

MICRO-LEARNING UNITS CURRICULUM: DIGITAL SKILLS FOR CARE WORKERS

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Table of contents

Project information	3
Introduction	4
Structure	4
Topics and learning outcomes	6
Flowchart	8
Topic 1: Digital services and apps to promote independence and autonomy of clients	9
Topic 2 - Application of Communication Systems in care-setting	12
Topic 3 - XR in Care	15
Topic 4 - Applying smart home technologies in care	16
Topic 5 - The integration of robotics for physical assistance in care	20
Recommendations for Trainers	24





Project information

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Introduction

The main objective of the DiMiCare project is to increase the digital literacy of care assistants and home helpers. While the DiMiCare Training Course (WP3) aims to improve digital literacy in a formal VET course setting, the DiMiCare Micro-Learning Units (WP4) are specifically **designed for informal, self-directed learning at the workplace.** Through access to a wide range of entertaining short learning videos, care workers can enhance their daily caregiving tasks with a better understanding of digital technologies.

Micro-learning is a way of teaching and learning that delivers **small**, **bite-sized lessons or chunks of information**. Each lesson focuses on one specific topic or skill, making it easy to understand and apply. These short learning sessions can be completed quickly, often in just a few minutes, and are designed to fit into a busy schedule.

The content, delivered through multimedia files, educates learners about relevant care technology, explains its applications, and encourages smooth integration into daily care practices. Short and entertaining learning videos play a key role in this process, making learning efficient, fun and engaging.

Target Group(s) of the DiMiCare Micro-Learning Units

The DimiCare Micro-Learning Units are recommended for the following target groups:

- care assistants and home helpers (EQF level 1 and 2) working in adult social care and long-term care institutions
- non-professional carers who want to improve their digital skills
- care employers who are looking for training opportunities for their staff
- care managers who are implementing digital technologies in their organisations
- learning providers to support the development of training resources

Structure

Structure-wise, five microlearning units have been created for each of the five topics, each corresponding to the **five moments of need in work-related learning** developed by Mosher and Gottfredson:

- 1. New: Acquiring knowledge for the first time
- 2. More: Expanding on existing knowledge
- 3. Apply: Implementing acquired knowledge and skills
- 4. Change: Adapting knowledge to emerging trends
- 5. Solve: Addressing new problems as they arise

This model of learning outlines 5 categories or moments when someone has a need to learn something. The most important word here is "need": at the moment when someone feels the need to learn something, the motivation is at its highest and the brain is in the "receive" mode.

The micro-learning units are created with this approach in mind, with the aim of providing the right learning resources at the right time, in a way that is easy to find and is relevant to the person's needs.





Explore each moment in detail¹:

THE **NEW** MOMENT OCCURS WHEN YOU ENCOUNTER SOMETHING FOR THE FIRST TIME AND NEED TO ACQUIRE NEW KNOWLEDGE OR SKILLS.

> THE **MORE** MOMENT ARISES WHEN YOU WANT TO **DEEPEN YOUR EXISTING KNOWLEDGE AND EXPAND** YOUR SKILL SET FURTHER.

> > IN THE **APPLY** MOMENT, LEARNING HAPPENS SEAMLESSLY WHILE YOU ARE ENGAGED IN YOUR WORK MMEDIATELY PUT YOUR

> > > THE CHANGE MOMENT OCCURS WHEN YOU ARE

> > > > THE **SOLVE** MOMENT

The DiMiCare Micro-Learning Units are short videos of 2 to 5 minutes, designed for informal, easy and self-directed learning in the workplace. They are easy to understand, user-friendly and visually appealing, taking into account the potential reluctance of learners to use technology in the care sector.

¹ https://www.5momentsofneed.com/



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Topics and learning outcomes

The micro-learning units take up and deepen some of the topics developed in the DiMiCare training course (WP3), in particular the modules dealing with specific care technologies, still with the aim of enabling health professionals to support and guide patients in the use of health-related technologies and with a focus on compliance with data protection regulations.

However, while the training modules aim to improve professional digital skills in the context of a formal training course, the DiMiCare micro-learning units are designed for informal and autonomous learning.

The focus of the micro-learning units is to explore how digital tools, communication systems, XR, smart home technologies and robotics can increase independence and autonomy for care recipients, streamline care tasks and improve the overall quality of care. Each of these topics is integral to understanding and harnessing the potential of modern technology in the care environment.

Topic 1: Digital services and apps to promote independence and autonomy of clients

Digital tools can be useful for health professionals and caregivers, and can contribute to the independence of patients. In this section we cover:

- the basics of digital tools and their benefits for both caregivers and care recipients;

- the role of mhealth tools in promoting healthy lifestyles, managing chronic conditions and improving cognitive abilities;

- how to evaluate and demonstrate the benefits and limitations of different health applications;

- practical skills to assist clients in selecting and using appropriate health-related applications, while ensuring that privacy and quality standards are met.

Topic 2: Application of communication systems in care settings

Effective communication is essential in the care sector. In this section we cover:

- the practical use of digital communication tools, including email, instant messaging and video calling;
- the importance of data protection, GDPR compliance and secure communication practices;
- how to identify and mitigate phishing threats and implement two-factor authentication;
- the benefits and techniques of inclusive online communication, adapting to different abilities and personal preferences;
- troubleshooting common issues with digital communication tools and hardware.

Topic 3: XR in care

Extended Reality (XR) technologies are emerging as powerful tools in care. In this section we cover:

- the fundamentals and different applications of XR in care settings;
- how to engage clients with XR applications;
- how configuring and using XR;
- the benefits and challenges of using XR;
- how to identify and resolve common problems associated with XR technologies.





Topic 4: Applying smart home technologies in care

Smart home devices for care play a crucial role in the daily routine of care professionals, caregivers and the patients they care for. In this section we cover:

- the basics of smart home technology and its relevance in caregiving;
- the most common smart home devices and their functionalities;
- how to incorporate smart home technology into daily caregiving practices;
- the latest trends and advancements in smart home technology;
- how to troubleshoot and resolve common issues with smart home devices.

Topic 5: The integration of robotics for physical assistance in care

Robotic technologies offer significant advances in physical assistance. In this section we cover:

- basic concepts and types of robotic devices used in healthcare for physical assistance;
- integrating robotics into daily care practice and troubleshooting common issues;

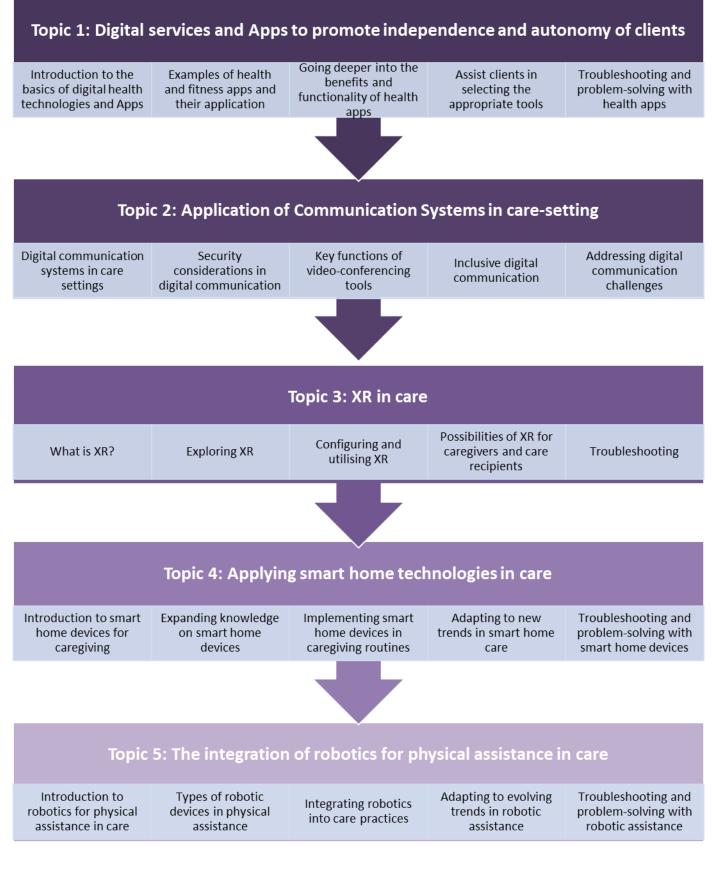
- an overview of the evolving landscape of robotics in care and the application of effective problemsolving techniques to minimise disruption.

The twenty-five micro-learning units outlined above are available as freely accessible content on the project's website. <u>project website</u>.

The **micro-learning units can also be combined with the online training course**, as they cover similar content and offer progressive and in-depth learning opportunities.











Topic 1: Digital services and apps to promote independence and autonomy of clients

The topic comprises five micro-learning units:

- Micro-learning unit 1 Introduction to the basics of digital health technologies and Apps to support independence of older people
- Micro-learning unit 2 Examples of health and fitness apps and their areas of application
- Micro-learning unit 3 Going deeper into the benefits and functionality of health apps through case studies
- Micro-learning unit 4 Assist clients in selecting the appropriate tools
- Micro-learning unit 5 Troubleshooting and problem-solving with health apps

Micro-learning unit 1 – Introduction to the basics of digital health technologies and Apps to support independence of older people

(4.26 min)

Moment of need in	Contont	Outcomes
work-related learning	Content	Outcomes





	 General overview of digital health technologies and mobile Health Apps and their benefits for older people and their care workers. Digital health technologies Purpose of Health Apps What are wearables? Benefits of health applications 	 Being able to describe the basics of digital tools and their potential benefits for carers and care recipients Being able to recognise the role of mHealth tools in adopting healthy lifestyle habits, managing chronic illnesses or improving cognitive skills Being able to estimate the effects and benefits of mHealth Apps in different fields
(5.07 min) Moment of need in work-related learning	Content	Outcomes
More	 Concrete types of health apps and examples: Medical Reminder and Tracking Apps Medisafe Safe and Sound Pill Reminder Health Monitoring Apps Blood Pressure Monitor Ada-Symptom Check Fitness and Activity Tracker Apps Fitbit Stepz Telemedicine and Remote Care Apps GrandPad Brain Training and Mental Health Apps 	 Being able to give examples of digital health technologies and health Apps Being capable of identifying different fields of application and functionalities of self-management apps Being able to explain the basic functionality of selected mHealth Apps Being able to acknowledge the limitations of mHealth Apps as a stand-alone tool for health management





Micro-learning case studies	 Lumosity Daylio Diary & Habits Nutrition and Meal Planning Apps Mealtime MyFitnessPal Going deeper into the benefits and fu 	unctionality of health apps through
(4.25 min)		
Moment of need in work-related learning	Content	Outcomes
Apply	 3 short case studies on how concrete mHealth Apps increase autonomy, reduce social isolation and improve their mental health: Luis, 69, suffers from multiple chronic illness (hypertension, diabetes) and uses ADA symptom check and Safe and Sound Pill Reminder to better manage his chronic illness Maria, 75 is worried about his cognitive abilities and uses Lumosity to enhance cognitive function and an App to track her physical fitness Peter, 82, is affected by mental health issues and uses a daily activity tracker to log his moods and habits and gain insights into patterns that have an impact on her mood 	 Being able to illustrate different use cases for Health Apps Being able to navigate selected mHealth Apps Being capable of differentiating the functionalities and purposes of mHealth Apps
Micro-learning (4.02 min)	g unit 4 – Assist clients in selecting the approp	riate tools
Moment of need in work-related learning	Content	Outcomes





Change	 Promoting the use of digital health tools among clients and helping them adopt new habits Knowing the barriers of older people related to the use of digital tools and health apps Tips for using technology with older adults 	 Being able to identify the needs of their client with respect to Health Apps and digital tools Being able to support clients in finding an appropriate tool Being capable of assisting clients in using a health-related App Being able to explain the benefits of mHealth Apps to clients
Micro-learning (5.36 min)	g unit 5 - Troubleshooting and problem-solving	g with health apps
Moment of need in work-related learning	Content	Outcomes
Solve	 The main problems and risks related to the use of digital tools and how to avoid them: Main Problems and Risks related to digital tools Key considerations when choosing an app Purpose and Function of the App Quality and Evaluation Data protection and data access Publisher and Imprint Funding and costs 	 Being able to control privacy settings in Apps Being able to assess an app according to certain quality standards

Topic 2: Application of communication systems in care-setting

The topic comprises five micro-learning units:

• Micro-learning unit 1 - Digital Communication Systems in Care Settings





- Micro-learning unit 2 Security considerations in digital communication
- Micro-learning unit 3 Key functions of video-conferencing tools
- Micro-learning unit 4 Inclusive digital communication
- Micro-learning unit 5 Addressing digital communication challenges

Micro-learning unit 1 – Digital Communication Systems in Care Settings

(3.20 1111)		
Moment of need in work-related learning	Content	Outcomes
New	 Practical examples of how some digital communication tools could be used in the care sector and their benefits. Benefits and examples of how to use: Email Instant messaging and live chat Video calling apps 	 Being able to describe the practical applications of digital communication tools in the care sector. Being able to identify the benefits associated with using email, instant messaging/live chat, and video calling apps.
Micro-learning (6.05 min)	unit 2 - Security considerations in d	ligital communication
Moment of need in work-related learning	Content	Outcomes





More	Practical examples of security in digital	 Being able to explain why data protection is important in
	communications:	the care of older people.
	Data protection	 Being able to apply the GDPR correctly in everyday
	• GDPR	working life.
	Phishing	• Being able to identify phishing threats.
	Two-factor authentication	 Being able to implement two-factor authentication in
	 Security considerations in digital 	practice.
	communication	 Being able to consider how to keep digital
		communications secure.

Micro-learning unit 3 - Key functions of video-conferencing tools

(3.02 min)		
Moment of need in work-related learning	Content	Outcomes
Apply	 Practical examples of how video conference tools work and how video calls can be used in informal healthcare. Benefits of video calling tools and applications What is a video call? Video calling apps Why video calling and practical examples 	 Being able to explain the benefits of using video calling tools and apps in healthcare. Being able to explain what a video call is and its importance in healthcare communications. Being able to use video calling applications such as Google Meet, WhatsApp Call and Zoom.
Micro-learning (5 min)	unit 4 – Inclusive digital communica	ation
Moment of need in work-related learning	Content	Outcomes





	 Understanding inclusive online communication Respecting personal preferences Avoiding exclusionary language online Tips for communicating with people of all abilities online 	 Being able to respect personal preferences when communicating. Being able to avoid the use of exclusionary language online. Being able to adapt digital communication to the target audience according to their abilities/disabilities.
Micro-learning	unit 5 - Addressing digital commur	nication challenges
Micro-learning (4.23 min) Moment of need in work-related learning	unit 5 - Addressing digital commur	Outcomes

Topic 3: XR in Care

The topic comprises five micro-learning units:

- Micro-learning unit 1 What is XR?
- Micro-learning unit 2 Exploring XR
- Micro-learning unit 3 Configuring and utilising XR





- Micro-learning unit 4 Possibilities of XR for Caregivers and care recipients
- Micro-learning unit 5 Troubleshooting

Micro-learning unit 1 – What is XR?			
(2.26 min)			
Moment of need in work-related learning	Content	Outcomes	
New	Introduction to XR	 Being able to describe the basics of XR. 	
Micro-learning	unit 2 - Exploring XR		
(1.58 min)			
Moment of need in work-related learning	Content	Outcomes	
More	What is VR, Hololens and A.I	 Being able to differentiate different applications of XR. 	
Micro-learning	Micro-learning unit 3 - Configuring and utilising XR		
(2.21 min)			
Moment of need in work-related learning	Content	Outcomes	
Apply	 How to explain to older individuals what VR is. How to use a hololens 	 Being able to engage individuals in configuring and utilising XR applications. 	
Micro-learning unit 4 – Possibilities of XR for Caregivers and care recipients			
(3.11 min) Moment of need in work-related learning	Content	Outcomes	





Change	 Examples of how to use XR in learning situations Examples of how to use XR in Care situations 	 Being able to reflect on the benefits and challenges introducing into the lives of elderly individuals by XR tools.
Micro-learning unit 5 - Troubleshooting (2.01 min)		
Moment of need in work-related learning	Content	Outcomes
Solve	 Common minor problems and resources for finding additional help. 	 Being able to identify and resolve minor common issues with XR.

Topic 4: Applying smart home technologies in care

The topic comprises five micro-learning units:

- Micro-learning unit 1 Introduction to smart home devices for caregiving
- Micro-learning unit 2 Expanding knowledge on smart home devices
- Micro-learning unit 3 Implementing smart home devices in caregiving routines
- Micro-learning unit 4 Adapting to new trends in smart home care
- Micro-learning unit 5 Troubleshooting and problem-solving with smart home devices

Micro-learning unit 1 – Introduction to smart home devices for caregiving (4 min)

Moment of need in	Contont	Outcomer
work-related learning	Content	Outcomes





New	 Smart home devices (e.g. smart thermostats, motion sensors and voice-activated assistants) and their application in care. Definition and Significance: Explanation of smart home devices and their importance in caregiving, emphasising safety, convenience, and independence. Types of Smart Home Devices: Smart Thermostats: Remote temperature control, energy-saving settings, and integration with other devices. Motion Sensors: Security, fall detection, and activity monitoring. Voice-Activated Assistants: Task assistance through voice commands. Applications of these devices in caregiving - Possible Challenges during application of hazards and emergency alerts. 	 Being able to define/identify smart home devices and explain their importance in caregiving. Being able to recognise common smart home devices used in caregiving and describe their functions. Being able to acknowledge how smart home devices improve efficiency and quality of care in daily tasks.
Micro-learning (4.22 min)	gunit 2 - Expanding knowledge on sn	nart home devices
Moment of need in work-related learning	Content	Outcomes
More	Functionalities and Benefits of Smart Devices for Care.	• Being able to expand their knowledge of specific types of smart home devices tailored for caregiving purposes.





	 Smart Pill Dispensers Patient Monitoring Systems Voice-Activated Assistants and Automation Ethical Considerations and Privacy 	 Being able to understand the functionalities and benefits associated with smart pill dispensers, health monitoring devices, motion/fall sensors and other relevant technologies. Being able to recognise the potential of smart home devices to optimise daily care activities, leading to improved outcomes for both caregivers and care recipients.
Micro-learning (4.33 min)	unit 3 - Implementing smart home o	devices in caregiving routines
Moment of need in work-related learning	Content	Outcomes
Apply	 Real-life scenarios demonstrating the use of smart devices in different caregiving situations. Concrete examples and situations in different contexts is provided: Medication Management: how smart pill dispensers automate medication schedules and provide reminders for dosage, promoting adherence and minimising errors. Setup of smart pill dispensers Voice-Activated Assistants and Automation: how voice-activated assistants facilitate remote communication and assistance, supporting caregivers from a distance. 	 Being able to apply smart home devices effectively in various caregiving scenarios through self-directed learning. Being able to recognise the practical benefits of smart devices in improving caregiving routines based on real-life examples. Being able to independently integrate smart home devices into their daily caregiving activities, enhancing efficiency and quality of care.





	 Recommendations on what to consider when integrating smart home devices 	
Micro-learning (2.50 min)	g unit 4 – Adapting to new trends in	smart home care
Moment of need in work-related learning	Content	Outcomes
Change	 Definition of AI How advances in AI, machine learning and connectivity are impacting smart home devices. Landscape of smart homecare technology and its implications for caregivers. GDPR and Data Protection when using AI Examples of AI-powered devices and how they learn 	 Being able to understand how smart home caregiving devices use AI. Being able to apply GDPR and Data Protection regulation when using AI. Being able to manage innovations in smart homecare technology effectively.
Micro-learning (5.12 min)	; unit 5 – Troubleshooting and probl	em-solving with smart home devices
Moment of need in work-related learning	Content	Outcomes
Solve	 Common issues with smart home devices Identifying Common Problems Initial Troubleshooting Steps Utilising Resources for Troubleshooting Problem Solving Strategies 	 Being able to identify and address common problems encountered while using smart home devices in caregiving. Being able to apply troubleshooting and problem-solving techniques to resolve issues effectively and minimise disruptions in caregiving routines.





Topic 5: The integration of robotics for physical assistance in care

The topic comprises five micro-learning units:

- Micro-learning unit 1 Introduction to robotics for physical assistance in care
- Micro-learning unit 2 Types of robotic devices in physical assistance
- Micro-learning unit 3 Integrating robotics into care practices
- Micro-learning unit 4 Adapting to evolving trends in robotic assistance
- Micro-learning unit 5 Troubleshooting and problem-solving with robotic assistance

Micro-learning unit 1 – Introduction to Robotics for Physical Assistance in Care

Moment of need in work-related learning	Content	Outcomes
New	 The concept and the objectives of the Robotics for Physical Assistance in Care project. Understanding the concept of robotics for physical assistance in care Potential of assistive robotics Various kinds of assistive robotics Tips when using assistive robotics & ethical considerations 	 Being able to explain the basic concepts of Robotics for Physical Assistance in Care.
Micro-learning (3.02 min)	unit 2 - Types of robotic devices in p	hysical assistance





Moment of need in work-related learning	Content	Outcomes
More	 Healthcare robots and their benefits, including improved efficiency and patient outcomes. Understanding the healthcare robots and their benefits Improved efficiency and patient outcomes Avoiding a "fix it "mind set Tips for selecting appropriate assistive robotics 	 Being able to identify the different types of robotic devices used for physical assistance in healthcare.
Micro-learning	unit 3 - Integrating Robotics into Ca	re Practices
(3.13 min)	1	
Moment of need in work-related learning	Content	Outcomes
Apply	 The essentials of safely integrating robotic devices into care settings, including practical examples of their use in tasks such as mobility support and rehabilitation. Understanding integrating robotics into care practices Respecting personal safety Avoid human - robot accidents Tips for integrating robotics into care practices 	• Being able to integrate robotics into daily care practices.
	unit 4 – Adapting to Evolving Trends	s in Robotic Assistance
(3.13 min)		





Moment of need in work-related learning	Content	Outcomes
Change	 The transformative impact on healthcare with examples. Understanding evolving trends in robotic assistance Respecting the human factor Avoid underestimating social needs Tips for adapting to evolving trends in robotic assistance 	 Being able to acknowledge how the field of Robotics for Physical Assistance is evolving and changing.
Micro-learning (2.50 min)	unit 5 - Troubleshooting and Proble	m-Solving with Robotic Assistance
Moment of need in work-related learning	Content	Outcomes
Solve	Challenges in using robots in healthcare (e.g. lack of emotional interaction, power source issues,	• Being able to apply troubleshooting and problem-solving techniques to solve issues related to robotic devices in

with robotic assistance





Recommendations for Trainers

Micro-learning units are short, focused learning experiences that target specific skills or concepts. They are ideal for increasing learner engagement and improving retention, especially in today's fast-paced, digital-first environment.

How to share micro-learning units effectively:

- Encourage learners to incorporate micro-learning into their daily routine. They can take a few minutes each day to watch a video that reinforces learning without feeling overwhelmed by large lessons.
- Suggest that learners use micro-learning units as part of a spaced repetition strategy. Reviewing small, key concepts at intervals can greatly improve long-term retention of material.
- Remind learners that micro-learning units are perfect for reviewing difficult concepts. Because they are short, students can easily review challenging material multiple times without spending too much time.
- Encourage learners to take advantage of the mobile-friendly nature of micro-learning units. They can study while commuting, taking a break or waiting in line, maximising otherwise idle time.

By incorporating micro-learning into your teaching approach, you can create a more engaging, flexible and personalised learning experience for your students. They'll appreciate the convenience and effectiveness of bite-sized learning, and you'll see improved results as a result of this modern teaching strategy.







