsberatung?
- Wie sollten Lernangebote zur Stärkung der digitalen Kompetenzen von Diätolog*innen und Diätologie Studierenden gestaltet werden?

Die Erstellung des Handbuchs basiert auf den Ergebnissen der Literaturrecherche und eines Design Thinking Workshops, welche im Rahmen der Masterarbeit durchgeführt wurden. Bei dem Workshop haben Diätolog*innen, Diätologie Studierende, Diätologie Lehrende und Personen mit Gesundheitsanliegen teilgenommen.

Das Handbuch erhebt weder den Anspruch auf Vollständigkeit noch ist es möglich, dass Handbuch auf neuestem Stand zu halten.

2 Digitale Ernährungsberatung

In diesem Kapitel finden Sie Hintergrundinformationen zum Thema digitaler Ernährungsberatung. Dazu gehören Begriffsdefinitionen, die Einsatzmöglichkeiten und Formen der digitalen Ernährungsberatung, sowie die notwendige technische Ausstattung. Die Informationen können Sie für die Erstellung Ihrer Lerninhalte verwenden.

2.1 Begriffsdefinition

Bei der **digitalen Ernährungsberatung** findet die Beratung/Kommunikation nicht Face-to-Face statt, sondern räumlich getrennt über digitale Medien, wie zum Beispiel über einen Computer oder ein Smartphone. Bei der Kommunikationsform wird zwischen synchron und asynchron unterschieden. Bei der synchronen Form findet die Interaktion zwischen Diätolog*innen und Patient*innen gleichzeitig statt. Unter anderem zählen dazu Videotelefonie, Chat und Telefongespräche. Wenn der Beratungsprozess zeitversetzt durchgeführt wird, spricht man von einer asynchronen Interaktion. Der Informationsaustausch findet dabei über E-Mail, Text Nachrichten oder Sprachaufzeichnungen statt. Diese Form der Kommunikation ist für Patient*innen und Diätolog*innen zeitlich und örtlich unabhängig (Götz, 2020).

Die Formen der digitalen Ernährungsberatung sind vielfältig. Jedoch gilt es festzuhalten, dass der Beratungsprozess nicht eins zu eins in die virtuelle Welt übertragen werden sollte. Stattdessen sollte der Kern des bisherigen Vorgehens mithilfe von Kreativität online neugestaltet werden.

Wenn Sie mehr über die verschiedenen Formen der digitalen Ernährungsberatung und deren Vor- und Nachteile wissen möchten, lesen Sie den Artikel [„Professionelle digitale Ernährungsberatung“](#) von Monika Götz (2020)

Wenn Sie mehr über die Einsatzmöglichkeiten von digitalen Technologien in der diätologischen Praxis erfahren möchten, lesen Sie [„Digital disruption of dietetics: are we ready?“](#) von Kelly et al. (2020)

2.2 Patient*innenperspektive

Das Ziel der digitalen Ernährungsberatung besteht darin, die Gesundheit der Patient*innen zu verbessern und sie bei der Ernährungsumstellung zu unterstützen. Daher sollte die Lehre der digitalen Ernährungsberatung patient*innenzentriert gestaltet werden. Anhand des Workshops haben sich bezüglich der Patient*innenperspektive folgenden Themen herauskristallisiert:

- Wünsche der Patient*innen: Wunsch nach Veränderung, Besserung, Information und Begleitung, Gleichwertigkeit der Therapie im Vergleich zur Face-to-Face Beratung, kompetente und professionelle Therapeut*innen
- Emotionen während der Beratung: Neugier, Dankbarkeit und Angst
- Bedürfnisse der Patient*innen: individuelle Beratung, verständnisvoller und einfühlsamer Umgang, ausreichend Zeit um Anliegen zu schildern
- Bedenken der Patient*innen: Datenschutz, Diskretion, unpersönliche Beratung, technische Schwierigkeiten (Workshop, 2022)

2.3 Technische Ausstattung

Für die Durchführung einer digitalen Ernährungsberatung brauchen Diätolog*innen und Patient*innen eine adäquate technische Ausstattung. Zur technischen Grundausstattung gehören ein PC oder Laptop, ein Mikrofon, eine stabile Internetverbindung, Webcam, Beleuchtung und ein Headset (Krotz, 2021). Entscheidende Faktoren für ein professionelles Erscheinungsbild sind die Tonqualität, der Kamerawinkel und das Licht (Tewksbury, Deleener, Dumon, & Williams, 2021).

Die Software für die Videoberatung sollte den Vorschriften der Datenschutzgrundverordnung entsprechen. Die Auswahl des Tools sollte an die Bedürfnisse und Fähigkeiten der Patient*innen angepasst werden. Dabei ist auf Benutzerfreundlichkeit und eine intuitive Bedienung zu achten (Krotz, 2021).

Detaillierte Informationen zur technischen Ausstattung und eine Checkliste zur professionellen Bildschirmwirkung finden Sie im Artikel „Videotherapie: Von Equipment bis Datenschutz“ von Sören Kube (2021) UND im Artikel „Live Online Präsentieren in der Einzel- und Gruppenberatung“ von Simone Krotz (2021)

Literaturempfehlungen zu den Einsatzmöglichkeiten, der Wirksamkeit und den Patient*innenbedürfnissen der digitalen Ernährungsberatung

Chen, J., Gemming, L., Hanning, R., & Allman-Farinelli, M. (2018). Smartphone apps and the nutrition care process: Current perspectives and future considerations. *Patient Education and Counseling*, 101(4), 750–757. <https://doi.org/10.1016/j.pec.2017.11.011>

Warner, M. M., Tong, A., Campbell, K. L., & Kelly, J. T. (2019). Patients' Experiences and Perspectives of Telehealth Coaching with a Dietitian to Improve Diet Quality in Chronic Kidney Disease: A Qualitative Interview Study. *Journal of the Academy of Nutrition and Dietetics*, 119(8), 1362–1374. <https://doi.org/10.1016/j.jand.2019.01.023>

Huang, J.-W., Lin, Y.-Y., & Wu, N.-Y. (2019). The effectiveness of telemedicine on body mass index: A systematic review and meta-analysis. *Journal of Telemedicine and Telecare*, 25(7), 389–401. <https://doi.org/10.1177/1357633X18775564>

Kelly, J. T., Allman-Farinelli, M., Chen, J., Partridge, S. R., Collins, C., Rollo, M., . . . Campbell, K. L. (2020). Dietitians Australia position statement on telehealth. *Nutrition & Dietetics*, 77(4), 406–415. <https://doi.org/10.1111/1747-0080.12619>

3 Planung und Konzipierung der Lehrveranstaltung

Dieses Kapitel bietet Ihnen eine Schritt-für-Schritt Anleitung für die Planung und Konzipierung einer Lehrveranstaltung zum Thema digitale Ernährungsberatung. Bearbeiten Sie die einzelnen Schritte der Reihe nach und machen Sie sich bei Bedarf Notizen in den dafür vorgesehen Textfeldern. Am Ende des Dokuments finden Sie eine Checkliste, bei der Sie die erledigten Schritte abhaken können.

3.1 Kontext der Lehrveranstaltung

Am Beginn der Planung einer Lehrveranstaltung sollten Sie die Rahmenbedingungen und den Kontext analysieren. Bearbeiten Sie die folgenden Punkte, um Informationen zu sammeln, die einen Einfluss auf die Lehrveranstaltung haben könnten.

Die folgenden Leitfragen können Sie bei der Analyse des Kontextes der Lehrveranstaltung unterstützen (Fink, 2009):

1. Spezifischer Kontext der Lehrveranstaltung

- Die Anzahl der Studierenden?
- Format der Lehrveranstaltung (Seminar, Vorlesung, Workshop)?
- Wie passt die Lehrveranstaltung in den Kontext des Studiengangs?
- Länge und zeitlicher Abstand der Lehrveranstaltung?
- Räumliche und technische Gegebenheiten beziehungsweise Anforderungen?

2. Allgemeiner Kontext der Lehrveranstaltung

- Erwartungen der Fachhochschule und von Kolleg*innen an die Lehrveranstaltung?
- Anforderungen aus der diätologischen Praxis?
- Bedürfnisse der Patient*innen?

3. Das Thema

- Ist das Thema der Lehrveranstaltung praktisch, theoretisch oder eine Kombination aus beidem?

4. Studierendenperspektive

- Erfahrungen, Einstellung und Vorwissen der Studierenden zum Thema der Lehrveranstaltung?
- Erwartungen und Wünsche der Studierenden?
- Welche Lehrinhalte sind für die Studierenden interessant und relevant?
- Wie wollen Studierende die Inhalte vermittelt bekommen?

5. Perspektive der Lehrperson

- Ihre Haltung und Grundannahmen zum Thema der Lehrveranstaltung?
- Ihr Wissen und Ihre Erfahrungen zum Thema der Lehrveranstaltung?

Im folgenden Textfeld können Sie Notizen bezüglich dem Kontext und den Rahmenbedingungen Ihrer Lehrveranstaltung machen:

3.2 Erforderliche Kompetenzen von Diätolog*innen/ Lernziele – Was?

Im nächsten Schritt legen Sie die Lernziele fest. Überlegen Sie, welche spezifischen Kompetenzen die Studierenden bezüglich der digitalen Ernährungsberatung im zukünftigen beruflichen Alltag benötigen.

Definition Kompetenz

Der lateinische Ursprung des Wortes Kompetenz lautet *competencia* und bedeutet für etwas geeignet, fähig oder befugt zu sein. Der Begriff Kompetenz beschreibt das Verhältnis zwischen einer Anforderung, die an eine Person gestellt wird, und ihren Fähigkeiten diese Anforderung zu erfüllen. (North, Reinhardt, & Sieber-Suter, 2018, p. 35).

Definition Lernziel

Ein Lernziel gibt Auskunft darüber, was ein Lernender nach einem bestimmten Lernabschnitt wissen, verstehen oder können soll (Hartel & Foegeding, 2004).

Um die Kompetenzen und Kompetenzanforderungen verständlich, übersichtlich und für alle anderen nachvollziehbar darzustellen, werden die einzelnen Kompetenzen gebündelt und Kategorien sinnvoll zugeordnet. Aus den zusammengefassten und gruppierten Kompetenzen entsteht ein Kompetenzprofil (North et al., 2018, p. 67).

3.2.1 Kompetenz Rahmenwerke für Diätolog*innen

In der Literatur existieren mehrere Kompetenz Rahmenwerke für die Berufsgruppe der Diätolog*innen. Die Kompetenzen und Kompetenzstandards sind die Grundlage für die Entwicklung von Lehrplänen und der Aus- und Weiterbildung der Diätolog*innen. Zusätzlich geben sie an, was Diätolog*innen nach der Ausbildung können müssen, um den Beruf ausüben zu können (Dart et al., 2019).

Die hier angeführten Rahmenwerke reichen von allgemeinen Kompetenzanforderungen der Diätolog*innen, bis hin zu den spezifischen Kompetenzen für die digitale Ernährungsberatung. Die Rahmenwerke können Sie zur Selbsteinschätzung und zur Einschätzung der Studierenden nutzen, sowie um Lern- und Entwicklungsbedürfnisse zu erkennen. Außerdem können sie zur Reflexion, Zielsetzung und der Bewertung von Fortschritten eingesetzt werden. Die Rahmenwerke helfen Ihnen dabei innovative Schulungskonzepte, Maßnahmen und Ressourcen zu erstellen für die Verbesserung der digitalen Kompetenzen der Studierenden. Sie können daraus, die Kompetenzen auswählen, die Sie relevant und passend für Ihre Lehrveranstaltung finden. Hinweis dazu: Sie müssen nicht alle Kompetenzen oder Lernziele aus einem Rahmenwerk verwenden.

- Kompetenzprofil Diätolog*innen Österreich
Informationen zu den allgemeinen Kompetenzen der Diätolog*innen in Österreich laut MTD- Gesetz und FH- Ausbildungsverordnung. Von Seite 81 bis 85 des Dokuments finden Sie Statements, die Ihnen dabei helfen können, ihre Lernziele zu formulieren.
- Revised Dietetics Competence and the six domains of dietetics competency in Europe
Übersicht der erforderlichen Kompetenzen von Diätolog*innen von der European Federation of the Associations of Dietitians (EFAD)
- The Allied Health Professionals digital competency framework
Framework zur Verbesserung der digitalen Kompetenzen von Gesundheitsberufen. Das Framework ist in 10 Dimensionen eingeteilt. Zusätzlich gibt es eine Profession Summary speziell für jede einzelne Profession. Hier finden Sie die spezifischen Kompetenzen, die für Diätolog*innen relevant sind. Profession Summary Dietetics
- Digital Literacy Capability Framework 2018
Das Digital Capability Framework wurde von der Organisation Health Education England entwickelt, um Gesundheitsberufe bei der Verbesserung ihrer digitalen Kompetenzen zu unterstützen.

3.2.2 Ergebnisse aus dem Design Thinking Workshop

Sie finden in diesem Abschnitt die Ergebnisse des Design Thinking Workshops betreffend den erforderlichen Kompetenzen von Diätolog*innen zur Durchführung einer digitalen Ernährungsberatung.

Bei den erforderlichen Kompetenzen, die Diätolog*innen und Studierende im Praktikum zur Durchführung der digitalen Ernährungsberatung brauchen, wurden folgende Kategorien herausgearbeitet: Digitale Kompetenz, Fachkompetenz, Personale Kompetenz, Sozial-kommunikative Kompetenz, Methodenkompetenz und interkulturelle Kompetenz.

Digitale Kompetenz

Die Teilnehmer*innen gaben an, dass Diätolog*innen die Fähigkeit benötigen, mit digitalen Technologien zu kommunizieren. Dazu brauchen Diätolog*innen eine technische Affinität und das Wissen, wie sie die Kamera, das Licht und den Hintergrund optimal aufeinander abstimmen. Die Therapeut*innen sollten sich mit unterschiedlichen Tools auseinandersetzen und sich nicht darauf beschränken nur ein System oder ein Tool zu lernen, da die Patient*innen auch unterschiedliche Tools verwenden (Workshop, 2022)

Außerdem müssen sie sich mit dem verwendeten Tool auskennen und wissen, welches Tool für welche Zielgruppe genutzt werden kann. Die Diätolog*innen sollten die erhaltenen Daten von den Patient*innen kritisch bewerten können. Eine weitere wichtige Fähigkeit ist, laut den Teilnehmer*innen, dass Diätolog*innen den Patient*innen bei technischen Problemen helfen können und eine Ausweichmöglichkeit bei einem technischen Ausfall vorbereiten (Workshop, 2022)

Zu den digitalen Kompetenzen zählt auch die Erstellung von digitalen Inhalten. Dazu gehört die Erstellung von zum Beispiel Beratungsunterlagen und Videos. Dafür müssen Diätolog*innen mit Bild- und Videobearbeitungsprogrammen umgehen können und über Copyright Richtlinien bei der Verwendung von Bildern und Videos Bescheid wissen (Workshop, 2022).

Ein Teilnehmer gab an, dass die Diätolog*innen auch interaktive Elemente bei der Beratung nutzen sollten, wie eine VR-Brille, um die Vorteile des Einsatzes der digitalen Technologien auszunutzen (Workshop, 2022).

Fachkompetenz

Für die digitale Ernährungsberatung brauchen Diätolog*innen auch das notwendige Fachwissen, um die Patient*innen zu unterstützen (Workshop, 2022).

Personale Kompetenz

Zu den Personalen Kompetenzen die Diätolog*innen benötigen wurde von den Teilnehmer*innen die Selbstreflexion, Flexibilität, Bereitschaft zur Mitarbeit und die Neugier auf neue Tools und Möglichkeiten genannt. Erwähnt wurde auch die Professionalität von seitens der Therapeut*innen, bildhaftes Denken und keine Angst vor der Technik zu haben (Workshop, 2022).

Sozial-kommunikative Kompetenz

Bei den sozial-kommunikativen Kompetenzen stehen Gesprächstechniken, die Kommunikationsfähigkeit, Empathie, Geduld und Verständnis im Vordergrund. Die Teilnehmer*innen gaben an, dass die Diätolog*innen Fähigkeiten für die digitale Ernährungsberatung entwickeln müssen, um die geringere Wahrnehmung von Gestik und Mimik zu kompensieren. Im digitalen Setting sind Fragetechniken noch wichtiger, als wenn der Patient im selben Raum ist. Dazu gehören die Methoden WWSZ, Chunk and Check und teach back. WWSZ bedeutet Warten, Wiederholen, Spiegeln und Zusammenfassen, was die Patient*innen gesagt haben. Bei der Technik Chunk and Check sollten die Therapeut*innen den Patient*innen die Informationen in kleinen Einheiten geben und die Patient*innen das Wiederholen lassen, was die Therapeut*innen gesagt haben. Zusätzlich zu den Fragetechniken sollten die Erwartungen, Bedürfnisse und Vorstellungen der Patienten*innen an den Therapieprozess erfragt werden (Workshop, 2022).

Laut den Teilnehmer*innen müssen Diätolog*innen eine einfache Sprache sprechen, Inhalte auf den Punkt bringen können und die Wortwahl an die Patient*innen anpassen. Weiters müssen Diätolog*innen Geduld und Verständnis haben, sowie empathisch sein (Workshop, 2022).

Methodenkompetenz

Die Therapeut*innen müssen bei einem digitalen Termin noch strukturierter vorgehen, als bei einem Face-to-Face Termin. Außerdem spielt die Patient*innenorientierung eine noch wichtigere Rolle. Die Diätolog*innen sollten den Gesprächseinstieg so gestalten, dass dadurch eine gute Basis für die weitere Beratung geschaffen wird. Die verwendeten Methoden sollten an die Fähigkeiten der Patient*innen angepasst werden (Workshop, 2022).

Interkulturelle Kompetenz

Betreffend die interkulturelle Kompetenz von Diätolog*innen wurde genannt, dass eine kulturelle Offenheit wichtig ist, und dass die Therapeut*innen über unterschiedliche soziokulturelle Hintergründe Bescheid wissen sollten. Das technische Wissen und der Zugang zu Technik sind laut den Teilnehmer*innen abhängig von den soziokulturellen Hintergründen der Patient*innen (Workshop, 2022).

In diesem Textfeld können Sie Notizen zu den für Ihre Lehrveranstaltung relevanten Kompetenzen machen:

3.3 Methode und Inhalt – Wie?

Nachdem Sie sich nun einen Überblick über das Thema verschafft haben, Ideen gesammelt haben und die Lernziele definiert haben, müssen Sie sich im nächsten Schritt Gedanken machen, wie Sie den Studierenden die Inhalte vermitteln. Der nachfolgende Abschnitt unterstützt Sie dabei, wie Sie Ihre Lehrveranstaltung gestalten können. Die Informationen stammen aus der Literaturrecherche und dem Design Thinking Workshop.

Bei der Gestaltung einer Lehrveranstaltung beziehungsweise einer Weiterbildung sind das Format, die Struktur, die didaktische Methode und die Aufgaben so zu wählen, dass der Erwerb und die Erweiterung der beschriebenen Kompetenz gefördert wird. Dazu gehört auch die Einbindung von Praxisbezug, Reflexion, Kooperation und Austausch. Neue Formate, wie E-Learning, mobile Learning oder Blended Learning können im Kontext der Kompetenzentwicklung eingesetzt werden (North et al., 2018, p. 55).

E-Learning bedeutet Lernen mithilfe von elektronischen oder digitalen Medien. Diese werden eingesetzt, um Lernmaterialien bereitzustellen und/oder zwischenmenschliche Kommunikation zu ermöglichen (Kumar Basak, Wotto, & Bélanger, 2018).

Mobile Learning bezeichnet das Lernen mithilfe eines mobilen Geräts. Dabei findet das Lernen Zeit und Orts unabhängig statt (Crompton & Burke, 2018).

Beim Konzept des **Blended Learning** werden traditionelle Präsenzveranstaltungen und Online- Lehre sinnvoll kombiniert. Diese Lernform eignet sich, wenn zusätzlich zur Vermittlung von Wissen die praktische Anwendung geübt werden soll (Kumar Basak et al., 2018).

Methodischer Aufbau

Die Ergebnisse des Workshops zeigen, dass darauf geachtet werden sollte einen Austausch unter den Studierenden bzw. unter den Fachkräften zu ermöglichen. Die Wissensvermittlung sollte spielerisch erfolgen und die Lernangebote sollten so konzipiert sein, dass die Inhalte leicht verständlich sind (Workshop, 2022). Aus der Literatur geht hervor, dass Lehrveranstaltungen bestehend aus einem Theorieteil und einem Praxisteil mit Stationsbetrieb zu einer Verbesserung der Kenntnisse im Bezug zu Digital Health in der diätologischen Praxis führen kann (Rollo et al., 2017). Daraus ist zu schließen, dass die Kombination aus Theorie und Praxis mit gemeinsamem Austausch eine geeignete Lehrmethode darstellen könnte.

Inhalte der Lehreinheiten

Laut den Teilnehmer*innen des Workshops wünschen sich die Studierenden über den Umgang mit dem Datenschutz und über die rechtlichen Rahmenbedingungen zu lernen. Des Weiteren wollen die Studierenden einen Überblick über möglichen Formen der digitalen Ernährungsberatung erhalten und über den Einsatz und die Sinnhaftigkeit von verschiedenen Medien und Tools diskutieren. Die Lehrenden sollten den Studierenden vermitteln, wie sie digital kommunizieren und digitale Inhalte erstellen können. Betont wurde das praktische Üben von digitalen Beratungssituationen (Workshop, 2022). Die Ergebnisse decken sich mit den Inhalten, die beim Digital Health Workshop von (Rollo et al., 2017) vermittelt wurden. Dort stand das praktische Ausprobieren von Informations- und Kommunikationstechnologie, der sinnvolle Einsatz digitaler Medien, sowie die Diskussion von ethischen und rechtlichen Fragen im Vordergrund. Auch (Nazeha et al., 2020) empfehlen aufgrund der Ergebnisse ihres Scoping Review die vorher genannten Inhalte bei Aus- und Weiterbildungen miteinzubeziehen.

Zeitrahmen und Situationen zum Lernen

Bei der Dauer von digital unterstützter Lehre wie zum Beispiel beim mobile Learning waren die Teilnehmer*innen unterschiedlicher Meinung. Die Antworten reichten von kurzen Einheiten von 20 Minuten bis zu max. 1-2 Stunden. Jedoch wurde dabei betont, dass aufgrund der Belastung durch die Bildschirmarbeit mehrere Pausen eingelegt werden sollten (Workshop, 2022). Unabhängig vom Setting der Lehrveranstaltung sind laut North et al. (2018) Kurzangebote von zwei bis drei Stunden geeignet für den Kompetenzaufbau, wenn sie in einen längerfristigen Entwicklungsprozess integriert sind.

Beim mobilen Lernen ist den Lernenden wichtig, dass die Informationen immer und überall verfügbar sind und das während unterschiedlichen Alltagsaktivitäten, wie beim Kaffee machen oder beim Zug fahren, gelernt werden kann (Workshop, 2022).

Bedenken und Beweggründe von mobilem Lernen

Die Beweggründe für mobiles Lernen sind laut den Ergebnissen des Workshops, dass die Lernenden dadurch flexibler sind und es zu einer Zeit- und Geldersparnis durch den Wegfall der An- und Abreise kommt. Wenn ein mobiles Lernangebot entwickelt wird, sollte der fachliche Austausch beziehungsweise die Kommunikation unter den Lernende gegeben sein.

Außerdem sollten die Lernenden eine Möglichkeit haben die Inhalte auszudrucken, damit sie falls gewünscht, auf Papier lernen können (Workshop, 2022).

Notizen zu der methodischen und inhaltlichen Gestaltung der Lehrveranstaltung:

Perspektive der Lehrperson

Für Sie, als lehrende Person, ist es unabdingbar immer auf dem neuesten Kenntnisstand in Ihrem Fachgebiet zu sein und die Veränderungen im Bereich der Diätetik zu reflektieren. Die Lehrenden, die digitale Ernährungsberatung unterrichten, brauchen selbst praktische Erfahrung im Umgang mit den digitalen Technologien. Die Lehrenden könnten dabei mithilfe von Versuchsgruppen Erfahrungen sammeln, die man dann den Studierenden vermitteln kann (Workshop, 2022).

Wenn sie mehr über die digitalen Kompetenzen von Lehrenden wissen möchten, schauen Sie sich das „[European Framework for the Digital Competence of Educators](#)“ an. Sie können das Framework nutzen, um eine Selbsteinschätzung ihrer Kompetenzen zu machen und um eventuell Ihre eigenen Lern- und Entwicklungsbedürfnisse zu erkennen.

Notieren Sie im folgenden Textfeld, welche Kompetenzen Sie für die Durchführung einer Lehrveranstaltung zur digitalen Ernährungsberatung benötigen:

Literaturempfehlungen zur Gestaltung von Lernangeboten, Kompetenzen von Lehrenden

- Aungst, T. D., & Patel, R. (2020). Integrating Digital Health into the Curriculum-Considerations on the Current Landscape and Future Developments. *Journal of Medical Education and Curricular Development*, 7, 2382120519901275. <https://doi.org/10.1177/2382120519901275>
- Border, K., Endrizal, C., & Cecil, M. (2019). Academy of Nutrition and Dietetics: Revised 2018 Standards of Professional Performance for Registered Dietitian Nutritionists (Competent, Proficient, and Expert) in Education of Nutrition and Dietetics Practitioners. *Journal of the Academy of Nutrition and Dietetics*, 119(1), 124-136.e29. <https://doi.org/10.1016/j.jand.2018.10.014>
- Crompton, H., & Burke, D. (2018). The use of mobile learning in higher education: A systematic review. *Computers & Education*, 123(2), 53-64. <https://doi.org/10.1016/j.compedu.2018.04.007>
- Dart, J., McCall, L., Ash, S., Blair, M., Twohig, C., & Palermo, C. (2019). Toward a Global Definition of Professionalism for Nutrition and Dietetics Education: A Systematic Review of the Literature. *Journal of the Academy of Nutrition and Dietetics*, 119(6), 957-971. <https://doi.org/10.1016/j.jand.2019.01.007>
- Kumar Basak, S., Wotto, M., & Bélanger, P. (2018). E-learning, M-learning and D-learning: Conceptual definition and comparative analysis. *E-Learning and Digital Media*, 15(4), 191-216. <https://doi.org/10.1177/2042753018785180>

3.4 Beispiel zur Planung einer Lehrveranstaltung

Zur Planung Ihrer Lehrveranstaltung nehmen Sie eine Tabelle zur Hand und gehen Sie die nachfolgenden Schritte durch. Achten Sie darauf, dass die einzelnen Punkte aufeinander abgestimmt sind.

Lernziel/Kompetenz	Didaktische Methode, Hilfsmittel, digitale Werkzeuge	Aufgabe für Studierende	Beurteilung/Feedback

Tabelle 1. Vorlage Planung Lehrveranstaltung

Schritt 1: Lernziele/Kompetenzen auswählen

Hier finden Sie ein Beispiel aus dem Digital Literacy Capability Framework 2018

Domäne	Kompetenz	Lernziel
Kommunikation	Die Fähigkeit ein großes Spektrum an digitalen Technologien für die Kommunikation mit Patient*innen zu nutzen. Die unterschiedlichen Formen, Zwecke und Funktionen der verschiedenen Methoden der digitalen Kommunikation zu verstehen und entsprechend zu handeln.	Level 1: Die Studierenden wissen, dass es verschiedene Methoden der digitalen Kommunikation gibt und dass sie für verschiedene Zwecke und unterschiedliche Zielgruppen verwendet werden können.
		Die Studierenden wissen, dass Sie bei der Kommunikation jeglicher Art unterschiedliche Bedürfnisse, Erwartungen, Kulturen und Erfahrungen berücksichtigen sollten.
		Level 2: Die Studierenden können mit einer Reihe von digitalen Kommunikationsmethoden kommunizieren z. B. Telefon, Videoberatung, E-Mail

Tabelle 2. Lernziele definieren

Schritt 2: Didaktische Methoden und Inhalt auswählen

Legen Sie nun die didaktischen Methoden und Inhalte anhand der zuvor festgelegten Lernziele fest und welche Hilfsmittel/digitale Werkzeuge Sie für die Umsetzung benötigen.

Lernziel	Unterrichtstechniken und didaktisches Konzept	Inhalt	Hilfsmittel, digitale Werkzeuge
Die Studierenden können mit einer Reihe von digitalen Kommunikationsmethoden kommunizieren z. B. Telefon, Videoberatung, E-Mail	Simulationsbasiertes Lernen Diskussion	Mithilfe digitaler Medien wie zum Beispiel Computer, Tablet, Telefon eine Ernährungsberatung mit einem Mitstudierenden als Patienten durchführen. Anschließend über die Herausforderungen jeder einzelnen Methode diskutieren und Lösungen überlegen	Computer, Tablet, Telefon, Software, Headset, Kamera

Tabelle 3. Didaktische Methode und Inhalt auswählen

Schritt 3: Aufgabe für die Studierenden

Damit die Studierenden das Erlernte festigen können, überlegen Sie sich eine Aufgabe für die Studierenden. Die Aufgabe sollte an das Lernziel und die verwendete Methode angepasst sein.

Beispiel einer Aufgabe für das oben beschriebene Lernziel:
Die Studierenden gehen in 2er Gruppen zusammen. Aufgabe ist es, dass jeder eine Ernährungsberatung über Video simuliert, wobei der andere Studierende der Patient/die Patientin ist. Die Beratung soll aufgezeichnet werden und im Anschluss gemeinsam analysiert werden. Dabei sollen folgende Leitfragen helfen: Wie habe ich mich während der Beratung gefühlt? Was hat gut funktioniert? Welche Herausforderungen sind aufgetreten? Was könnte ich beim nächsten Mal besser machen? Die Diskussionspunkte sollen in einem Dokument festgehalten werden und beim nächsten Mal den Mitstudierenden präsentiert werden.

Notieren Sie mögliche Aufgabenstellungen für die Studierenden:

Schritt 4: Feedback, Beurteilung festlegen

Im letzten Schritt überlegen Sie sich eine geeignete Methode, um die Leistungen der Studierenden und das Erreichen der Lernziele zu evaluieren.

Wie könnten die Leistungsbeurteilung und die Lernzielevaluierung aussehen? Schreiben Sie Ihre Überlegungen in das dafür vorgesehen Textfeld:

Beispiel eines Workshops zur Stärkung der digitalen Kompetenzen von Diätologie Studierenden

Wie so eine Lehrveranstaltung in der Form eines Workshops zur Stärkung der digitalen Kompetenzen aussehen kann, haben Rollo et. al (2017) gezeigt. Die Autor*innen der Studie untersuchten die Einführung eines Digital Health Workshops bei Diätologie Studierenden in Australien. Der Workshop bestand aus einem Vortrag, bei dem den Studierenden Wissen bezüglich digital Health Konzepte und digitalen Technologien vermittelt wurden. Der zweite Teil des Workshops beinhaltet vier Stationen, bei denen die Studierenden das Gelernte in die Praxis umsetzen konnten. Zum Abschluss wurde noch eine Gruppendiskussion durchgeführt (Rollo et al., 2017).

Für weitere Informationen zu den Inhalten des Workshops und den Ergebnissen der Studie klicken Sie auf folgenden Link: [Evaluation of the Introduction of an e-Health Skills Component for Dietetics Students](#)

Checkliste

Anhand der Checkliste können Sie prüfen, ob Sie an alle Aspekte bei der Planung und Konzeption Ihrer Lehrveranstaltung gedacht haben.

Ich habe für meine Lehrveranstaltung...

- ... die Rahmenbedingungen und den Kontext analysiert. ☐
(räumliche und technische Gegebenheiten, institutionelle Rahmenbedingungen, Charakteristiken der Studierenden, eigene Erfahrungen)
- ... klar definierte und kompetenzorientierte Lernziele festgelegt. ☐
- ... anhand der Lernziele die didaktische Methode und den Inhalt der Lehrveranstaltung ausgewählt. ☐
- ... die Hilfsmittel und digitalen Werkzeuge bestimmt. ☐
- ... eine Aufgabe für die Studierenden anhand der Lernziele und der didaktischen Methode überlegt. ☐
- ... eine Form der Leistungsbeurteilung die an den Kontext, an die Studierenden und der didaktischen Methode angepasst ist. ☐

Bei Fragen zum Handbuch oder der Masterarbeit wenden Sie sich bitte per E-Mail an Dennis Rosner unter dh201823@fhstp.ac.at

Wenn Sie Fragen zum DIRENE-Projekt haben, kontaktieren Sie FH-Prof. Anita Kidritsch, PT MSc unter anita.kidritsch@fhstp.ac.at

4 References

- Crompton, H., & Burke, D. (2018). The use of mobile learning in higher education: A systematic review. *Computers & Education*, 123(2), 53–64.
<https://doi.org/10.1016/j.compedu.2018.04.007>
- Dart, J., McCall, L., Ash, S., Blair, M., Twohig, C., & Palermo, C. (2019). Toward a Global Definition of Professionalism for Nutrition and Dietetics Education: A Systematic Review of the Literature. *Journal of the Academy of Nutrition and Dietetics*, 119(6), 957–971.
<https://doi.org/10.1016/j.jand.2019.01.007>
- Fink, D. L. (2009). *Leitfaden zur Konzeption und Planung von Lehrveranstaltungen, die nachhaltiges Lernen fördern*. Retrieved from
https://www.deefinkandassociates.com/German_SelfDirectedGuide.pdf
- Götz, M. (2020). Professionelle digitale Ernährungsberatung: Anforderungen und Einsatzmöglichkeiten verschiedener Formate und Methoden. *Ernährungs Umschau*. (6), 336–343.
- Hamady, C. M., Pellechia, K., Atkinson, B. E., Solomon, S., Wootton, A., Evanchak, S., . . . Papoutsakis, C. (2021). 2019 Nutrition Informatics Survey: Results and Future Directions. *Journal of the Academy of Nutrition and Dietetics*, 121(11), 2301–2309.
<https://doi.org/10.1016/j.jand.2020.12.009>
- Hartel, R. W., & Foegeding, E. A. (2004). Learning: Objectives, Competencies, or Outcomes? *Journal of Food Science Education*, 3(4), 69–70.
<https://doi.org/10.1111/j.1541-4329.2004.tb00047.x>
- Koemel, N. A., Shafieizadeh, K., & Farr, B. R. (2021). Career Readiness in the Dietetics Curriculum. *Journal of the Academy of Nutrition and Dietetics*, 121(1), 15–24.
<https://doi.org/10.1016/j.jand.2020.07.015>
- Krotz, S. (2021). Live Online Präsentieren in der Einzel- und Gruppenberatung: 10 Tipps für das Gelingen. *Ernährungs Umschau*. (10), 588–593.
- Kumar Basak, S., Wotto, M., & Bélanger, P. (2018). E-learning, M-learning and D-learning: Conceptual definition and comparative analysis. *E-Learning and Digital Media*, 15(4), 191–216. <https://doi.org/10.1177/2042753018785180>
- Nazeha, N., Pavagadhi, D., Kyaw, B. M., Car, J., Jimenez, G., & Tudor Car, L. (2020). A Digitally Competent Health Workforce: Scoping Review of Educational Frameworks. *Journal of Medical Internet Research*, 22(11), e22706. <https://doi.org/10.2196/22706>
- North, K., Reinhardt, K., & Sieber-Suter, B. (2018). *Kompetenzmanagement in der Praxis: Mitarbeiterkompetenzen systematisch identifizieren, nutzen und entwickeln. Mit vielen Praxisbeispielen* (3., aktualisierte und erweiterte Auflage). Wiesbaden: Springer Gabler. Retrieved from <https://ebookcentral.proquest.com/lib/kxp/detail.action?docID=5399993>
<https://doi.org/10.1007/978-3-658-16872-8>
- Rollo, M. E., Collins, C. E., & MacDonald-Wicks, L. (2017). Evaluation of the Introduction of an e-Health Skills Component for Dietetics Students. *Telemedicine Journal and E-Health* :

- The Official Journal of the American Telemedicine Association*, 23(11), 930–933.
<https://doi.org/10.1089/tmj.2016.0250>
- Rosner, D. (2020). *Die E-Health Readiness von Diätolog*innen in Österreich und der Einsatz von E-Health in der diätologischen Praxis* (Bachelorarbeit). Fachhochschule Campus Wien, Wien.
- Tewksbury, C., Deleener, M. E., Dumon, K. R., & Williams, N. N. (2021). Practical considerations of developing and conducting a successful telehealth practice in response to COVID-19. *Nutrition in Clinical Practice : Official Publication of the American Society for Parenteral and Enteral Nutrition*, 36(4), 769–774. <https://doi.org/10.1002/ncp.10742>
- Warner, M. M., Tong, A., Campbell, K. L., & Kelly, J. T. (2019). Patients' Experiences and Perspectives of Telehealth Coaching with a Dietitian to Improve Diet Quality in Chronic Kidney Disease: A Qualitative Interview Study. *Journal of the Academy of Nutrition and Dietetics*, 119(8), 1362–1374. <https://doi.org/10.1016/j.jand.2019.01.023>
- Workshop. 2022. Empirische Datenerhebung im Format eines Gruppenworkshops. St. Pölten, 31.1.2022

F. Screenshot of the Mural Board

Workshop digitale Ernährungsberatung

/medien & digitale technologien **fh/ll**
an der FH

USER PERSONA 1

USER PERSONA 2

USER PERSONA 3

USER PERSONA 4

M1

Perspektive des Klienten/ Patienten: Einfühlungsvermögen und Bedürfnisse

Sozialdrama - Notizen des Moderators

1) Welche der Maßnahmen, die bei den Kontaktterminen angewandt wurden, wurde Sie nun ohne persönliche Begleitung anwenden? Lassen Sie Ihrer Fantasie freien Lauf!

2) Was würde es aus Ihrer Sicht bei den Kontaktterminen brauchen, damit Sie die nächsten 6 Monate Ihre Ernährungseinstellung ohne persönliche Begleitung weiterführen können?

3) Wie wird sich Ihre Herangehensweise ändern, wenn Sie aufgefordert werden, die Ernährungseinstellung für die nächsten 6 Monate ohne persönliche Begleitung weiterzuführen?

4) Wie ist es während der Phase bis zum nächsten Termin möglich, Fragen an die Fachkraft zu stellen?

5) Wie kann der Klient sein Essverhalten und andere Gesundheitsparameter wie Körpergewicht, körperliche Aktivität und Schlafdauer bis zum nächsten Termin dokumentieren?

Perspektive der Fachleute, Studenten und Lehrenden - Benötigte Kompetenzen

M2a

M2b

M3

Bedenken und Beweggründe beim mobilen Lernen

Gruppe 1

Gruppe 2

107