

# Handbook of developing gerontological nursing education in Chinese higher education institutions

Erasmus+ Capacity Building for Higher Education Project  
“Developing Gerontological Nursing Education in China  
through Multidisciplinary Innovations” (“GeNEdu”)

Project reference: 610060-EPP-1-2019-1-FI-EPPKA2-CBHE-JP  
Coordinator: Jamk University of Applied Sciences, Finland



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



## FOREWORDS

The Handbook of developing gerontological nursing education in Chinese higher education institutions (hereinafter as “Handbook”) is written and edited according to the requirements of the GeNEdu project plan, as one of the project deliverables of the fourth work package “Dissemination and exploitation”. According to the project design, this Handbook should include all the main activities related to gerontological nursing carried through all work packages, extract the key contents, and summarize the pedagogical approaches, research methods, concepts and tools developed during the project implementation.

The content of this Handbook is divided into two parts: the Part 1 was written in sub-work package 2.1, and its content had been used by the project team members in the subsequent curriculum development process; the Part 2 was the final task of sub-work package 2.4 based on the framework of Part 1 and summarizes the core of other three sub-work packages 2.2, 2.3 and 2.4. Their original texts were completed in English.

This full booklet is the final version of the Handbook, including the above two parts, which is integrated and compiled into Chinese also through the fourth work package of GeNEdu for further dissemination, so that the content of the Handbook can be used by more teachers from Chinese partner universities after the project ends. In accordance with the timetable set by the project consortium, the official release of this Handbook shall be held at the GeNEdu project’s Final Conference and International Gerontological Nursing Summit in September 2023.

If you wish to know more about the GeNEdu project, or would like to communicate with the project team on topics related to gerontological nursing education, please do not hesitate to visit the project website (the main contact information included) [geneduproject.eu](http://geneduproject.eu), thank you very much!

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# Part 1 of the Handbook: Competence Framework for Chinese Gerontological Nursing Curriculum (December 2021)

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DELIVERABLE FROM WP2.1. IDENTIFYING THE FUTURE NEEDS  
IN GERONTOLOGICAL NURSING

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SEPTEMBER 2023 (updated for compiling by Jamk University of Applied Sciences, Finland)

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*Disclaimer:*

*This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.*

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## Introduction

Part 1 of the Handbook includes the GeNEdu competence framework, as one of the Deliverables from Work Package (WP) 2.1 of GeNEdu project.

The GeNEdu competence framework consists of the set of 6 core competences and corresponding learning outcomes for gerontological nurses in China defined on bachelor level. The competences are interrelated and applicable in different care settings for older persons with different kind of health problems.

The 6 core competences on which the competence framework is built on are:

1. Providing gerontological care
2. Communication and collaboration
3. Organisation of gerontological nursing care
4. Health promotion
5. Evidence-based nursing and lifelong learning
6. Professional behaviour

The competence framework is verified by a panel of Chinese and European experts and can be used for the development of competence-based curricula in gerontological nursing in China.

This first part of the Handbook includes the competence framework with a description of the 6 core competences and the learning outcomes. Additionally, it includes an overview of basic knowledge for each competence. In Chapter 6 an overview of assessment criteria is given for each learning outcome.

Part 2 of the Handbook will include information about how to use competences and learning outcomes for developing a competence-based curriculum.

## 1 The competence framework

### 1.1 The Competence framework

The competence framework that we are presenting in this document is developed after analysing the literature about competences in gerontological nursing, trends in gerontological nursing and the situation concerning elderly care and gerontological nursing in China.

The GeNEdu competence framework consists of 6 competences for gerontological nurses in China on bachelor level. Each competence has two or more learning outcomes. The competences represent combination of knowledge, skills, attitudes and values, that can be transferred to different contexts in the field of gerontological nursing. The learning outcomes are statements of what the student is expected to know, understand and be able to demonstrate after the completion of the gerontological nursing course.



## Definitions

For the purpose of the GeNEdu competence framework the following definitions of competences and learning outcomes will be used<sup>1,2</sup>

- **Competences** represent a dynamic combination of knowledge, skills, attitudes and values, that can be transferred to a certain context or real situation, hence coming up with the best action/solution possible to address all different situations and problems that can emerge at any moment, making use of the available resources.  
Fostering competences is the object of educational programmes. Competences will be formed in various course units and assessed at different stages.
- **Learning outcomes** are statements of what a learner is expected to know, understand and/or be able to demonstrate after completion of learning.  
They can refer to a single course unit or module or else to a period of studies, for example, a first or a second cycle programme. Learning outcomes specify the requirements for an award of credit.

## 2 Competences needed for gerontological nurses in China

For the renewal of the Chinese higher education institutions' nursing curricula for gerontological nursing, competences that are required for current and future nurses to be able to provide quality care with older people utilising innovative approaches in gerontological nursing are identified. These competences are described in the GeNEdu competence framework. The framework provides Chinese nursing teachers the required knowledge base for curriculum development.

The competence framework is developed after analysing the literature about competences in gerontological nursing, trends in gerontological nursing and the situation concerning elderly care and gerontological nursing in China.

The verified GeNEdu competence framework is based on 6 core competences for gerontological nurses in China defined on bachelor level. These core competences are:

1. Providing gerontological care
2. Communication and collaboration
3. Organisation of gerontological nursing care
4. Health promotion
5. Evidence-based nursing (EBN) and lifelong learning

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<sup>1</sup> Wagenaar, R. (2014). Competences and learning outcomes: a panacea for understanding the (new) role of Higher Education?. *Tuning Journal for Higher Education*, 1(2), 279-302.

<sup>2</sup> Gómez del Pulgar, M, (2011) - in EFN competence framework.



## 6. Professional behaviour

The competences are interrelated and applicable in different care settings for older persons with different kind of health problems. This implies that all competences can be executed in the different situations of care and health care environments including homecare, hospital care, acute care and end of life care.

A gerontological nurse is able to integrate all six competences. Each competence contains a comprehensive set of tasks which together form the complete profile of the gerontological nurse which is illustrated in the figure below. The providing of gerontological care can be seen as the core competence in which the nurse integrates all other competences as these are inseparable from each other.



*Figure 1: Visual representation of the cohesion of the six competences*

### **Competence 1: Providing gerontological care**

Providing gerontological care is the core of the gerontological nursing profession. The gerontological nurse practices safely, ethically and effectively along a continuum of care in situations of health and illness in a variety of health care environments. The gerontological nurse provides person-centred care for older persons and their families, based on evidence-based practice guidelines. This encompasses applying nursing knowledge, determining the need for nursing care through clinical reasoning and implementing therapeutic interventions focusing on physical, emotional and spiritual health of older people. The gerontological nurse's focus includes other disciplines and members of the health care team, and family members, as appropriate.



All elements are shaped by the execution of the nursing process. The nursing process is the underlying system integrated in the competence "providing gerontological care" that can be seen as a cyclical method in healthcare in which the nurse plans, implements and evaluates the care in a systematic manner based on assessments and diagnosis.

The foundation of knowledge is an understanding of the relationships among age-related physical, mental and psychosocial changes and knowledge about geriatric diseases. This includes knowledge about risk factors related to lifestyle, pathology and the environment. In addition, knowledge about person-centred care and the nursing process is included.

### **Competence 2: Communication and collaboration**

The gerontological nurse communicates and collaborates with the patient, family members and other informal caregivers and other health professionals. The gerontological nurse attends to the personal characteristics of the elderly patients and their family and informal caregivers. It involves open and respectful communication tailored with great empathy. The nurse is aware of cultural backgrounds, individuals' level of literacy and sensory abilities, knowledge and level of understanding, emotion, coping style and financial standing. This encloses the nurse's consciousness of the impact of verbal and non-verbal communication in pursuing shared decision-making to achieve realistic care goals.

The gerontological nurse focusses on communication and collaboration within and beyond the own professional team involving the sharing of knowledge with colleagues, understanding the roles of others, pursuing common goals and managing differences, so that the continuity of care is accomplished. Cooperation relates to processes within multidisciplinary teams of professionals in integrated care and with informal caregivers to achieve optimal patient care for the older people.

The foundation of knowledge is an understanding of communication strategies, interviewing and coaching and empowering techniques and conflict resolution skills. It also includes understanding of group dynamics and appreciation of the contributions of other disciplines in the health care team.

### **Competence 3: Organisation of gerontological nursing care**

Gerontological nurses plan, coordinate and organise integrated care for older people, focusing on achieving continuity in care to attain balance in the health and wellbeing of older people.

It includes a continuous and methodical approach to nursing quality control such as safeguarding the safety of care recipients by identifying risks and errors, incidents reporting, or finding options for improving care provision. Furthermore, it encompasses the use of innovative solutions for the care of older people, including technical innovations.

The foundation of knowledge is an understanding of the organisational structure and the organisation of elderly care on regional and national level. It also includes knowledge of innovative practices, technological innovations and quality assurance processes in healthcare.



#### **Competence 4: Health promotion**

Gerontological nurses play an important role in promoting public health, focusing on disease prevention and empowering and changing the behaviour of older persons with respect to their health and focus on healthy ageing. The gerontological nurse identifies risk factors and plans person-centred health promotion interventions. The nurse focuses on individuals, groups, communities, or populations they serve in order to determine needs and develop partnerships.

The foundation of knowledge is an understanding of the concepts of health promotion, healthy ageing and prevention. In addition, knowledge about health literacy and educational strategies is necessary.

#### **Competence 5: Evidence-based nursing and lifelong learning**

The gerontological nurse demonstrates commitment to lifelong learning, and the use evidence-based nursing knowledge about older people, as related to their own profession and domain of expertise. The nurse applies a methodical approach to practical issues, with an objective problem analysis and understands the principles of research implementation in practice. The gerontological nurse also can participate as a teacher and coach in education and training activities about gerontological nursing for staff, students and teachers.

The foundation of knowledge includes strategies for lifelong learning and the principles of evidence-based practice. It also includes knowledge about the principles of research and educational strategies.

#### **Competence 6: Professional behaviour**

The gerontological nurse is committed to promote optimal care and quality of life and maximise function for older persons through knowledge and respectful practice, professional regulation and adherence to standards of practice. The gerontological nurse embraces appropriate attitudes and high standards of behaviours, such as integrity, altruism, and personal wellbeing. The gerontological nurse acts as a role model for others.

The foundation of knowledge is an awareness of one's own values and assumptions in interactions with older persons.

### **3 Verified competence framework**

The framework comprehensively covers the core competencies that should be possessed by nurses working in older people care and is well embedded in the Chinese context.

Each competence has two or more learning outcomes. The competences represent a combination of knowledge, skills, attitudes and values, that can be transferred to different contexts in the field of gerontological nursing. The learning outcomes are statements of what the student is expected to know, understand and be able to demonstrate after the completion of the gerontological nursing course.



The following table gives an overview of the set of 6 core competences for gerontological nursing in China and corresponding learning outcomes. This competence framework is verified by a panel of Chinese and European experts. As an outcome of the verification process, each competence was rated in the degree of importance for gerontological nurses in China, distinguishing essential from relevant competences. On the level of learning outcomes, we distinguished 13 essential and 5 relevant learning outcomes. The essential learning outcomes are all closely related to providing nursing care to patients and their family members. The relevant competences are more supportive and related to organisation of care, innovation and personal and professional development.

1. PROVIDING GERONTOLOGICAL CARE		Importance
	<p><b>Competence: Providing gerontological care</b></p> <p>The gerontological nurse assesses, analyses, plans, implements and evaluates the care for older persons comprehensively. The gerontological nurse is able to utilise evidence-based knowledge and critical thinking when making decisions and providing person-centred and holistic care in different care settings, considering the wishes and physical and mental wellbeing of the older person and their family by supporting their active participation.</p>	Essential
	<p><b>a) Assessment</b></p> <p>Conduct a comprehensive gerontological assessment in a systematic way from the older person and when necessary, from his/her family or caregivers, about the individual's physical and mental wellbeing, medical history, personal life history, housing conditions and social participation and loneliness. Identify the needs, wishes and possibilities to increase the comfort of the older person. Assess the level of nursing needs.</p>	Essential
	<p><b>b) Nursing diagnosis</b></p> <p>Analyse the data collected from the gerontological assessment and form a diagnosis through careful consideration using knowledge about healthy ageing, most common health problems of older people and geriatric syndromes. Identify the problems and the risk factors for the older person and his/her family. Diagnose the required nursing care using current theoretical and clinical knowledge in the nursing process.</p>	Essential
	<p><b>c) Planning</b></p> <p>Develop a clear, timely, and appropriate plan for person-centred nursing care with the focus on recovery, optimal health, wellbeing and quality of life for the older person and his/her family. Use practice based and evidence-based interventions and if possible include the use of technology for the benefits of the patient and the family members. Use appropriate techniques for shared decision making.</p>	Essential
	<p><b>d) Implementation of nursing interventions</b></p> <p>Provide accurate implementation of the care plan and perform the nursing interventions based on professional nursing standards in different care settings, such as homecare, hospital care, long term care and hospice care. Guarantee person-centred and holistic care.</p>	Essential
	<p><b>e) Evaluation</b></p> <p>Evaluate and adjust care plans for the older person on a continuing basis with the purpose of providing optimal nursing care for the person and his/her family.</p>	Essential
<b>2. COMMUNICATION AND COLLABORATION</b>		
	<b>Competence: Communication and collaboration</b>	Essential



	The gerontological nurse communicates and collaborates with the older person, with family members and other informal caregivers and with other health and social care professionals to provide person-centred care and is able to use ICT properly for this purpose.	
	<p><b>a) Person-centred communication and empowerment</b> Form strong positive professional relationships with older persons based on empathy, trust, respect and reciprocity. Communicate in a clear and effective way considering older person's individuality, cultural social background, health problems and needs. Collaborate with patients, use shared decision making and empower older persons to take responsibility for their own health and comfort.</p>	Essential
	<p><b>b) Collaborate with family members and informal caregivers</b> Work together with older people's supportive family, informal caregivers and their social network to encourage appropriate informal care and support. Be aware of older patients suffering from loneliness and family members suffering from caregiver burden.</p>	Essential
	<p><b>c) Collaborate with nursing colleagues and the multidisciplinary team</b> Work effectively together with other professionals for integrated care and support. Multi- and inter-professional cooperation to achieve optimal support and care for the older persons with a goal of optimising their health, wellbeing and quality of life in multiple locations.</p>	Essential
<b>3. ORGANISATION OF GERONTOLOGICAL NURSING CARE</b>		
	<p><b>Competence: Organisation of gerontological nursing care</b> The nurse plans and coordinates high-quality and safe person-centred care for older people, is involved in quality assurance activities and contributes to innovation of care for older people, including the use of suitable technical applications in care.</p>	Essential
	<p><b>a) Planning and coordination of care and services</b> Plan, arrange, and coordinate the nursing care and services provided by nurses and other formal and informal health and social care workers, across different organisations, to provide the best personalised care and support for the older person and their family. Ensure continuity of care.</p>	Essential
	<p><b>b) Innovation and technology</b> Use innovative ideas, theories and methods to improve gerontological nursing practice including the use of technological applications.</p>	Relevant
	<p><b>c) Quality management</b> Initiate, monitor and participate in quality management activities to provide high-quality and safe person-centred nursing care for older people. Establish assessment mechanisms and processes for continuous quality improvement.</p>	Essential
<b>4. HEALTH PROMOTION</b>		
	<p><b>Competence: Health promotion</b> The gerontological nurse is able to prevent further functional decline and promotes healthy ageing and healthy lifestyle. The nurse supports older people and their families to find comprehensive person-centred solutions within the entire healthcare system.</p>	Essential
	<p><b>a) Plan person-centred health promotion</b> Identifies early risk factors that can impact the functional ability of the older person, and plans holistic and person-centred health promotion interventions.</p>	Essential
	<p><b>b) Perform health promotion interventions</b></p>	Relevant



	Works closely together in partnerships with patients, informal caregivers and other health care professionals to promote a healthy lifestyle and to work towards improved self-care of older people.	
<b>5. EVIDENCE-BASED NURSING AND LIFELONG LEARNING</b>		
	<b>Competence: Evidence-based nursing and lifelong learning</b> The gerontological nurse uses evidence-based practice and lifelong learning activities to be able to provide the best nursing care for older people and their families.	Relevant
	<b>a) Lifelong learning and professional development</b> Increase knowledge, understanding, and skills in gerontological nursing through continuous education and professional development. Demonstrate commitment to lifelong learning.	Essential
	<b>b) Evidence-based practice</b> Uses and supports the implementation of the theoretical and methodological principles of evidence-based nursing in elderly care.	Relevant
	<b>c) Training and coaching</b> Participate as a teacher and coach in education and training activities about gerontological nursing for staff, students and teachers. Strengthen the competences of nursing staff in gerontological nursing.	Relevant
<b>6. PROFESSIONAL BEHAVIOUR</b>		
	<b>Competence: Professional behaviour</b> The gerontological nurse shows a professional attitude, is aware of professional guidelines and is committed to provide appropriate person-centred care for older people and their families.	Essential
	<b>a) Professional ethics</b> Provide nursing care for older people in accordance with the professional and personal ethics, legal guidelines and cultural sensitivities.	Essential
	<b>b) Professional commitment and personal awareness</b> Demonstrate commitment to provide appropriate gerontological nursing care for older people and their families. Be aware of personal values and assumptions influencing professional practice and act within professional frameworks and legislation.	Essential

Table 1: An overview of the 6 competences and corresponding learning outcomes

## 4 Competences and basic gerontological knowledge

For each competence an overview is given of the basic knowledge that is related to the competence. These topic lists can be used as an example and need further specification when used for curriculum development.

### 1. PROVIDING GERONTOLOGICAL CARE



### **Competence: Providing gerontological care**

The gerontological nurse assesses, analyses, plans, implements and evaluates the care for older persons comprehensively. The gerontological nurse is able to utilise evidence-based knowledge and critical thinking when making decisions and providing person-centred and holistic care in different care settings, considering the wishes and physical and mental wellbeing of the older person and their family by supporting their active participation.

### **Basic knowledge**

The foundation of knowledge is an understanding of the relationships among age-related physical, mental, and psychosocial changes; and risk factors emanating from lifestyle, pathology and the environment. In addition, knowledge of the nursing process is included.

#### **Ageing and diseases of the elderly:**

- Demographic features, biological, psychological, social and functional ageing and life path and ageing theories.
- Ageing processes including basic principles of aging: anatomy, physiology, psychology.
- Most common health issues to older persons.
- Specific geriatric and geronto-psychiatric problems.
- Impact of sensory, affective, behavioural, and cognitive symptoms on expressive and receptive communication patterns with older persons.
- Complex interaction of acute and chronic co-morbid physical and mental disorders and associated treatments common to older persons.

#### **Gerontological nursing care:**

- Sources for nursing actions: current guidelines, standards, protocols
- Nursing assessment tools, nursing diagnosis and nursing interventions specific for elderly in all domains and all care settings
- Disease treatment interventions and disease prevention for elderly patients
- Treatment options regarding frailty and geriatric disorders, for elderly care in hospitals, nursing homes and homecare
- Dietary nutrition in gerontological nursing
- Promote healthy ageing from a holistic perspective including principles of self-management and coping styles
- End of life care/ palliative care
- Use of technology in the nursing process

## **2. COMMUNICATION AND COLLABORATION**

### **Competence: Communication and collaboration**



The gerontological nurse communicates and collaborates with the older person, with family members and other informal caregivers and with other health and social care professionals to provide person-centred care and is able to use ICT properly for this purpose.

#### Basic knowledge

The foundation of knowledge is an understanding of communication strategies, interviewing and coaching and empowering techniques and conflict resolution skills. It also includes understanding of group dynamics and appreciation of the contributions of other disciplines in the health care team.

- Principles of person-centred care and family care
- Communication theories and communication barriers
- Conflict resolution
- Empowerment of patients
- Interdisciplinary and multidisciplinary work
- Sociology of family networks and populations: generational, family role changes, and cultural patterns that potentially impact communication with older persons.
- Use of technology for e-health

### 3. NURSING LEADERSHIP AND INNOVATION

#### Competence: Organisation of gerontological nursing care

The nurse plans and coordinates high-quality and safe person-centred care for older people, is involved in quality assurance activities and contributes to innovation of care for older people, including the use of suitable technical applications in care.

#### Basic knowledge

The foundation of knowledge is an understanding of time management and delegation and decision-making processes and the organizational structure and the organisation of elderly care on regional and national level. It also includes knowledge of innovative practices, technological innovations and quality assurance processes in healthcare.

- Organisation of care for older people in China
- Policy and legislation relating to gerontological nursing on national, regional and local level
- Models of care
- Safe nursing practices in older persons' care & principles of Quality Assurance
- Innovation in care including the use of technologies

### 4. HEALTH PROMOTION

#### Competence: Health promotion



The gerontological nurse is able to prevent further functional decline and promotes healthy ageing and healthy lifestyle. The nurse supports older people and their families to find comprehensive person-centred solutions within the entire healthcare system.

#### **Basic knowledge**

The foundation of knowledge is an understanding of the concepts of health promotion, healthy ageing and prevention, advocacy and social action. Also, knowledge about health literacy and educational strategies is necessary. This includes knowledge of the entire healthcare sector and available resources of society, in which health for the elderly is seen as comprehensive care and organised in a multi-disciplinary and multi-professional way providing patient-centred solutions.

### **5. EVIDENCE-BASED NURSING AND LIFELONG LEARNING**

#### **Competence: Evidence-based nursing and lifelong learning**

The gerontological nurse uses evidence-based practice and lifelong learning activities to be able to provide the best nursing care for older people and their families.

#### **Basic knowledge**

The foundation of knowledge is an understanding of the established knowledge as a basis for practice, and of current gaps in knowledge, and an appreciation that new knowledge is needed and must be implemented as a basis for improved practice and care. In addition, understanding the principles of research and understanding teaching and learning theory, principles and strategies are part of this competence.

### **6. PROFESSIONAL BEHAVIOUR**

#### **Competence: Professional behaviour**

The gerontological nurse shows a professional attitude, is aware of professional guidelines and is committed to provide appropriate person-centred care for older people and their families.

#### **Basic knowledge**

The foundation of knowledge is an awareness of one's own values and assumptions in interactions with older persons and the larger context of provincial/territorial/federal legislation that defines the scope of practice.

- Ethics and philosophy of nursing,
- Human rights
- Patient autonomy, rights and safety
- Legal aspects of healthcare and the profession, social and healthcare legislation
- Confidentiality
- Ageism





## 5 Learning outcomes and assessment criteria

Learning outcomes (LO) describe what a student needs to know, understand and be able to apply after completing a module. Learning outcomes can be formulated and assessed on different educational levels and different levels of complexity. Clearly described learning outcomes are important in the process of curriculum development as it guides the development process.

A learning outcome consists of the following parts:

- Professional actions: which actions a student must perform (the defined LO description is used as the basis);
- Result: the professional product or service in which the results of the professional actions are visible;
- Assessment criteria: the level and requirements for the professional actions and results.

In the chapter below you will find an overview of the expected results and assessment criteria for the defined learning outcomes. These are helpful when developing different types of assessments for students. This overview can be used as an example and should be adapted to the level of the course and the required level for the students.

### 5.1 PROVIDING GERONTOLOGICAL CARE

The learning outcomes of the competence "providing gerontological care" are linked to the five basic steps in the nursing process: assessment, diagnosis, planning, implementation and evaluation. The nursing process is defined as a systematic approach to care using the fundamental principles of critical thinking, client-centred approaches to treatment, goal-oriented tasks, evidence-based practice (EBP) recommendations, and nursing intuition.

#### Learning outcome 1a: Assessment

##### Learning outcome

To conduct a comprehensive gerontological assessment in a systematic way from the older person and when necessary, from his/her family or caregivers, about the individual's physical and mental wellbeing, medical history, personal life history, housing conditions and social participation and loneliness. To identify the needs, wishes and possibilities to increase the comfort of the older person. To assess the level of nursing needs.

##### Assessment criteria

1. Defines the purpose and components of an interdisciplinary, comprehensive gerontological assessment and the roles of other health care professionals.



2. Chooses the appropriate (validated, personalised, standardised) assessment instruments.
3. Inform the older person (and when necessary, the family/carer) about the purpose and process of the assessment.
4. Collects data by observing and interviewing the older person and/or the family network and use medical records.
5. Performs physical examinations / tests.
6. Discusses the results of the assessment with the older person, the family/carer; manage the expectations and explain the further process.
7. Completes nursing documentation accurately and in timely fashion according to the organisation requirements (e.g. using electronic patient records).

## **Result**

The assessment is complete and contains all necessary information about the older person's mental and physical wellbeing, social participation and housing and living conditions. The assessment is well documented according to the regulations of the organisation. The older person is well informed about the further process.

## **Learning outcome 1b: Nursing diagnosis**

### **Learning outcome**

To analyse the data collected from the gerontological assessment and form a diagnosis through careful consideration using knowledge about healthy ageing, most common health problems of older people and geriatric syndromes. To identify the problems and the risk factors for the older person and his/her family. To diagnose the required nursing care using current theoretical and clinical knowledge in the nursing process.

### **Assessment criteria**

1. Applies professional knowledge to analyse, understand and interpret the information gathered. Uses critical thinking.
2. Masters the knowledge and skills of key nursing diagnostics as a part of holistic care of the elderly person. Identifies and understands the relationships between physical, mental and social problems of the older person in his/her environment.
3. Identifies risks in physical wellbeing and physical functioning such as activity limitations, frailty, multi morbidity, poly pharmacy.
4. Identifies risk factors in mental wellbeing such as recent behavioural changes.
5. Identifies risks about housing and living conditions and the ability to take care of him/herself.
6. Identifies risks in relation to social participation.
7. Explores and discusses information with the older person to find out what is most important for the older person and the family. Set priorities.
8. Identifies main problem(s) and forms a clinical judgment about the older persons and his/her family experiences/responses to actual or potential health problems.



9. Diagnoses typical and atypical manifestations of chronic and acute illnesses and diseases of old age and complications and treatment problems.
10. Diagnoses the required nursing care using standards and nursing classification systems.
11. Notifies family/caregivers if an older person exhibits risk signs and symptoms.

## **Result**

Risk factors are identified and clearly described and nursing diagnosis are formulated. Priorities are set.

## **Learning outcome 1c: Planning**

### **Learning outcome**

To develop a clear, timely, and appropriate plan for person-centred nursing care with the focus on recovery, optimal health, wellbeing and quality of life for the older person and his/her family. To use practice based and evidence-based interventions and if possible include the use of technology for the benefits of the patient and the family members. To use appropriate techniques for shared decision making.

### **Assessment criteria**

1. Formulates realistic goals for further care based on the results of the assessment, the diagnosis and the older person's needs and preferences.
2. Develops treatment plans based on best evidence and on person-centred care goals.
3. Uses consultation techniques for shared decision making and works together with the older person and his/her family to set objectives, define outcomes and select treatment interventions and help needed.
4. Recognises the need for continuity of treatment and communication across the spectrum of services and during transitions between care settings and collaborates with other health care professionals for formulating the treatment plan.
5. Recognises potential for harm in conflicting treatment plans
6. Selects nursing interventions.
7. Develops a person-centred gerontological rehabilitation programme to promote and support health, wellbeing and functional capacity in older people.
8. Plans symptomatic and humane palliative care and end-of-life care.
9. Plans the use of ICT and other technological interventions when appropriate.
10. Writes the plan according to standards and regulations of the organisation and the profession.

## **Result**

A concrete, complete and realistic plan to provide optimal support to the older person and his or her family. The plan is written and communicated about according to standards and regulations of the organisation.



## **Learning outcome 1d: Implementation of nursing interventions**

### **Learning outcome**

To provide accurate implementation of the care plan and perform the nursing interventions based on professional nursing standards in different care settings, such as homecare, hospital care, long term care and hospice care. To ensure person-centred and holistic care.

### **Assessment criteria**

1. Provides care, help and support to the older person and his/her family in order to improve or prevent further decline in mental and physical health.
2. Is able to respond to the need of care by using nursing methods and document them applying structurally coherent classification.
3. Delivers nursing care the older person and his/her family with respect to ethnic, cultural and spiritual beliefs, and making health care resources available.
4. Carries out approved professional nursing procedures, demonstrating knowledge and skills in the use of aids and equipment available.
5. Uses traditional Chinese medicine in nursing care when appropriate
6. Promotes normal functioning (mobility, nutrition, hydration) during acute illness to reduce the risk of decline and deconditioning.
7. Implements and monitors strategies to prevent risk and promote quality and safety (e.g. falls, medication, mismanagement, pressure ulcers) in the nursing care of older persons with physical and cognitive needs.
8. Prevents or reduces common risk factors that contribute to functional decline, impaired quality of life and excessive disability of the older person.
9. Accesses and manages an emergency/critical event ensuring prompt, effective care and referral where appropriate. Performs first aid when necessary.
10. Implements a person-centred gerontological rehabilitation programme to promote and support health, wellbeing and functional capacity in older people.
11. Encounters and implements nursing end-of-life care and supports family members.
12. Uses ICT applications in the nursing process to enhance effective, holistic and safe nursing care for the older person and their family.

### **Result**

The older persons and their families receive nursing care. The interventions are carried out according to professional standards and contribute to the mental and physical health and wellbeing of the older person.

## **Learning outcome 1e: Evaluation**

### **Learning outcome**

To evaluate and adjust care plans for the older person on a continuing basis with the purpose of providing optimal nursing care for the person and his/her family.



### **Assessment criteria**

1. Monitors the situation of the older person and his/her family on a regular basis.
2. Evaluates clinical situations where standard treatment recommendations, based on best evidence, should be modified with regard to older persons' preferences and treatment/care goals, life expectancy, co-morbid conditions, and/or functional status.
3. Evaluates the continued appropriateness of the interventions, care plans and services based on the older persons' and families'/caregivers' changes in age, status of health and wellbeing, and function.
4. Adjusts and changes plans and interventions when necessary or desirable.

### **Result**

By closely analysing the effectiveness of the care plan and studying patient response, the nurse aims to achieve the very best patient outcomes.

## **5.2 COMMUNICATION AND COLLABORATION**

### **Learning outcome 2a: Patient-centred communication and empowerment**

#### **Learning outcome**

To form strong positive professional relationships with older persons based on empathy, trust, respect and reciprocity. To communicate in a clear and effective way considering the older person's individuality, cultural social background, health problems and needs. To collaborate with patients, use shared decision making and empower older persons to take responsibility for their own health and comfort.

#### **Assessment criteria**

1. Values the patient and their family as experts of their own life. Understands the older person's individuality, identity, culture, background, developmental path, expectations and needs.
2. Communicates using a patient-centred approach that encourages patient trust and autonomy and is characterised by empathy, respect, and compassion.
3. Adjusts the form of communication depending on the characteristics of the older person, the clinical condition and circumstances.
4. Assesses possible barriers to the older person receiving, understanding, and giving information. Uses verbal and nonverbal communication strategies to overcome potential sensory, language, and cognitive limitations in older persons
5. Responds to a patient's non-verbal behaviours to enhance communication.
6. Is able to convert professional jargon into ordinary language and express himself/herself effectively, both verbally and in writing. Be aware of the older person's health literacy. Ask open questions to check the older person's understanding of health information and treatment recommendations.
7. Listens to older person's concerns and allow extra time when needed. Encourage the older person to voice his/her wishes, expectations and concerns.
8. Uses closeness and touching as a part of interaction, when appropriate.



9. Uses diplomacy and tact in emotionally charged conversations and handle tense situations. Address resistance and conflict situations positively, show respect, listen to the involved parties and achieve common ground whenever is possible.
10. Promotes shared decision making with the older person and/or families/caregivers for maintaining autonomous everyday living, health and wellbeing.
11. Adapts educational approaches to enhance older person's coping capacities and wellbeing.
12. Promotes capacities and resources in older people and their families so that they can gain control over their lives and achieve their own goals according to their needs and expectations.
13. Stimulates, motivates, instructs and coaches the older person and related others regarding self-care, self-management, self-reliance and co-reliance.
14. Is able to use ICT (such as video calling) for remote care of the patient and be aware of the pros and cons of this way of remote care.

## **Result**

Positive and trusting relationships and effective communication between professional(s) and older people positively influence nursing care. The older person and the supportive family feel that they are able and powerful enough to take part in decision making and gain control over their own life.

## **Learning outcome 2b: Collaborate with family members and informal caregivers**

### **Learning outcome**

To work together with older people's supportive family, informal caregivers and their social network to encourage appropriate informal care and support. To be aware of older patients suffering from loneliness and family members suffering from caregiver burden.

### **Assessment criteria**

1. Is aware of the nature of relationships of the older person with his/her family/caregivers, and of the possible (positive/negative) effects in care and support.
2. Works effectively with the supportive family and informal caregivers on a basis of respect and equality.
3. Involves informal caregivers in shared decision making if the patient prefers or if it is needed to provide good nursing care.
4. Coaches informal caregivers on instrumental and emotional care to older people.
5. Assists informal caregivers to reduce their stress levels and maintains their own mental and physical health.
6. Assesses caregiver knowledge and expectations of the impact of advanced age and disease on health needs, risks, and the unique manifestations and treatment of health conditions.
7. Knows how to access and explain the availability and effectiveness of resources for older persons and caregivers that help them meet personal goals, maximise function, maintain independence, and live in their preferred and/or least restrictive environment.

## **Result**



Gerontological nurses work effectively with the supportive family, the informal caregivers and their social network; together they provide optimal nursing care and support for older persons and their families.

### **Learning outcome 2c: Collaborate with nursing colleagues and the multidisciplinary team**

#### **Learning outcome**

To effectively work together with other professionals for integrated care and support. Multi- and inter-professional cooperation to achieve optimal support and care for the older persons with a goal of optimising their health, wellbeing and quality of life in multiple locations.

#### **Assessment criteria**

1. Demonstrates a positive disposition and commitment towards working together for high standards of nursing care.
2. Demonstrates, by application within the clinical area, a knowledge of the roles and responsibilities of the members of the multidisciplinary team who provide care and of the roles of different categories of support staff.
3. Communicates comprehensively and professionally and cooperates with other professions of the health sector.
4. Engages in effective and respectful shared decision-making with nurses and other health care professionals. Shares knowledge, perspectives and responsibilities and is willing to learn together.
5. Demonstrates effective and safe handover, both verbal and written, during transition of the older person to a different setting or during a transition of responsibility for the care and support.
6. Takes care of reports, consults with others and transfers information efficiently and effectively and informs colleagues and other relevant health-care providers of the outcomes of (multidisciplinary) meetings.

#### **Result**

Multi- and interprofessional cooperation in order to achieve optimal nursing care and support for the older person and their families with a goal of optimising their health, wellbeing and quality of life in multiple locations.

## **5.3 ORGANISATION OF GERONTOLOGICAL NURSING CARE**

### **Learning outcome 3a: Planning and coordination of care and services**

#### **Learning outcome**



To plan, arrange, and coordinate the nursing care and services provided by nurses and other formal and informal health and social care workers, across different organisations, to provide the best personalised care and support for the older person and their family. To ensure continuity of care.

### **Assessment criteria**

1. Plans, arranges and coordinates the care provided by informal care and various care organisations and services around the older persons.
2. Recognises and respects the variations of needed care and support, the increased complexity, and the increased use of healthcare resources inherent in caring for older people.
3. Provides care management to connect older persons and their supportive families to resources and services, and to conduct long-term planning.
4. Facilitates safe and effective transitions across levels of care and support, including acute, community-based care and services, and long-term care (e.g., home, assisted living, hospice, nursing homes) for older people.
5. Prioritises, executes tasks collaboratively with colleagues, and makes systematic choices when allocating scarce healthcare resources. Allocates resources for optimal care and support for older people and their families.

### **Outcome**

Care and services are planned and organised smoothly, including the continuity of care during transitions.

## **Learning outcome 3b: Innovation and technology**

### **Learning outcome**

To use innovative ideas, theories and methods to improve gerontological nursing practice including the use of technological applications.

### **Assessment criteria**

1. Stays informed of relevant developments and professional literature with the focus on improvement of the care and services for older people and their families.
2. When applicable, translates research findings and recommendations to one's own practice to improve care and support for older people and their families.
3. Analyses innovations and adopts appropriate actions into one's own practice.
4. Applies technological innovations when suitable and available and contributes to the health and wellbeing of older people and their families.
5. Promotes adequate ICT and technology in rehabilitation of elderly. Explains potential benefits and outcomes of using technology for enhancing older persons' function, independence, and safety.

### **Result**

Quality of care and services for older people and their families. Implementation of evidence-based innovative practices. Contributes to qualitative nursing care for elderly patients.





## **Learning outcome 3e: Quality management**

### **Learning outcome**

To initiate, monitor and participate in quality management activities to provide high-quality and safe person-centred nursing care for older people. To establish assessment mechanisms and processes for continuous quality improvement.

### **Assessment criteria**

1. Contributes to quality improvement of gerontological nursing care for older persons using the available knowledge and practice.
2. Uses health informatics and other data to improve the quality of gerontological nursing care.
3. Proposes and implements a strategy of quality assurance, to improve patient centered care for older people.
4. Evaluates the quality of nursing care in order to improve patient-centred care.
5. Participates in quality improvement and accreditation processes.

### **Result**

Optimising the implementation of care by the nursing team and continuously improving the quality of nursing. Establishment of a safety and health management system to provide a safe care environment.

## **5.4 HEALTH PROMOTION**

### **Learning outcome 4a: Plan person-centred health promotion**

#### **Learning outcome**

To identify early risk factors that can impact the functional ability of the older person, and plans holistic and person-centred health promotion interventions.

#### **Assessment criteria**

1. Identifies early and prevents risk factors that cause deterioration of health and lead to limitations in the functional ability of the older person.
2. Recognises existing and new threats to health and knows how to integrate them in the promotion of health of the older person.
3. Plans evidence-based interventions for disease prevention and promoting health and functional capacity of older individuals.
4. Implements strategies and uses (online) guidelines to prevent and/or identify and manage geriatric syndromes

#### **Result**



Planning an implementation of health promotion interventions for older persons and their families.

## **Learning outcome 4b: Perform health promotion interventions**

### **Learning outcome**

To work closely together in partnerships with patients, informal caregivers and other health care professionals to promote a healthy lifestyle and to work towards improved self-care of older people.

### **Assessment criteria**

1. Promotes healthy ageing and self-care by strengthening empowerment of older people and their families towards healthy lifestyles and self-care.
2. Identifies and informs older persons and their caregivers about evidence-based approaches to screening, immunisations, health promotion, and disease prevention.
3. Engages with and influences key stakeholders to develop and sustain health promotion actions.
4. Demonstrates knowledge of health policy and values in guiding health promotion and the health and wellbeing of the elderly population
5. Applies research data (medical records and statistical data) and other information from the field of health promotion to their work with older persons and their families.
6. Raises awareness of and influence public opinion regarding health and wellbeing issues which affect older people.
7. Uses educational strategies to provide older persons and their families with information related to wellness and disease management (e.g., Alzheimer's disease, end of life care).
8. Uses social media for the purpose of promoting self-reliance, co reliance and quality of life of older people.
9. Monitors and evaluates health promotion strategies and activities.

### **Result**

Health promotion strategies and activities that actively contribute to the improvement of lifestyle, behaviour, health and quality of life of the elderly.

## **5.5 EVIDENCE-BASED NURSING AND LIFELONG LEARNING**

### **Learning outcome 5a: Lifelong learning and professional development**

#### **Learning outcome**

To increase knowledge, understanding, and skills in gerontological nursing through continuous education and professional development. To demonstrate commitment to lifelong learning.

#### **Assessment criteria**



1. Is aware of one's personal and professional strengths and weaknesses in the field of gerontological nursing.
2. Demonstrates ability to assess and develop their own knowledge and skills in gerontological nursing and taking advantage of opportunities to grow one's individual and professional gerontological care.
3. Provides feedback and is able to accept criticism and uses this for improving one's own knowledge and skills in the gerontological nursing profession.
4. Uses multiple ways of learning, including training, supervision, and consultation, in order to achieve improvement in each role (i.e. all 7 CanMEDS based roles).
5. Lives to grow old and learn to be old, is able to cultivate oneself, enrich oneself, and develop and perfect oneself.

### **Result**

Demonstrated reflection of lifelong learning as the basis for continuous improvement of nursing practice and individual professional development.

## **Learning outcome 5b: Evidence-based practice**

### **Learning outcome**

To use and support the implementation of the theoretical and methodological principles of evidence-based nursing in elderly care.

### **Assessment criteria**

1. Uses critical thinking for daily work and innovation of gerontological nursing care.
2. Utilises evidence-based knowledge and skills in professional decision-making in nursing care of older people
3. Identifies any area of need for information and initiates and or participates in research activities..
4. Demonstrates ability to plan, implements and evaluates evidence-based nursing safely.
5. Participates in developing evidence-based practices in their own work.
6. Contributes to and conducts practical research. Engages in research to advance knowledge and improve interventions for older persons.

### **Result**

Through the use of the latest evidence-based knowledge and nursing interventions, gerontological nursing care can be improved.

## **Learning outcome 5c: Teaching and coaching**

### **Learning outcome**



To participate as a teacher and coach in education and training activities about gerontological nursing for staff, students and teachers. To strengthen the competences of nursing staff in gerontological nursing.

### **Assessment criteria**

1. Implements innovative teaching strategies for engaging learners to develop knowledge, attitudes, and skills about healthy aging and the care of older persons
2. Identifies a need for, provides and evaluates research-based clinical teaching sessions for staff new to gerontological nursing.
3. Provides education and assisting personal and professional development of other colleagues in the field of gerontological nursing
4. Facilitates interprofessional learning opportunities related to healthy aging and nursing care of older persons
5. Contributes to the dissemination and/or creation of knowledge and practices applicable to health and well-being of the ageing population.
6. Collaborates in the evaluation of learning about healthy aging and care of older persons in academic and/or professional development programs
7. Organises pre job training and assessment, increases the rate of certificate holders, and ensure the quality of elderly care.
8. Regularly carries out on the job training to improve the professional quality of gerontological nursing.
9. Strengthens the clinical teaching ability of interns and improves the quality of nursing teaching.
10. Teaches entrepreneurial abilities of (vocational) nursing professionals. Maximising the entrepreneurial ability of aging nursing students can help to solve the problem of lack of market talents, and further provide older people with better care .

### **Result**

Strengthening of teaching abilities and the improvement of the quality of the gerontological nursing staff.

## **5.6 PROFESSIONAL BEHAVIOUR**

### **Learning outcome 6a: Professional ethics**

#### **Learning outcome**

To provide nursing care for older people in accordance with the professional and personal ethics, legal guidelines and cultural sensitivities.

#### **Assessment criteria**

1. Applies ethical and legal principles to the complex issues that arise in nursing care for older people.
2. Applies knowledge of patients' rights in professional clinical practice. Ensure privacy and confidentiality.



3. Respects and promotes older person's right to dignity and self-determination within the context of the law and safety concerns.
4. Applies ethical principles to decisions on behalf of older people with special attention to those with limited decisional capacity. This includes the older person's self-determination, end of life decisions and family conflicts.
5. Respects diversity among older people, families, and professionals (e.g., class, race, ethnicity, gender, and sexual orientation) and understands how diversity relates to variations in the ageing process.
6. Considers ethical principles and cultural differences in decision-making in the care of older people. Respects the cultural, spiritual, and ethnic values and beliefs of older people and their families.
7. Recognises and manages conflicts of interest.
8. Recognises and responds to unprofessional and unethical behaviours in others.
9. Comply with netiquette, regulations and practices regarding ICT and nursing technology, including emails and use of social media.
10. Complies with the requirements and regulations governing data protection and information security in health care and social welfare services relating to the creation, use, storage and disposal of data.

## **Result**

Appropriate professional behaviours and relationships with older persons and their families in all aspects of practice, reflecting honesty, integrity, commitment, compassion, respect, altruism, respect for diversity and maintenance of confidentiality.

## **Learning outcome 6b: Professional commitment and personal awareness**

### **Learning outcome**

To demonstrate commitment to provide appropriate gerontological nursing care for older people and their families. To be aware of personal values and assumptions influencing professional practice and to be able to act within professional frameworks and legislation.

### **Assessment criteria**

1. Demonstrates a commitment to high-quality nursing care for older persons and their families.
2. Incorporates professional attitudes, values, and expectations about physical and mental aging in the provision of patient-centered care for older persons and their families.
3. Demonstrates an empathetic attitude and interest in the individual situation of the older person.
4. Identifies and assesses one's own values and biases regarding ageing and, as necessary, take steps to dispel myths about ageing.
5. Shows awareness of diversity and cultural differences and ability to work with older people from other cultures with tact and respect, and within the boundaries of their own profession.
6. Exhibits self-awareness and effectively manages the influences on personal wellbeing and professional performance. Takes good self-care of own health in all aspects and show awareness how this effects professional practice.



7. Reflects on and critically evaluates her/his professional practice. Is open to feedback, asks for feedback and is able to change behaviour accordingly.
8. Demonstrates accountability to patients, society and the professional by recognising and responding to societal expectations of the profession.
9. Carries out professional duties in the face of multiple competing demands.
10. Shows compassion and provides warmth, support, comfort and reassurance to older people in each particular situation.
11. Demonstrates emotional competence. Shows a positive attitude, spiritual maturity, and emotional self-control.

## **Result**

Committed health and social care professionals with self-awareness and willingness to learn striving to contribute to the health and wellbeing of older people.

## **References**

Deliverable 2.1.D1. Summary report of need analysis and identified main challenges for gerontological nursing in China

Deliverable 2.1.D2. Scientific article about the Delphi research

Deliverable 2.1.D3. Draft report for the Verified Competence Framework





# Part 2 of the Handbook: Process of Curriculum Development and Capacity Building in Gerontological Nursing (June 2023)

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DELIVERABLE FROM WP2.4. DEVELOPING NURSING  
CURRICULA THROUGH CREATION OF MODULES IN  
GERONTOLOGICAL NURSING

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WRITTEN BY JAMK UNIVERSITY OF APPLIED SCIENCES, FINLAND

SEPTEMBER 2023 (updated for compiling by Jamk University of Applied Sciences, Finland)

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*Disclaimer:*

*This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.*

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## INTRODUCTION TO THE HANDBOOK PART 2

As one of the Deliverables from Work Package (WP) 2.4 of GeNEdu project, the second part of the Handbook compiles and presents all the methodologies, tools, and activities utilized in the project for the purpose of curriculum development. This first part of the Handbook includes the competence framework with a description of the six core competences and the learning outcomes created through GeNEdu project works, as well as the basic knowledge for each core competence. Additionally in Chapter 5 of the first part, an overview of assessment criteria is given for each learning outcome.

Part 2 of the Handbook covers materials used for activities performed in the project for training teachers and the curriculum development and accreditation activities. Handbook part 2 is a beneficial guide for future curricula development for the Chinese partner higher education institutions (HEIs) of GeNEdu project. Handbook findings follow the objectives, timetables and guidelines of the project proposal, and the identified competences and professional development of the Chinese partner HEIs. Chinese partner HEIs carried out the development work supported and coached by the European project partners. The process in creating the module followed ADDIE -model. Due to the Covid-19 pandemic, all project partner HEIs carried out the work online, using Zoom platform for meetings and trainings. Pedagogical online tools were integrated into the work, utilising, for instance, Jamboard and Padlet, while the outputs of the WPs were stored in the common e-workspace Moodle and presented in joint meetings.

The aim of this Handbook Part 2 is to offer insights into competence-based education, placing emphasis on the importance of competences and learning outcomes directing students' learning. In addition, it offers information for curricula developers on the transformation of pedagogy from teacher to student-centred and introduces methods to support co-creation of nursing education using modern methods, tools, and technology. Therefore, the main content of Handbook Part 2 includes 4 chapters: a summary on competence-based education and the application to the qualification framework required for higher education; insight in the development process of the gerontological nursing courses; information on the use of living labs as a learning method; and introducing ADDIE model for curriculum development.

### 1 COMPETENCE-BASED EDUCATION

Main objective of the GeNEdu project was:

Renewal of nursing curricula through building capacities of Chinese partner HEIs to develop gerontological nursing education for future health care professionals to meet the needs of the ageing society in China. The main objective of the project was to renew the nursing curricula of the three Chinese HEIs through developing 30 ECTS credit Modules in gerontological nursing. Modules are derived through core competences in gerontological nursing, evidence- and competence-based education, digital technologies and multidisciplinary innovations. The project was carried out through mentoring of Chinese HEIs' nursing teachers for capacity building for them to mentor other nursing faculty, to teach and to develop gerontological nursing education based on EU standards.

This chapter includes the following topics: First: a summary of the EU standards and frameworks that were used as the background for the development process; Second a brief overview of the theoretical background for competence-based education (CBE) and phases in the development process for CBE; and third the need for integrating evidence-based nursing and competence-based education.



## 1.1 Background for development process

### Qualification levels and standards in education

One of the aims of the project was to develop nursing courses matching European standards. These standards are based on the developments of education during recent decades. Starting point was Bologna Process that aimed to harmonize the education in the European higher education area. It introduced undergraduate and postgraduate levels in all countries, with first degrees no shorter than 3 years; the European Credit Transfer System and the elimination of remaining obstacles to the mobility of students and teachers. The basic framework adopted is of three levels of higher education qualification: bachelor's, master's and doctoral degrees. (The Bologna Process and the European Higher Education Area.)

The European Qualifications Framework (EQF) (2017) is a common European reference framework whose purpose is to make qualifications more readable and understandable across different countries and systems. The main purpose of the EQF is to make qualifications more readable and understandable across countries and systems. This is important to support cross-border mobility of learners and workers and lifelong learning across Europe. The core of the EQF is its eight reference levels defined in terms of learning outcomes, i.e., knowledge, skills, and autonomy-responsibility. Learning outcomes express what individuals know, understand, and can do at the end of a learning process. To implement the EQF, countries have developed national qualifications frameworks (NQFs) (European Commission).

According to the EQF students' competences and learning outcomes are specified at various levels depending on the degree programme studied. College level degrees are usually recognised as EQF level 4-5, bachelor's degrees as EQF level 6 and master's degrees on EQF level 7. The Framework describes knowledge, skills, responsibility, and autonomy on each level (Table 1).

The European Credit Transfer and Accumulation System (ECTS) is a student-centred system based on student workload required to achieve the objectives of a programme. The objectives of ECTS are specified in terms of the learning outcomes and competences to be acquired. Students' workload in the ECTS system is calculated as 25 - 30h / 1 ECTS (European Commission).

To have qualified nurses working in healthcare field, modern China establishes two levels in nursing education programmes including college diploma (3 years) equivalent to EQF level 4-5 and baccalaureate level (4-5 years in university level) equivalent to EQF level 6.

**Table 1. The EQF levels 5, 6 and 7 and the corresponding specifications**

EQF level	Knowledge	Skills	Responsibility and autonomy
Level 5	Comprehensive, specialised, factual and theoretical knowledge within a field of work or study and an awareness of the boundaries of that knowledge	A comprehensive range of cognitive and practical skills needed to develop creative solutions to abstract problems	Exercise management and supervision in contexts of work or study activities where there is unpredictable change; review and develop performance of self and others



Level 6	Advanced knowledge of a field of work or study, involving a critical understanding of theories and principles	Advanced skills, demonstrating mastery and innovation, required to solve complex and unpredictable problems in a specialised field of work or study	Manage complex technical or professional activities or projects, taking responsibility for decision-making in unpredictable work or study contexts; take responsibility for managing professional development of individuals and groups
Level 7	Highly specialised knowledge, some of which is at the forefront of knowledge in a field of work or study, as the basis for original thinking and/or research		

## 1.2 Introduction to competence-based education

This chapter introduces the principles of competence-based education. It talks about learning outcomes, methods, and assessment in CBE. It helps to understand the development of the curriculum with CBE ideology.

### 1.2.1 Competences

The word “competence” discusses a quality or state of being of a person. Competence is a holistic term that refers to a person's overall capacity or ability to do something well. Competency characterizes the combination of knowledge, skills, values, and attitudes. A competent person does not only have the required competences but can use competences and make proper decisions and judgements according to the context. Professional competence is developmental, impermanent, and context dependent. This means that competence develops constantly, and if being away from the context, competence development stops as a person can only be competent in their own competence area. For instance, a nurse who works in intensive care is competent in their area of specialty, not elsewhere, although they have a nursing degree.

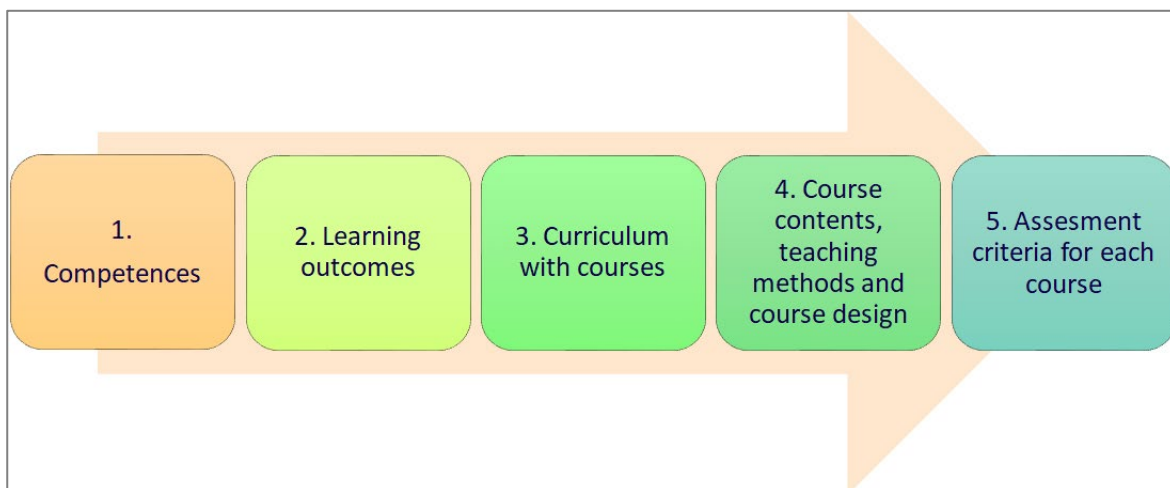
**Competences** represent a dynamic combination of knowledge, skills, attitudes and values, that can be transferred to a certain context or real situation, hence coming up with the best action/solution possible to address all different situations and problems that can emerge at any moment, making use of the available resources. Fostering competences is the object of educational programmes. Competences will be formed in various course units and assessed at different stages. (Handbook Part 1) Competence-based education (CBE) refers to outcomes-based approach to the design, implementation, assessment, and evaluation of an educational programme. The core of competence-based education focuses on learner’s performance and learning outcomes in achieving specific objectives and curricular goals. Competence-based education requires the student to be active, responsible, and motivated towards learning (Figure 1). Competence-based strategies provide flexibility in the way that credit can be earned or awarded, providing students with personalised learning opportunities. (Pijl-Zieber, Barton, Konkin, Awosoga & Caine 2014.)





**Figure 1. Attributes of competence-based learning: requirements for students (International federation of midwives 2012)**

In competence-based education, learning is driven by competency outcomes. Competences are the first to be defined when creating or developing education. Once the competences have been defined, the learning outcomes and courses can be developed. In figure 2 the steps for the development of competence-based education are presented (Figure 2).



**Figure 2. Process of developing competence-based education**

The verifying process of the competences is described in Handbook Part 1.

### 1.2.2 Learning

Learning outcomes are statements of what a learner is expected to know, understand and/or be able to demonstrate after completion of learning. They can refer to a single course unit or module or else to a period of studies, for example, a first or a second cycle programme. Learning outcomes specify the requirements for an award of credit. (Handbook Part 1)

Learning outcomes focus on what the learner is expected to achieve during the learning process, rather than on the intentions of the teacher. Learning outcomes focus on what the learner can demonstrate at

the end of the learning activity. They are statements of what the learner is expected to know, understand and/or able to demonstrate after the completion of a learning process.

### 1.2.3 Curriculum with courses

The development process must consider the competences: what competence will be attached to a particular course to ensure that all competencies are developed equally and constantly during the whole education. This means that each competence is developed within many courses. For example, competence 1 is developed in courses 1 and 2, or the competence 3 is developed in course 2 and 3. (Figure 3).

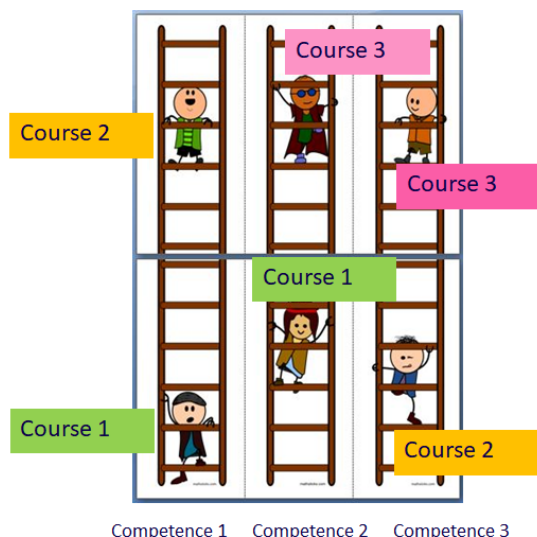


Figure 3. Development of competences during education

### 1.2.4 Teaching methods

The teaching methods of CBE are student-centred (Pijl-Zieber, Barton, Konkin, Awosoga & Caine 2014, Grawina 2017). They rely on constructivism (Poikela, 1998), and experimental (Mc Leod 2013) philosophies. In the methods, the learning process focuses on student’s knowledge-construction in a cycle of experiment, reflection, conceptualisation, and action. Appropriate learning methods include, for instance, problem-based learning, flipped classroom, clinical practice, simulations, flipped learning or dialogue training. (Kim & Yang 2017, Lavoie, Michaud, Belisle, Boyer, Gosselin, Grondin, Larue, Lavoie & Pepin 2018, Cantrell, Franklin, Leighton & Carlson 2017).

Learning includes independent study outside the contact hours, which can include, for example, preparing for the contact hours, writing/making/performing an assignment, or reading for an exam. Standardised hours for independent study can include, for example, indicators of how many pages the student reads in an hour (Figure 4). This is of assistance when measuring the independent workload of the student. One ECTS is usually between 25-30 hours of students work depending on the country using the ECTS system. As the CBE focuses on student’s own responsibility to perform, there is no need to monitor the action. (Karjalainen, Alha & Jutila 2008.)

Table 1. Student workload recommendations, contact teaching and independent studying (Karjalainen, Alha & Jutila 2008).

Working method	Contact Hours	Independent Working Hours
Lecture	1	1-3
Passive demonstration	1	2
Activating lecture	1	2-4
Problem based learning	1	5
	Contents	Student's working hours
Assignment: written work	100 words/hour	includes both drafts and finished version
Artefact (design, drawing, software, object)	should be based on actual experience	
Live presentation	1 hour	3 hours
Authentic task	workload depends on whether the product is written work, artefact, or presentation	
Reading easy text for assignment or exam	100 pages	20 hours
Difficult or foreign language text	100 pages	30 hours
Home essay, report, learning diary, or equivalent written assignment	8-12 pages	40 hours

Blended learning approach is often used in competence-based education. It combines traditional face-to-face learning systems with educational and communication technology and creates new blended methods to deliver curricula. Blended learning is defined as any combination of face-to-face instruction with technology-mediated instruction, where the learners are occasionally separated by distance. This offers an opportunity to invite the students to a dialogue between theory and practice, and provides access to expert and professional knowledge, skills and attitudes in real-world problem solving. The blended learning approach enables the students to be exposed to a variety of learning experiences. A blended learning environment involves, for example, face-to-face and on-line lectures, simulations, workshops, independent learning, on-line discussions, and on-line learning. It uses new, interactive



technological equipment, such as desktop videoconferencing systems, combined with the blended learning environment to promote students' social presence and interaction in learning (Blissitt 2016, Hsu 2011).

### **1.2.5 Assessment**

CBE uses a criterion-based assessment. This method focuses on having the students to “show what they know” and applying the concepts learnt to evaluations that demonstrate that students have truly learnt the subject. (Grawina 2017.) The assessment of the intended competences requires multiple observations to understand if a student is competent, thus observations must include a variety of contexts and consider more than one perspective. A common assessment strategy in competence-based education is objective structured clinical examinations (OSCEs). (Pijl-Zieber, Barton, Konkin, Awosoga & Caine 2014.) Other assessment methods include, for instance reports, oral presentations, data analysis, diaries, or portfolios.

Assessment includes formative and summative assessment:

Firstly, formative assessment is an assessment for learning, which is an ongoing process. This occurs at frequent intervals throughout the learning process for finding out what students have learned and understood. Methods for this can be, for example, quizzes, discussions, mind maps or essays written by students. Students need adequate time to revise their work based on feedback, producing multiple drafts of final products as they work towards excellence.

Then summative assessment is an assessment of learning taking place at the end of course. Summative assessment uses open and agreed criteria where the students have a clear understanding of how they will be assessed. Summative assessment is most often completed as an exam, assignment, or a report. Assessment should include individual and team/group assessment, self- and peer assessment. These different methods offer a multifaceted picture of students learning over time, where students act as active participants. (Fan, Wang, Chao & Hsu 2015, Tana, Chana, Subramaniamb & Ping 2018).

## **1.3 Including evidence-based thinking to nursing courses**

This chapter introduces the importance of evidence-based materials and methods to nursing education. The way teaching is implemented should have evidence to back up the process of learning.

It is important that the idea of evidence-based nursing (EBN) is rooted to nursing students during their studies. This allows them to utilize the principles of EBN in their practical trainings as well as during their career as registered nurses. When tailoring learning experiences for undergraduate nurses in evidence-based nursing the learning should be operationalized within cognitive, affective and psychomotor knowledge domains. There is a need for multiple approaches to enhance the development of knowledge, attitudes and skills that are required for students to become safe and competent practitioners as well as critical thinkers who are reflective, socially aware, and responsive. Approaches should be supported by the most influential theories of learning such as behaviorist theories, cognitive psychology, social constructivism, experiential learning, and situated learning theory. (Beccariaa, Keka & Huijserb 2018.) There should be continuous presence of EBN in the education including technical skills in searching, selecting, appraising, and analysing to teach students of decision making, problem solving and critical thinking skills in their patient care. (Melnyk, Gallagher-Ford, Long & Fineout-Overholt 2014).



Teaching with EBN teaching methods should make the students to become good thinkers. EBN teaching methods are good way to increase students' critical thinking. Critical thinking increases nursing students' ability of processing problems, such as understanding, recognition of assumptions, deduction, interpretations, and evaluation of arguments. When internalizing EBN in their competences it could affect nursing students' attitude of processing problem, i.e., truth-seeking, open-mindedness, analyticity, interest, and maturity. (Beccariaa, Keka & Huijserb 2018.)

Nurse educators should make their decisions about designing curricula and selection of learning and teaching strategies and evaluation methods by utilizing research-based evidence. To achieve effective learning, nurse educators should adopt teaching strategies based on evidence. Therefore, evidence-based nursing education involves evidence, nurse educators' professional decisions, students' values, and resources. Educators should seek evidence regarding how to teach. One of the most important barriers to using evidence in education is lack of sufficient, strong, and reliable evidence. (Yurumezoglua & Isbirb 2020.)

## 2 LOGICAL DEVELOPMENT PROCESS OF THE NURSING COURSES

This chapter describes the steps for the development of competence-based education and shows the process that resulted in the gerontological nursing courses part of the GeNEdu project.

A theoretical overview of the steps for the development of CBE was given in the previous chapter.

### 2.1 Development of the competences

The development of the competence-based nursing curricula begins by defining the competences. In GeNEdu project the competences in gerontological nursing were created based on extensive literature research and verified with Delphi research (Figure 4). The defining process and the verified competences are described in Handbook 1 from GeNEdu project.



Figure 4. The verified competence framework

The competence framework has six different competences, an example of the description of the competences is in Table 3.

**Table 2. Example of a competence, initial competence EQF level 6**

<b>5. EVIDENCE-BASED NURSING AND LIFELONG LEARNING</b>	
<b>Competence: Evidence-based nursing and lifelong learning</b>	
The gerontological nurse uses evidence-based practice and lifelong learning activities to be able to provide the best nursing care for older people and their families.	
<b>a) Lifelong learning and professional development</b>	Increase knowledge, understanding, and skills in gerontological nursing through continuous education and professional development. Demonstrate commitment to lifelong learning.
<b>b) Evidence-based practice</b>	Uses and supports the implementation of the theoretical and methodological principles of evidence-based nursing in elderly care.
<b>c) Training and coaching</b>	Participate as a teacher and coach in education and training activities about gerontological nursing for staff, students and teachers. Strengthen the competences of nursing staff in gerontological nursing.

## 2.2 Linking the competences, courses and learning outcomes for each course

This step includes two main actions: 1. connecting competences with courses and 2. creating learning outcomes.

Action. 1. After the competence development process, the developed competences are linked to the course to be created. According to the competence-based education, it is recommended that one course has a maximum of three or four competences attached to it. This ensures that the courses will not be too large with too many learning outcomes. In addition, the distribution of the competences to all courses should verify that all competences are developed in harmony and that they deepen while the courses proceed.

The courses studied need to fulfil the content of the competences: once the courses have been studied, the competences have been fulfilled (Table 4).

**Table 3. Attaching the competences into new courses**



COMPETENCES & LEARNING OUTCOMES ATTACHED TO EACH COURSE	Course 1. Basics of Gerontological Care	Course 2. Health promotion in Gerontological Nursing	Course 3. Home nursing and Rehabilitation in Gerontological Nursing	Course 4. Advanced Gerontological Nursing	Course 5. Project in Gerontological Nursing	Course 6. Clinical Practice in Gerontological Nursing
Gerontological care	x		x	x		x
Communication and collaboration	x	x	x		x	x
Organisation of gerontological nursing care				x	x	
Health promotion		x				x
Evidence-based nursing and lifelong learning	x	x		x	x	
Professional behaviour			x			x

Action 2. Once the competences have been attached to the courses, the learning outcomes are created. As the learning outcomes state the results of students' learning during a course, learning outcomes must be created to be observable and measurable according to the learning experience of students. Learning outcomes are included to the course description. The description is presented to students at the beginning of each course as orientation what skills and knowledge they should have after completing the course in question. For the developed competence framework for gerontological nursing each competence is elaborated in one or more learning outcomes (see Handbook Part 1). These learning outcomes as formulated in Handbook Part 1 can be adapted if needed for the development of the courses. Learning outcomes need to be measurable, that means that it is possible to assess if a student has achieved the learning outcomes. In forming the learning outcomes, different taxonomies, such as Bloom's taxonomy can be used to assist in finding right level of learning for each outcome. Bloom's taxonomy gives 6 levels of learning; the lowest level being remembering and the highest level creating. The deeper and more advanced the course to be created, the higher level of learning should be used. (Krau 2011)

Here is an example of a Basics of Gerontological nursing course with the learning outcomes and the competences for this course (Table 5).

**Table 4. Learning outcomes and competences of the Course "Basics of Gerontological Nursing"**

<b>Learning Outcomes</b>	<p>After learning this course, students will:</p> <ul style="list-style-type: none"> <li>• understand the relevant theories of gerontological nursing.</li> <li>• Understand the concept of palliative and end-of-life care as well as the technologies of palliative and end-of-life care for the older person.</li> </ul>
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	<ul style="list-style-type: none"> <li>• be familiar with the methods of disease prevention for the aged.</li> <li>• master the knowledge of gerontological nursing assessment and older person safety.</li> <li>• be familiar with the acute problems and geriatric syndrome of the older person, and understand how to manage geriatric syndrome.</li> <li>• understand the characteristics of older adults in different care settings.</li> <li>• demonstrate skills in communication with older persons and understand humanistic care methods.</li> <li>• understand the importance of evidence-based nursing knowledge in gerontological nursing.</li> </ul>
<b>Competences</b>	<ul style="list-style-type: none"> <li>• <b>Gerontological care</b> Gerontology nurses can evaluate and analyse the nursing of the older person. Nurses understand evidence-based knowledge and have critical thinking. Older people nurses can improve the happiness of the older person through active participation.</li> <li>• <b>Communication and collaboration</b> Gerontological nurses can effectively communicate with older person and provide person-centred care.</li> <li>• <b>Evidence-based nursing and lifelong learning</b> Gerontological nurses are familiar with evidence-based knowledge and how to provide care for older persons.</li> </ul>

## 2.3 Course contents and learning methods

When the competences are allocated to the courses and the learning outcomes are defined the next step is to choose course content and the learning methods.

The course content and learning methods need to be selected to ensure that the learning outcomes are fulfilled, in another words, suitable for the learning purpose. So, the learning content is the content the student needs for reaching the learning outcomes and the learning methods help the student with this in the best way possible. The learning methods should prepare the student for the assessment of the learning outcomes. Learning methods include class meetings but also independent study at home.

When choosing course content and learning methods try to estimate the student's workload. In addition, the learning environments need to be considered. What are the resources that can be used, for instance library, classrooms or living lab (see part D for living labs). The learning environments influence the learning methods.

See the continued example for the Course “Basics of Gerontological Nursing” (Table 6).

**Table 5. Course contents and learning methods**

<b>Course Contents</b>	<ul style="list-style-type: none"> <li>• The relevant theories of gerontological nursing. Geriatric health assessment, safe care for the older person, palliative care and end-of-life care. Common mental disorders of the older person, memory disorders, common acute problems of the</li> </ul>
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	<p>older person, geriatric syndrome nursing, cognitive characteristics of the older person in different geriatric nursing institutions.</p> <ul style="list-style-type: none"> <li>• Older people communication, humanistic care</li> </ul> <p>Common psychological problems of the older person and their psychological nursing skills.</p> <ul style="list-style-type: none"> <li>• Learning the basic knowledge of evidence-based nursing.</li> </ul>
<b>Course Material</b>	Textbooks; related scientific articles; online reading material.
<b>Student Workload in Hours</b>	<ul style="list-style-type: none"> <li>• Lectures 16h</li> <li>• Clinical practice 12h</li> <li>• Assignments 32h</li> <li>• Simulations 16h</li> <li>• Independent study 59h</li> </ul> <p>In total 135h (one ECTS credit equals 27 hours of student work)</p>

## 2.4 Assessment of the courses

For the assessment of the courses, it is necessary to define the assessment form: how are the learning outcomes assessed? and the assessment criteria: what are the criteria needed to pass the assessment?

To be able to assess the competences students have gained during the course, assessment methods for the learning outcomes need to be chosen. The methods should measure what the students have learned. Competence-based education utilizes multiple ways to assess students' competences, therefore it is good to have both formative and summative methods for course assessment. If formative assessment measures how a student is learning during a course, summative assessment is designed to measure "how much" a student has learned after the course has reached its completion. Examples of formative methods are small tests, group works, presentations, quizzes etc. and summative methods are exam, essay, OSCE (Objective structured clinical examinations) group work presentation etc.

Each course needs assessment criteria. These assessment criteria are for all course activities, contents, materials etc. They assess the competences set for the course. Assessment criteria needs to be verbal; it explains openly how student managed the course content. If the course is graded with numbers of percentages, each category needs to have its own description. The assessment criteria should be open for students to read. Example in Table 7, for the Course "Basics of Gerontological Nursing".

**Table 6. Assessment criteria example: how the learning will be assessed**

<b>Assessment Criteria</b>	<p><b><u>Outstanding (5 = 95-100):</u></b></p> <p>Students master the relevant theories of gerontological nursing, palliative and end of life care. They show excellent ability to conduct health assessments. They can describe the common health problems in various situations. Students can</p>
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	<p>accurately choose the methods of daily life care for older person. They demonstrate excellent ability in communicating with older person according to the situation. Students apply evidence-based information in their work.</p> <p><b><u>Very good (4 = 85-94):</u></b></p> <p>Students can explain the relevant theories of gerontological nursing. They show high ability to conducting health assessments and can describe common health problems. Students can choose methods of daily life care for older person and demonstrate the daily care of older person. Students are able to show high ability in communicating with older person. Students use evidence-based nursing information in their work.</p> <p><b><u>Good (3 = 75-84):</u></b></p> <p>Students are familiar with the relevant theories of gerontological nursing and show good ability to conduct health assessments and recognize the common health problems. Students can implement basic daily life care for older person according to the situation of older person and can demonstrate the daily care of older person; Students are able to show good ability in communicating with older person. Students mostly use evidence-based nursing information in their work.</p> <p><b><u>Fairly good (2 = 65-74):</u></b></p> <p>Students can describe the relevant theories of gerontological nursing and show ability to conduct health assessments and can name the common health problems. Students can implement basic daily life care for older person and can fairly demonstrate the daily care of older person; Students can communicate with older person in basic situations. Students show ability to apply the evidence-based nursing information in their work.</p> <p><b><u>Limited (1 = 60-64):</u></b></p> <p>Students recognize the relevant theories of gerontological nursing and can summarize health assessment theory and list the common health problems. Students have challenges in implementing basic daily life care for older person and can demonstrate the daily care of older person supported. Students can communicate with older person supported. Students struggle to use evidence-based nursing information in their work.</p> <p><b><u>Fail (0 = Under 60 poor):</u></b></p> <p>Students lack the relevant theories of gerontological nursing, and ability to conduct health assessments and cannot solve the common health problems. Students cannot implement basic daily life care for older person according to the situation of older person and can fairly demonstrate the daily care of older person. Lack of ability in communicating with older person. Students lack the ability to apply the evidence-based nursing information in their work.</p>
<b>Grading scale</b>	0-100

In Appendix 1, there is a total course description to give more examples.



### 3 INTEGRATION OF LIVING LAB TO THE CURRICULUM

Living Lab concept and its usage in higher education considers learners as active participants and actors, rather than passive receivers. Students study the co-creation and exploration of emerging ideas, break-through scenarios, innovative concepts and related solutions. The purpose of Living Lab in GeNEdu project is to work act as a “platform at the campus” for practical training in gerontological nursing for students to develop their various skills, such as person-centred and clinical competence by working with older people (clients).

#### 3.1 Using Living Lab as one learning environment for gerontological nursing education

When thinking of the learning methods one of the key elements is training and practicing with group of students and teachers in simulated environments. For that purpose, adequate circumstances, like living labs, are vital. The position of the Living Lab activities in the schedule of the courses should be planned so that the students have sufficient theoretical knowledge before the Living Lab activities. Therefore, a combination of theoretical and practical learning in the courses is a good choice because it increases and deepens the learning. Meaningfulness should be considered when planning what to purchase to the living lab. The solutions, devices and technology should suit the content of the learning, meanwhile it should be usable, safe and practical to be used with real clients as well.

Simulation pedagogy can be applied to Living Lab activities. Recommended flow of a simulation is: familiarizing with theory, simulation of nursing care based on a case, and finally a learning discussion where the performing students and observing students share thoughts and closing summary. The knowledge base required prior Living Lab activities can be constructed in different ways. Students can form the cases for the activities themselves as preliminary assignment and familiarize with possible solutions at a theoretical level. Students can also have ready cases to explore and answer as preliminary assignment either in groups or individually. (Cantrell, Franklin, Leighton & Carlson 2017).

During the courses, practice cases in the Living Lab can increase in difficulty. For example, in the beginning of a course Living Lab cases can handle the gerontological nursing and health promotion of older people with no chronic diseases or few diseases, and later to shift to the care of older peoples with multiple comorbidities and multiple care needs. Example of how the living lab can be integrated to the teaching of gerontological nursing courses at the GeNEdu Chinese partner HEIs is in Appendix 2.

#### 3.2 Practical recommendations to the use of Living Lab for gerontological nursing courses

It is recommended that the students have the possibility to observe each other while performing the activities to maximize the learning. Situational practices in the living lab can simulate gerontological nursing in different environments such as older people’s own home or nursing home.

Activities in the Living lab help students to understand that technology can support the older people when it is realistic and based on the needs and abilities of the older people. Safety of the older people can be applied with situational cases. Safety at working places concerning older clients and the risk of falling and accidents in nursing work can be further explored with situational practice in the Living Lab. Students can arrange demonstrations of application of technical solutions in the living labs.



Learning about assistive technology can be done in the Living Lab. Practical experiences for example from wheelchair use can help the students to understand accessibility and the use of technology with elderly. If possible, special age suits can be use in the Living Lab practices, in case the universities have bought them to living labs. These two examples indicate an important aspect to consider: students try practically technology in a way that is as close as possible to reality. Students can reflect on how it feels to be an aged client and to receive certain care or advice. This will help the students to understand seniors better.

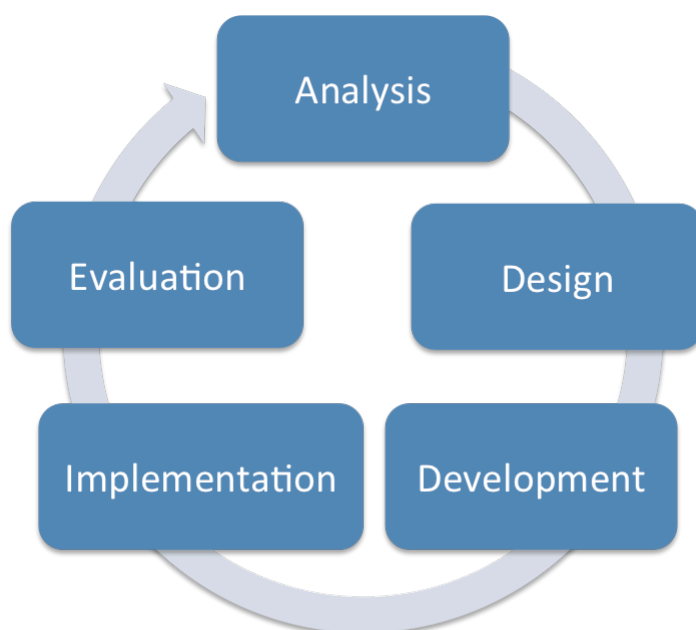
It is worth considering the use of older students as mentors. In these cases, older students can keep small lessons and demonstrations. Living lab environment provides more opportunities to this kind of flexibility in co-learning. It increases the interaction possibilities and promotes experience sharing, which is highly valued by students in the learning process.

## 4 ADDIE MODEL AS A TOOL FOR DEVELOPING CURRICULUM

Chapter 2 of this handbook gave an overview of the process used for the design and development of the gerontological nursing courses. This chapter of the handbook gives a broader overview of the curriculum development process and describes ADDIE model that stands for Analysis, Design, Development, Implementation and Evaluation.

### 4.1 Background of the ADDIE model

ADDIE is a learning development model that stands for Analysis, Design, Development, Implementation, and Evaluation. In ADDIE the design team carefully considers each step before moving onto the next one. The ADDIE model was originally developed by Branson (1978). ADDIE model is used internationally in the development of educational programmes and curricula.





## 4.2 Phases in ADDIE model

### Analysis Phase

The Analysis phase can be considered as the “Goal-Setting Stage.” The focus in this phase is on the students. It assesses that the developed content matches the level of skill and intelligence that each student has. This is to ensure that what they already know won’t be duplicated, and that the focus will instead be on topics that students have yet to explore and learn. In this phase, teachers decide between what the students already know and what they should know after completing the course.

Several key components are to be utilized to make sure analysis is thorough. Course texts and documents, syllabus and the internet are to be employed. The Analysis Phase generally addresses the following issues and questions:

- Who are the students and their characteristics?
- Identify the new educational outcome?
- What types of learning limitations exist?
- What are the delivery options?
- What are the face to face/online pedagogical considerations?
- What is the timeline for project completion?
- What is the key content of the teaching?

### Design Phase

In the design phase, the focus is on learning objectives, content, subject matter analysis, exercise, lesson planning, assessment instruments used and media selection. This phase should be systematic development and evaluation of planned strategies which target the success of the course’s aims. This systematic approach makes sure that everything falls within a rational and planned strategy. During the design stage, the needs to determine:

- Determine learning objectives
- Create content outlines
- Develop scripts
- Select the user interface and environment (web based? LMS? Face-to face instruction? Gamification? Instructional storytelling? E-Learning? Videos? A blended learning approach?)
- Map out time frames for each activity
- Choose the course progression (linear or based on skill achievement? Can learners opt out of parts of the course through assessment? Can learners go at their own pace?)
- Choose the assessment method

### Development stage

The Development stage starts the production and testing of the methodology being used in the course. In this stage, teachers make use of the data collected from the two previous stages and use this information to create a course that will communicate what needs to be taught to students.



## Implementation phase

The implementation stage reflects to redesign, update, and edit the course to ensure that it can be delivered effectively. Here the teachers and students work hand in hand to train on new tools, so that the course can be continuously evaluated for further improvement. This stage achieves much feedback both from teachers and students, much can be learned and addressed.

Paying attention to students' reactions to the course itself, teachers can assess whether the delivery method is working. These questions can be asked: Were there delays? Did learners have adequate wi-fi coverage? Were the teachers prepared? Did students need constant guidance? Did the assessments tell you what you needed to know? Did the students achieve the learning outcomes you set out to achieve? Paying attention to learner feedback so you can make the course even better.

Course evaluation is done in the implementation phase. Teachers should consistently analyse, redesign and enhance the course to ensure effective product delivery. Monitoring is needed. Proper evaluation of the course with necessary and timely revisions, is done in this phase. When teachers and learners actively contribute during the implementation process, direct modifications can be made to the project, thus making the course more effective and successful.

## Evaluation phase

The last stage of the ADDIE method is Evaluation. This is the stage in which the course is being subjected to final testing regarding what, how, why, when of the things that were accomplished (or not accomplished). This phase can be broken down into two parts: Formative and Summative. The Formative phase happens while students and teachers are conducting the study, while the Summative portion occurs at the end of the program. The main goal of the evaluation stage is to determine if the goals have been met, and to establish what will be required moving forward to further the efficiency and success rate of the project.

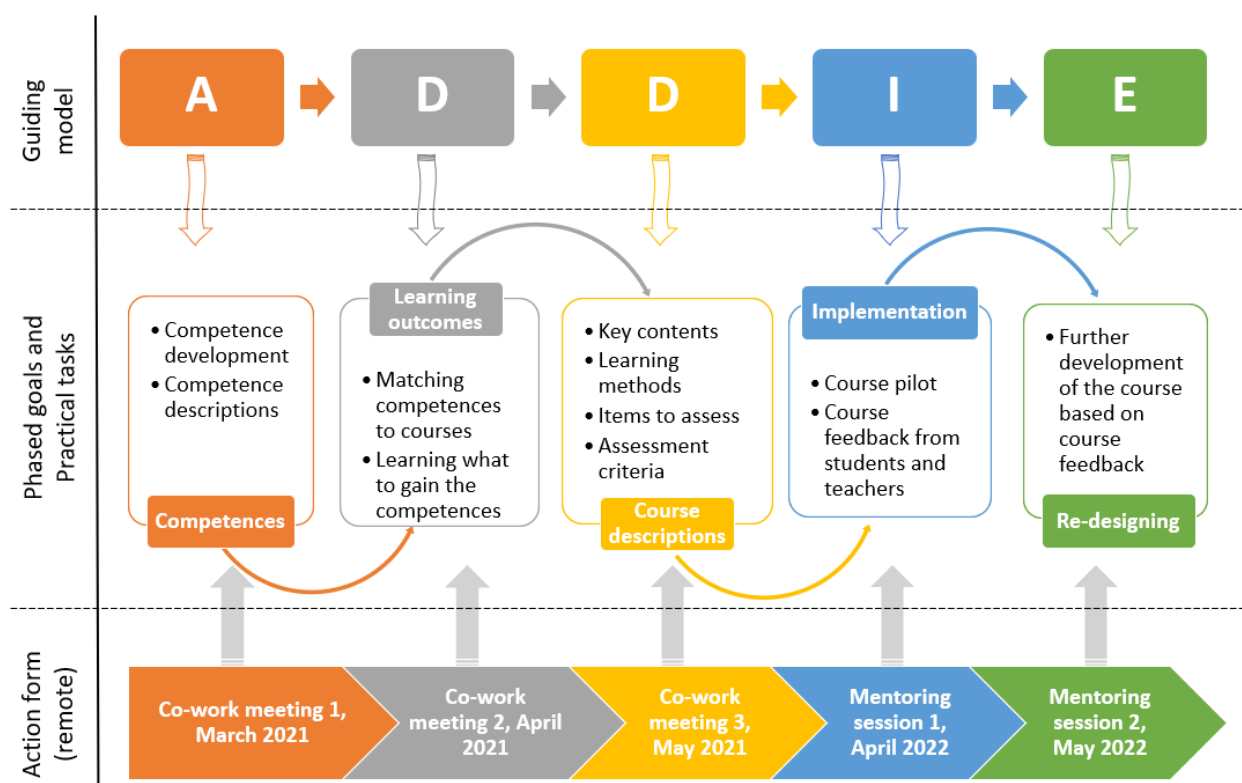
## 4.3 The process of development with ADDIE model

The curriculum development process can be divided to smaller parts with ADDIE model. The model provides steps and support for the development work. At each step a meeting or seminar can be organised to clarify the development work for participating teachers. The model takes the teachers from creating the course to finally writing the assessment criteria and to testing and improving the developed course.

The development process of the courses and the curriculum should be divided to self-working time and (online) co-working meetings. In the (online) co-working meetings, the teachers can participate to lectures, discussions, group work and brainstorming together with experts. Between every (online) co-working meeting the teachers must have tasks for course development, starting from naming the courses, attaching competences to them to finally thinking of the assessment methods and criteria. This developmental process should be guided and mentored by experts when implemented for the first time.

The process of the course development using ADDIE model is described in Figure 5.





**Figure 6. Holistic process of curriculum development**

All three Chinese partner HEIs went through the whole process in spring 2022, guided by the mentors (project experts) from European partner HEIs. Meanwhile during the spring semester 2022, Chinese partner HEIs organised Accreditation Seminars separately at each institution to accredit their own 30-ECTS modules. The acceptance of the modules in the Accreditation Seminars formed the foundation to begin the official implementation starting from autumn 2022. Detailed description of the accreditation is referred to the Appendix 3.

## Conclusion

This Handbook is inspired by the curricula development work carried out in this Erasmus+ Capacity Building project GeNEdu. It aims to support the nursing educators in the project partner HEIs in China in continuous exploring and reflecting throughout their gerontological nursing education.

Handbook findings follow the objectives, timetables, and guidelines of the second WP “Development” of GeNEdu project plan, also integrate core outputs of each sub-WP (examples are as the following) into one document to enable easier reading and to promote further exploitation by nursing teachers in Chinese HEIs:

- From WP2.1: the identified key competences of and for the Chinese partner HEIs through literature review and Delphi research;
- From WP2.2: evidence-based nursing and competence-based education as methodology framework for developing curriculum;
- From WP2.3: digital pedagogical tools and pilots in teaching and learning, including e-course and living labs; and



- From WP2.4: step-by-step co-working guided by a holistic process to develop curriculum and prepare for implementation of renewed curriculum.

The presented findings of the Handbook were collected in five academic semesters, from spring 2020 till spring 2022, in accordance with GeNEdu project progress. Later practices of actual implementation of renewed curriculum and continuous improvement of curriculum implementation, which is very crucial at all Chinese partner HEIs, are not in the scope of this Handbook.

This Handbook is suitable for readers working in nursing higher education field, who have at least three years' experience in nursing teaching, practical training and clinical mentoring. Healthcare staff in gerontological nursing and elderly care organisations may find it useful to guide own professional development in career path.

Gerontological nursing and the competences needed by providing the care to older people evolves continuously alongside with the development of the technology, economy, culture, and society. Developing curriculum for gerontological nursing therefore must be a continuous process supported by periodical review and adjustment. It requires a synergy generated from education institutions, healthcare and social service organisations, and technology providers. GeNEdu project consortium is honoured to contribute to the vast topic with the practice extracted from part of the project implementation, and welcomes to further discussion with international colleagues.



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# Appendices

## Appendix 1. Example of course design for a new course “Project in gerontological nursing”

### GENERAL INFORMATION

Course Unit Title	<b>Project in gerontological nursing</b>
Course Unit Code	
Type of Course Unit Core Studies	Theory and Practice
Recommended Year of Study and Semester	4 <sup>th</sup> semester, 2 <sup>nd</sup> year (6 <sup>th</sup> semester, 3 <sup>rd</sup> year)
Prerequisites and co-requisites	Students master the basic knowledge and interventions of health care and health promotion for older person.
Course credits	4 credits

### WHAT IS GOING TO BE LEARNED / STUDIED

Learning Outcomes	<p><b>1. Communication and collaboration</b> Student is capable of interaction with all stakeholders participating in the project by utilizing and sharing their expertise. Student understands the importance of multidisciplinary collaboration, and is able to implement multidisciplinary gerontological nursing through teamwork.</p> <p><b>2. Organisation of gerontological nursing care</b> Student applies project expertise and participates in project quality management and evaluation. They are able to evaluate the development of their teamwork. Student understands the importance of innovation, and is capable of utilizing creative methods to solve problems in person-centred project work.</p> <p><b>3. Evidence-based nursing and life-long learning</b> Student is able to utilize evidence-based thinking, innovative ideas, theories and methods to improve or implement an older people-related project. Student can utilize additional scientific literature independently, and is able to organize their own program material.</p>
Competences	<ul style="list-style-type: none"> <li>• Communication and collaboration</li> <li>• Organisation of gerontological nursing care</li> <li>• Evidence-based nursing and life-long learning</li> </ul>
Course Contents	<ol style="list-style-type: none"> <li>1. Project expertise and multi-professional teamwork</li> <li>2. Project planning and implementation (including designing thinking and customer-oriented design tools)</li> <li>3. Project management and evaluation</li> <li>4. Practice of project in the field of GN (including 4 projects)</li> <li>5. Deepening or broadening professional expertise</li> </ol>
Course Material	<p>Related textbooks Clinical typical cases Intelligent Cloud of Vocational Education (ICVE) online platform / Other online teaching platforms Related scientific articles</p>

Items of Assessment	1. Complete an older people-related project, including literature review, selecting project content, formulating project implementation plans, implementing projects, and evaluating project implementation 2. Complete a project implementation report 3. Complete an inter-group evaluation
Student Workload in Hours	Total: 108 hours Lecture 20 hours Simulation 8 hours Independent work 80 hours

#### HOW LEARNING / STUDYING IS CARRIED OUT

Implementation, Planned Learning activities and Teaching Methods	Active lectures Project work
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Work Placements	Gerontological simulation ward or hospital gerontological department Living lab
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#### HOW LEARNING WILL BE ASSESSED

**Grading scale: 0 – 5**

**Assessment criteria:**

##### **5 = 95-100 Outstanding**

Student can fully demonstrate the knowledge of the roles and responsibilities of the members among the multi-disciplinary team. They can comprehensively and professionally communicate and cooperate with all stakeholders participating in the project by utilizing and sharing their expertise. Student is outstanding in applying project expertise and participating in project quality management and evaluation. They can independently evaluate the development of their project's teamwork and are outstanding in illustrating the challenges and positive experiences of the project. Student is outstanding in use of evidence-based thinking, innovative ideas, theories and methods to solve problems in older people-related projects including developing, implementing and evaluating them. Student utilizes additional scientific literature independently and is outstanding in organizing their own program material.

##### **4 = 85-94 Very Good**

Student can partly demonstrate the knowledge of the roles and responsibilities of the members among the multi-disciplinary team. They can comprehensively and professionally communicate and cooperate with all stakeholders participating in the project by utilizing and sharing their expertise. They are very good in applying project expertise and participating in project quality management and evaluation. They can independently evaluate the development of their project teamwork and are very good in illustrating the challenges and positive experiences of the project. Student is very good in use of evidence-based thinking, innovative ideas, theories and methods to solve problems in person-centred project work for older person including developing, implementing and evaluating the project. Student utilizes additional scientific literature independently and is very good in organizing their own program material.

##### **3 = 75-84 Good**

Student can partly demonstrate the knowledge of the roles and responsibilities of the members among the multi-disciplinary team. They demonstrate good professional skills in communicating and cooperating with all stakeholders participating in the project by utilizing and sharing their expertise. Student is good in applying project expertise and participating in project quality management and evaluation. They can evaluate the development of their project teamwork and are good in illustrating the challenges and positive experiences of the project. Student is good in use of evidence-based thinking, innovative ideas, theories and methods to solve problems in person-centred project work for older person including developing, implementing and evaluating the project. Student is able to use additional scientific literature independently and is good in organizing their own program material.

##### **2 = 65-74 Satisfying**





Student can partly demonstrate the knowledge of the roles and responsibilities of the members among the multi-disciplinary team, show satisfying professional skills in communicating and cooperating with all stakeholders participating in the project by utilizing and sharing their expertise. Student has reasonable skills in applying project expertise and participating in project quality management and evaluation. They can evaluate the development of their project teamwork and are satisfying in illustrating the challenges and positive experiences of the project. Student has reasonable skills in use of evidence-based thinking, innovative ideas, theories and methods to solve problems in person-centred project work for older person, including developing, implementing and evaluating the project. Student is able to use additional scientific literature and has reasonable skills in organizing their own program material.

**1 = 60-64 Limited**

Student can understand the knowledge of the roles and responsibilities of the members among the multidisciplinary team. They have limited skills in using their expertise in communicating and cooperating with all stakeholders participating in the project. Student

has low preparedness in applying project expertise and participating in project quality management and evaluation. They can explain the development of their project teamwork but are limited in illustrating the challenges and positive experiences of the project.

Student has challenges in evidence-based thinking, innovative ideas, theories and methods to solve problems in person-centred project work for older person, including developing, implementing and evaluating the project. Student uses very little additional scientific literature and is limited in organizing their own program material.

**0 = Fail, under 60**

Student is able to repeat some knowledge of the roles and responsibilities of the members among the multidisciplinary team, but communicate and cooperate with all stakeholders participating in the project poorly. Student is poor in applying project expertise and in participating to project quality management and evaluation. They are unable to recall how to evaluate the development of his / her project teamwork. Student is poor in use of evidence-based thinking, innovative ideas, theories and methods to solve problems in person-centred project work for older person, including developing, implementing and evaluating the project. Student lacks skills in using additional scientific literature independently, and is unable to organize their own program material.

## Appendix 2. Example of using living lab as learning environment

### Integrating living lab element into the 30-ECTS Module of Nursing Programme at Guangzhou Health Science College, China

Course name	Content conducted in the Living Lab	Hours in the lab	Student assignment
1. Basics of Gerontological Nursing	Physiological and psychological characteristics of the elderly (Elderly posture simulation suit--hemiplegia simulator)	1.5	Group work: Each group selects 2-3 students to wear hemiplegic simulated suit, share their feelings, and summarize the possible problems of the elderly's physical activities
	Communication with the elderly (Mannequin)	1	Group work: Use learned skills to communicate with the elderly
2. Gerontological Health Management	Implementation of planned interventions using basic devices	1.5	Group work: Each group selects 2-3 students to experience cognitive rehabilitation assessment and training system, share their feelings, and summarize the possible effects of such interventions



3. Home Nursing and Rehabilitation in Gerontological Nursing	Personal hygiene care and rehabilitation nursing for the elderly	4	Practice of combing hair, washing, clothing and cutting nails for elderly
	Diet and elimination care and rehabilitation nursing for the elderly	4	Practice of feeding training, rehabilitation training for urinary incontinence-Pelvic Floor Muscle (Kegel) Exercises
	Nursing care for the activities and rehabilitation nursing of the elderly	4	Practice of transferring activity training, guiding and assisting the elderly to use protective equipment and assistive devices, such as crutches, walkers and wheelchairs
	Emergency rescue and prevention of common accidents of the elderly at home: Primary treatment of the elderly with trauma	4	Practice of hemostasis and wound dressing
	Emergency rescue and prevention of common accidents of the elderly at home: Emergency treatment of the falling elderly	2	Practice of fracture fixation and transferring, Heimlich skill
	Emergency rescue and prevention of common accidents of the elderly at home: First aid for elderly with food poisoning and airway foreign object obstruction	2	Practice of Heimlich skill
4. Gerontological Nursing	Health assessment techniques such as competency assessment	2	Evaluate the physical health, functional status, psychological and social health of the elderly
	Eye drops, ear drops, nose drops for the elderly	2	Implement local medication techniques (eye drops, ear drops, nose drops) for the elderly
	Elderly hemiplegia rehabilitation exercise	2	Carry out good limb placement, bed activity training
	Evidence-based nursing practice in the care of elderly patients with stroke and dementia	4	Use evidence-based nursing practice to develop a detailed care plan for the elderly with dementia, comprehensive care
	Hospice care for the elderly	2	Practice of life education of hospice nursing, physical care, psychological care and consolation for the elderly (including family members, etc.)
5. Project in Gerontological Nursing	Chapter 2 Project planning	8	Each group completes a project plan



	2.5 Determination of the project implementation plan		
	Chapter 3 Project implementation 3.1 Implementation preparation and organization of gerontological nursing project	4	Each group completes the preparation work of the plan, including the necessary experimental tools, health education videos, assessment forms, etc.
	3.2 Management and evaluation of gerontological nursing project (Implementation sites are identified for each group's project needs and can be in the living-lab, hospital, community or client's home)	4	Each group of students completes the project implementation work and collects customer evaluations
6. Clinical Practice in Gerontological Nursing	N/A		N/A

### Appendix 3. Deliverable 2 of GeNEdu Work Package 2.4 “2.4.D2 Accreditation report”

The report is stored in the e-workspace built for GeNEdu project: [https://moodle.jamk.fi/plugin-file.php/697447/mod\\_folder/content/0/2.4.D2.%20Accreditation%20report 10.12.2022.docx?forcedownload=1](https://moodle.jamk.fi/plugin-file.php/697447/mod_folder/content/0/2.4.D2.%20Accreditation%20report%2010.12.2022.docx?forcedownload=1).



## Disclaimer

This project has been funded with support from the European Commission. The publications on this site 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.

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