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NEARVET

NETWORK OF EXCELLENCE FOR APPLIED RESEARCH IN VET

Network of excellence for applied research in VET

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Competence Framework for Applied Research in Vet

Edited and coordinated by: Christiana Knais

 **MMC** Mediterranean
Management Centre

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INTRODUCTION

This document presents the competency framework for the applied research in VET. Section 1 presents the methodology used. Section 2 presents a set of competences that have been identified but are considered to be generic as they are also necessary in any type of research. The current project although identified these competences, will not work on those development as the target group are experienced researchers. Section 3 presents more specific competences necessary for the Applied Research in Vet analyzed in knowledge, skills and attitudes for the second group of competences.

1. METHODOLOGY USED

The competence framework took into consideration 1) the methodological concept and 2) the report on the attention areas as presented in the WP2 and developed a competence framework aligned with EQF level 6. Through the analysis of the findings of the above-mentioned reports, the consortium identified 2 different types of competences: 1) competences necessary to apply any type of research and 2) **specific competences** that one needs to implement applied research in VET

The timeframe of the project as well as the fact that the consortium aimed to check and develop in depth knowledge and understanding of the specific competences that are necessary for the applied research in VET, led the consortium to the decision to exclude and competences needed for research in general.

Both groups of competences have been analysed into competences. The second group of competences has also been analysed into learning outcomes (in terms of knowledge, skills and attitudes). In total 15 specific competences have been identified

The competency framework was revised twice in order to reach the current state

2. GENERIC COMPETENCES FOR APPLIED RESEARCH IN VET

The first group of competences are general competences that are necessary for any type of research. These competences are presented in figure 1. Table 1 presents the competences identified in this group.

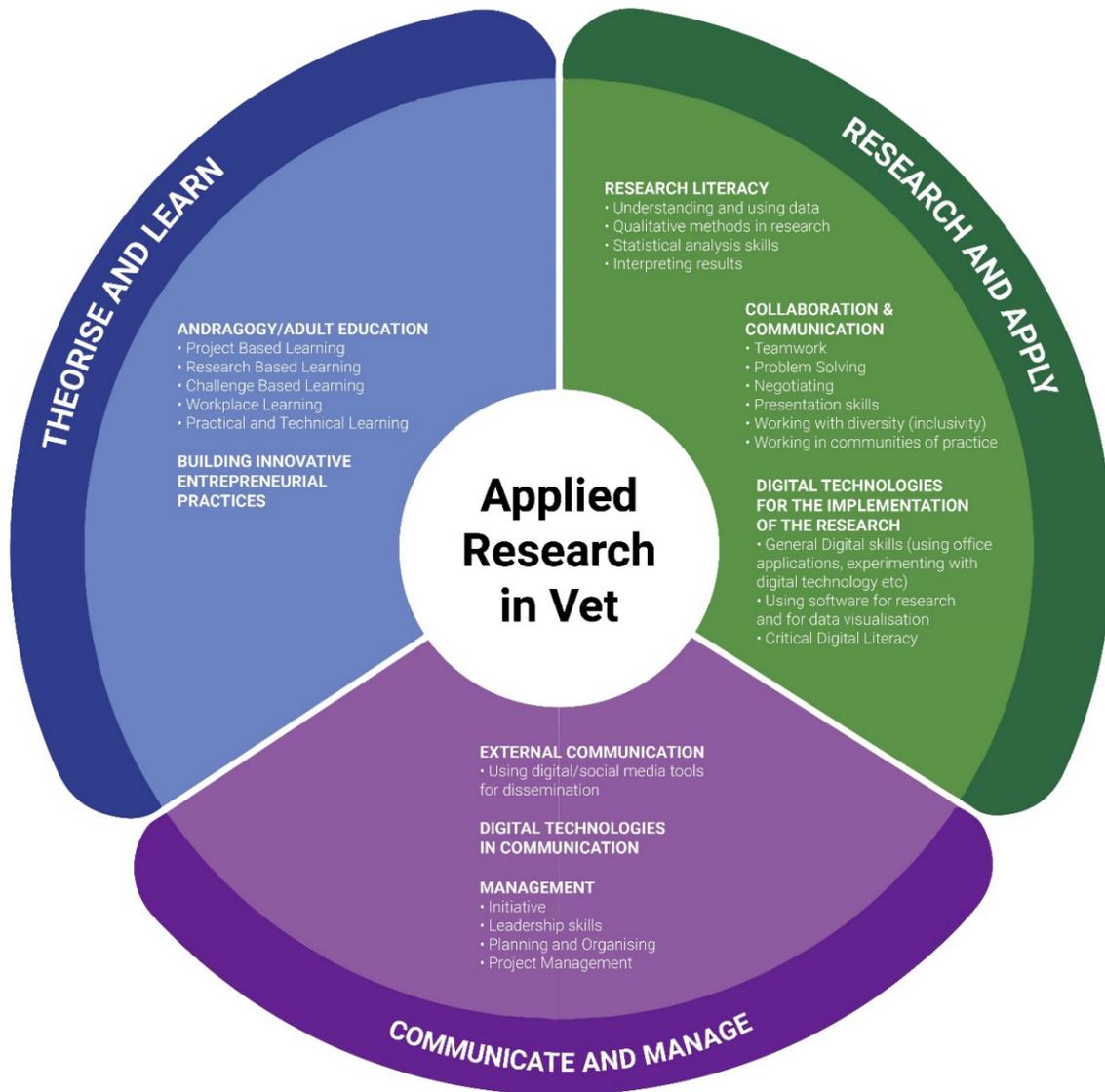


Figure 1 Generic Competences for Applied Research in Vet:

General Competences Identified for Applied Research in Vet

These competences are presented on the table below:

RESEARCH AND APPLY			THEORISE AND LEARN		COMMUNICATE AND MANAGE		
Research literacy	Collaboration and communication	Digital technologies for the implementation of the research	Andragogy/adult education (3)	Building innovative entrepreneurial practices	External communication	Digital technologies in communication	Management
<p>Understanding and using data</p> <p>Interpreting results/ Translating and synthesising research Reporting of findings</p> <p>Statistical analysis skills and specific quantitative methods</p> <p>Qualitative methods in research</p>	<p>Teamwork: The ability to work together with a team towards a common goal.</p> <p>Problem Solving: To be able to define a problem; determine the cause of the problem; identify, prioritize, and select alternatives for a solution. Lastly to be able to implement a solution.</p> <p>Negotiating: Identify a problem and try to reach out to an opposing party in order to come to an agreement.</p> <p>Presentation skills: To be able to choose the most appropriate presentation technique and try to explain any subject to an audience.</p>	<p>General Digital skills (using office applications, experimenting with digital technology etc): To use effectively basic digital tools, such as office applications, email and other digital tools.</p> <p>Using software for research and for data visualisation: Identify and use the most reliable and accurate software that can analyse data and report your findings. (such as SPSS, R+).</p> <p>Critical Digital Literacy: To be able to find, evaluate, use, and create digital information</p>	<p>Project Based Learning</p> <p>Research Based Learning</p> <p>Challenge Based learning</p> <p>Workplace Learning</p> <p>Practical and Technical learning: To identify practical and technical learning, necessary for the project and to work in order to acquire learning</p>		<p>Using digital/social media tools for dissemination: Identify and use the most appropriate digital tools needed for your disseminating the results of the research</p>		<p>Initiative: To be able to act or/and take charge when needed. Also, to be able to identify good opportunities and to act upon them.</p> <p>Leadership skills: To be able to build trust, communicate, give and receive feedback, solve problems, manage time and motivate a group of people.</p> <p>Planning and Organising: Identify and use the most appropriate digital tools that will help you manage your time, set goals and deadlines and track your progress.</p> <p>Project Management: To be able to organize, plan and execute projects while</p>

RESEARCH AND APPLY			THEORISE AND LEARN		COMMUNICATE AND MANAGE		
Research literacy	Collaboration and communication	Digital technologies for the implementation of the research	Andragogy/adult education (3)	Building innovative entrepreneurial practices	External communication	Digital technologies in communication	Management
	<p>Working with diversity (inclusivity)</p> <p>Working in communities of practice: To be able to build trust, communicate, give and receive feedback, solve problem, share knowledge, guide and motivate a group of people.</p> <p>Mentoring</p> <p>Critical Thinking: The ability to question, analyse, interpret, evaluate and make a judgement about what you read, hear, say, or write.</p>	in various contexts and formats.					working deadlines and schedules. within and

Table 1: General Competences Identified for Applied Research in Vet Table 2: Specific Competences Identified for Applied Research in VET

3. SPECIFIC COMPETENCES FOR APPLIED RESEARCH IN VET

The first group of competences are general competences that are necessary for any type of research. These competences are presented in figure 1. Specific competences for applied research in VET are shown in Figure 2

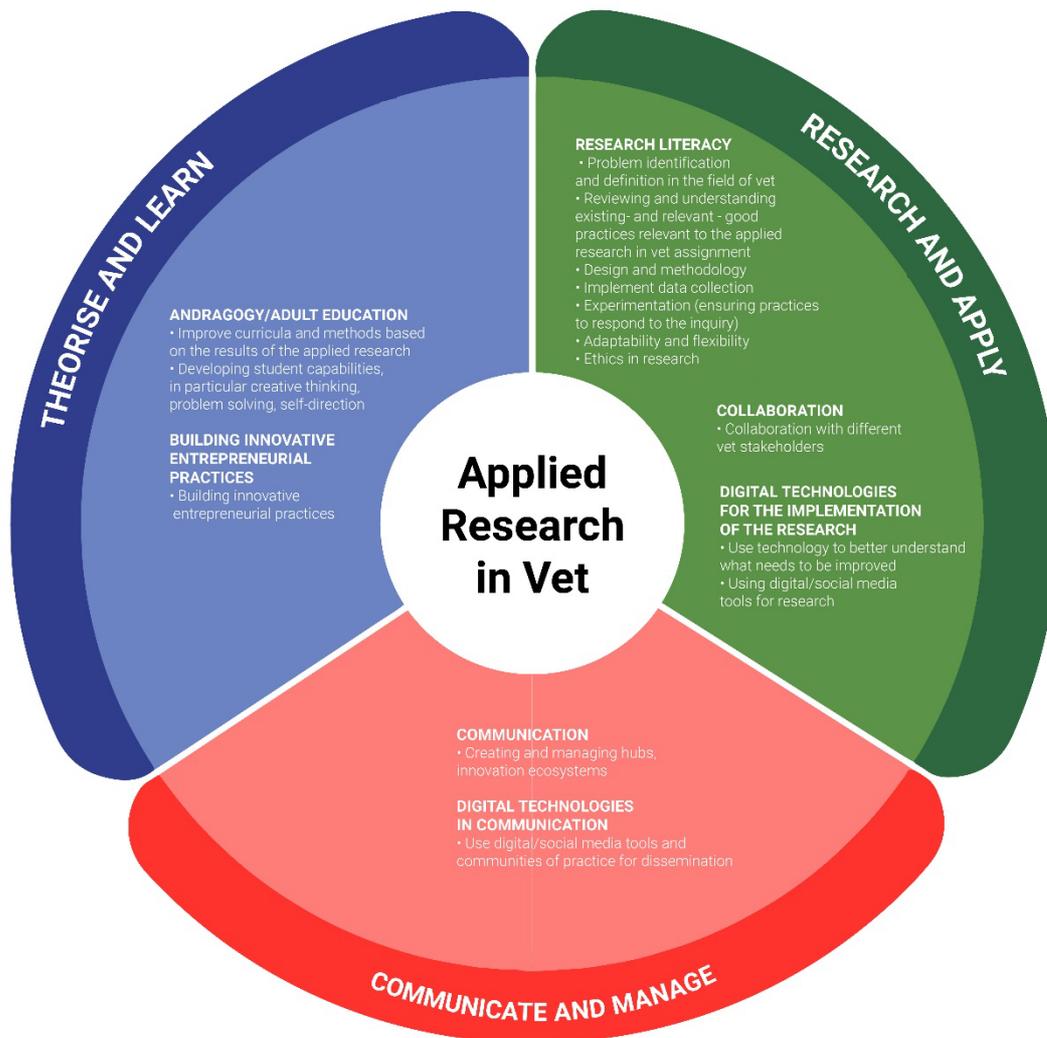


Figure 2: Specific Competences for Applied Research in VET.

Specific competences identified for Applied Research in VET

In total fifteen competences have been identified that are the following:

- Problem Identification and Definition In The Field Of Vet
- Review And Understand Existing Researches and Good Practices Relevant To The Applied Research In Vet Assignment (2)
- Design The Appropriate Applied Research Methods (3):
- Implement Data Collection (4):
- Experimentation
- (Ensuring Practices to Respond To The Inquiry) (5)
- Adaptability And Flexibility: (6)
- Ethics In Research (7):
- Collaboration With Different Vet Stakeholders (8)
- Use Technology to Better Understand What Needs To Be Improved (9)
- Use Digital/Social Media Services for Research: (10)
- Improve Curricula and Methods Based On The Results Of The Applied Research In Vet (11)
- Develop Student Capabilities, In Particular Creative Thinking, Problem Solving, Self-Direction (12)
- Build Innovative Entrepreneurial Practices (13)
- Create And Manage Hubs and Innovation Ecosystems (14)
- Use Digital/Social Media Tools and Communities Of Practice For Dissemination (15):

Specific competences identified for Applied Research in VET (descriptive)

RESEARCH AND APPLY			THEORISE AND LEARN		COMMUNICATE AND MANAGE	
RESEARCH LITERACY	COLLABORATION (1)	DIGITAL TECHNOLOGIES FOR THE IMPLEMENTATION OF THE RESEARCH	ANDRAGOGY/ADULT EDUCATION (3)	BUILDING INNOVATIVE ENTREPRENEURIAL PRACTICES	COMMUNICATION	DIGITAL TECHNOLOGIES IN COMMUNICATION
<p>PROBLEM IDENTIFICATION AND DEFINITION IN THE FIELD OF VET (1): To be able to understand well the inquiry of the company or the society (social innovation), to translate it into research and to evaluate it taking into consideration existing resources and possible results. Develop specifications document for the inquiry:</p> <p>REVIEW AND UNDERSTAND EXISTING RESEARCHES AND GOOD PRACTICES RELEVANT TO THE APPLIED RESEARCH IN VET ASSIGNMENT (2)</p> <p>DESIGN THE APPROPRIATE APPLIED RESEARCH METHODS (3): Design appropriate applied research methods to generate specific recommendations</p>	<p>COLLABORATION WITH DIFFERENT VET STAKEHOLDERS (8) Collaboration with different VET stakeholders for the implementation of the research</p>	<p>USE TECHNOLOGY TO BETTER UNDERSTAND WHAT NEEDS TO BE IMPROVED (9) To be able to use reliable and accurate sources of data, such as web analytics, surveys, and feedback to gain a better understanding of what needs to be improved.</p> <p>Demonstrating a sophisticated understanding of artificial intelligence and emerging technologies to strategically implement them in research and educational practices.</p> <p>USE DIGITAL/SOCIAL MEDIA SERVICES FOR RESEARCH: (10) Identify and use the most appropriate digital tools needed for your research (online surveys etc)</p>	<p>IMPROVE CURRICULA AND METHODS BASED ON THE RESULTS OF THE APPLIED RESEARCH IN VET (11) Applied research helps with testing different ways of teaching and to find better ways of teaching and learning. Additionally, applied research in VET may identify improvements in fields other than education and improve the curricula of those fields.</p> <p>DEVELOP STUDENT CAPABILITIES, IN PARTICULAR CREATIVE THINKING, PROBLEM SOLVING, SELF-DIRECTION (12)</p>	<p>BUILD INNOVATIVE ENTREPRENEURIAL PRACTICES (13) Based on the experience of the research, develop innovative entrepreneurial practices that can be applied to a different or bigger audience. <i>Entrepreneurial practices include project based learning, entrepreneurial skills development programmes, networking initiatives, start ups and start up incubators within VET, cross disciplinary collaboration, industry integrated curricula , social entrepreneurship initiatives, new methodologies for</i></p>	<p>CREATE AND MANAGE HUBS AND INNOVATION ECOSYSTEMS (14) Creating and managing hubs, innovation ecosystems, helps you build relationships with new and established partners. Also, it helps to address the specific needs of partnerships</p> <p>Use COP to inform business practices .</p>	<p>USE DIGITAL/SOCIAL MEDIA TOOLS AND COMMUNITIES OF PRACTICE FOR DISSEMINATION (15): Promote your research/project and to reach out to potential partners for future projects.</p> <p>Critical curation, creation and sharing of digital learning resources</p>

RESEARCH AND APPLY			THEORISE AND LEARN		COMMUNICATE AND MANAGE	
RESEARCH LITERACY	COLLABORATION (1)	DIGITAL TECHNOLOGIES FOR THE IMPLEMENTATION OF THE RESEARCH	ANDRAGOGY/ADULT EDUCATION (3)	BUILDING INNOVATIVE ENTREPRENEURIAL PRACTICES	COMMUNICATION	DIGITAL TECHNOLOGIES IN COMMUNICATION
<p>Design of data collection tools</p> <p>Development and using of research tools for applied research in VET (interview and focus group guides, questionnaires etc): To be able to design and develop an interview guide, a focus group guide, a questionnaire etc., and to be able to conduct interviews and focus groups.</p> <p>IMPLEMENT DATA COLLECTION (4): Interviewing skills¹ : To be able to explain, understand, and explore research subjects' opinions, behaviour, experiences, phenomenon, etc.</p> <p>EXPERIMENTATION (ENSURING PRACTICES TO RESPOND TO THE INQUIRY) (5) To be able to pilot test the results of the research, to evaluate and</p>			<p>Involve VET learners in the applied research in VET assignment in order to improve their creative thinking, problem solving and self direction.</p>	<p><i>startups, pitching competitions etc</i></p>		

RESEARCH AND APPLY			THEORISE AND LEARN		COMMUNICATE AND MANAGE	
RESEARCH LITERACY	COLLABORATION (1)	DIGITAL TECHNOLOGIES FOR THE IMPLEMENTATION OF THE RESEARCH	ANDRAGOGY/ADULT EDUCATION (3)	BUILDING INNOVATIVE ENTREPRENEURIAL PRACTICES	COMMUNICATION	DIGITAL TECHNOLOGIES IN COMMUNICATION
<p>to update them if necessary.</p> <p>ADAPTABILITY AND FLEXIBILITY: (6) Understand and research on different industries and different types of research. Handle different types of research projects Adapt your research skills in the area of applied research</p> <p>ETHICS IN RESEARCH (7): To be able to recognise and maintain ethical standards that will help ensure that the research is conducted in a way that respects human rights. Accuracy in research helps to ensure that research findings are credible and trustworthy.</p>						

Table 3: Specific Competences Identifies for Applied Research in VET

Analysis of the competences into learning outcomes

Blooms taxonomy was used for the analysis of the competences into learning outcomes and the result is shown in the Table below:

	COMPETENCES FOR THE NEARVET PROJECT	Knowledge	Skills	Attitudes
Research and Apply	<p>(1) Problem Identification and definition in the field of VET</p> <p><i>Understand well the inquiry of the company or the society (social innovation), translate it into research and evaluate it taking into consideration existing resources and possible results. Develop specifications document for the inquiry.</i></p>	<p>Give examples of corporate or social inquiries for applied research.</p> <p>Describe the methodology one will use to understand the inquiry</p>	<p>Apply techniques to understand the inquiry</p> <p>Evaluate the inquiry taking into consideration existing resources</p> <p>Translate the inquiry into research process</p> <p>Develop a specifications document for the inquiry</p>	<p>Sensitize on the importance of inquiry analysis</p> <p>Realise that not all inquiries will end up to researches due to lack of resources</p>
	<p>(2) Review and understand existing researches and good practices relevant to the applied research in vet assignment</p> <p><i>Identify and study relevant researches including best practices that are relevant to the applied research in VET assignment</i></p>	<p>Search for existing researches and good practices relevant to applied research in vet assignment.</p>	<p>Review and evaluate existing researches and relevant good practices relevant to applied research in vet assignment.</p>	<p>Value the importance of reviewing and understanding existing and relevant practices relevant to the applied research.</p>
	<p>(3) Design the appropriate applied research methods</p> <p><i>Design appropriate applied research methods to generate specific recommendations for VET research assignments</i></p> <p><i>Design of data collection tools</i></p>	<p>Describe a step by step approach for designing appropriate applied research methods</p> <p>List appropriate research methods tools necessary and/or useful for applied research.</p>	<p>Define the research objectives</p> <p>Select the research design</p> <p>Consider factors like feasibility, ethical considerations, and the level of control required.</p> <p>Select the research participants</p> <p>Analyse the collected data</p>	<p>Justify the use of the specific research design for effective applied research.</p>

	COMPETENCES FOR THE NEARVET PROJECT	Knowledge	Skills	Attitudes
		List appropriate data collection tools necessary and useful for applied research.	(the red ones should probably be removed if we are not going into this depth on research methods) Draw useful conclusions and make recommendations based on them	
	(4) Implement data collection	Indicate data collection methods/practices/techniques such as interviewing, survey and focus groups to be able to explain, understand and explore subjects' opinions, behaviour, experiences, etc.	Design and develop an interview guide, a focus group guide, a questionnaire etc. Apply interviewing techniques in the framework of an applied research in VET assignment. Facilitate effectively a focus group in the framework of an applied research in VET assignment. Implement a survey in the framework of an applied research in VET assignment.	Feel confident when implementing interviews or facilitating focus groups
	(5) Ensure that practices respond to the inquiry (experimentation)	Define experimentation as the application of research results in real life, their evaluation and update	Apply experimentation practices to evaluate and update the results of the applied research in VET.	Defend the importance of experimenting in applied research, including opting for innovative practices.
	(6) Adaptability and flexibility	Explain the need for adaptability and flexibility when conducting applied research (adaptability on industry, on different types of research and on one's own skills)	Adapt the applied research methods and tools depending on the context of the VET applied research assignment. Handle different types of research projects.	Sensitize on the importance flexibility and adaptability when implementing applied research in VET.

	COMPETENCES FOR THE NEARVET PROJECT	Knowledge	Skills	Attitudes
			Adapt one's skills to be able to handle different VET assignment projects	
	<p>(7) Ethics in research</p> <p><i>To be able to recognise and maintain ethical standards that will help ensure that the research is conducted in a way that respects human rights. Accuracy in research helps to ensure that research findings are credible and trustworthy.</i></p>	<p>Describe ethics in the framework of applied research in VET assignments.</p> <p>Recognise ethical standards that will help ensure that the research is conducted in a way that respects human rights.</p>	Apply and maintain research methods respecting ethical considerations.	Select ethical behaviour when conducting research, including applied research.
Collaboration	<p>(8) Collaboration with different vet stakeholders</p> <p><i>Collaboration with different VET stakeholders for the implementation of the research</i></p>	<p>Name different VET stakeholders for a specific VET inquiry applied research assignment.</p> <p>Present different collaboration techniques to collaborate with different VET stakeholders for the specific VET inquiry applied research assignment.</p>	<p>Select the most appropriate vet stakeholders for implementing/ conducting or promoting the specific VET inquiry assignment.</p> <p>Apply effective collaboration techniques to collaborate with different VET stakeholders in the framework of the specific VET inquiry for applied research assignment.</p>	Value the importance of developing partnerships as well as of networking and collaboration in applied research in VET.
Digital technologies for the implementation	<p>(9) Use technology to better understand what needs to be improved</p> <p><i>To be able to use reliable and accurate sources of data, such as web analytics, surveys, and feedback to gain a better understanding of what needs to be improved.</i></p> <p><i>Demonstrating a sophisticated understanding of artificial intelligence and emerging technologies to strategically</i></p>	<p>Identify reliable and accurate sources of data (web analytics, surveys, feedback responses, etc) that will support understanding of what needs to be improved.</p> <p>Define artificial intelligence.</p> <p>Present different emerging technologies</p>	<p>Use reliable and accurate sources of data (web analytics, surveys and feedback responses, etc) to gain a better understanding of what needs to be improved.</p> <p>Use artificial intelligence and emerging technologies in applied research in VET assignments.</p> <p>Integrate artificial intelligence and emerging technologies in</p>	Appreciate the use of artificial intelligence and emerging technologies when conducting applied research in VET assignments.

	COMPETENCES FOR THE NEARVET PROJECT	Knowledge	Skills	Attitudes
	<i>implement them in research and educational practices.</i>		the recommendations responding to applied research in VET assignments.	
	<p>(10) Using digital/social media services for research</p> <p><i>Identify and use the most appropriate digital tools needed for your research (online surveys etc)</i></p>	List digital/social media services that can be useful for applied research in VET assignments.	<p>Use existing digital/social media services for applied research.</p> <p>Develop tools to be used in applied research in VET assignments (online surveys etc).</p>	Appreciate the use of digital/social media services for effective applied research in VET.
Andragogy/Adult Education	<p>(11) Improve curricula and methods based on the results of applied research in VET</p> <p><i>Applied research helps with testing different ways of teaching and to find better ways of teaching and learning. Additionally, applied research in VET may identify improvements in fields other than education and improve the curricula of those fields.</i></p>	Explain how the results of applied research in VET can improve curricula and methods	<p>Identify education and training methods and techniques developed or identified through applied research in VET that will be used to improve curricula.</p> <p>Identify lessons learned in fields other than education and training that will be used to improve the curricula of that field.</p> <p>Improve curricula of education and training as well as other fields and teaching methods based on the results of applied research in VET assignments.</p>	<p>Assess the improvements made in curricula and teaching methods based on the results of applied research in VET.</p> <p>Accept continuous changes in curricula and methods based on the results of applied research in VET.</p>
	<p>(12) Develop student capabilities, in particular creative thinking, problem solving and self-direction</p>	Outline the benefits of creative thinking, problem solving and self-direction for students in applied research.	Involve VET students in applied research in VET assignments in order to develop students' creative thinking, problem solving and self-direction through applied research.	Sensitize on the importance of developing students' creative thinking, problem solving and self-direction through applied research.

	COMPETENCES FOR THE NEARVET PROJECT	Knowledge	Skills	Attitudes
	<i>Involve VET learners in the applied research in VET assignment in order to improve their creative thinking, problem solving and self direction.</i>		Evaluate the impact of the involvement of VET learners	
Building innovative entrepreneurial practices	<p>(13) Building innovative entrepreneurial practices as a result from Applied Research in VET.</p> <p><i>Based on the experience of the research, develop innovative entrepreneurial practices that can be applied to a different or bigger audience. Entrepreneurial practices include project-based learning, entrepreneurial skills development programmes, networking initiatives, start ups and start up incubators within VET, cross disciplinary collaboration, industry integrated curricula, social entrepreneurship initiatives, new methodologies for startups, pitching competitions etc</i></p>	List entrepreneurial practices that may result from applied research in VET assignments.	<p>Analyse the results of the applied research in VET assignment and identify entrepreneurial practices that may be exploited and used.</p> <p>Apply innovative and/or entrepreneurial practices identified within the context of applied research in VET.</p>	Defend the importance of making use of innovative, entrepreneurial practices developed through the context of applied research in VET.
Communication	<p>(14) Creating and managing hubs, innovation ecosystems</p> <p><i>Creating and managing hubs, innovation ecosystems, helps you build relationships with new and established partners. Also, it helps to address the specific needs of partnerships. Use COP to inform business practices</i></p>	<p>Describe what a hub/innovation ecosystem is as well as the steps for creating a hub/innovation ecosystem.</p> <p>Describe hubs and innovation ecosystems as an important <i>ingredient</i> in applied research in VET as well as an <i>outcome</i>.</p>	<p>Manage a hub/innovation ecosystem to support applied research in VET assignments.</p> <p>Use effectively community of practices to inform business practices.</p> <p>Develop a hub/innovation ecosystem to exploit the results of the applied research in VET assignment.</p>	Value the importance and benefits of creating and managing hubs/innovation ecosystems to support applied research.

	COMPETENCES FOR THE NEARVET PROJECT	Knowledge	Skills	Attitudes
Digital technologies in communication	<p>(15) Use digital social media tools and communities of practice for dissemination</p> <p><i>Promote your research/project and to reach out to potential partners for future projects.</i></p> <p><i>Critical curation, creation and sharing of digital learning resources</i></p>	<p>Name digital services and social media tools for dissemination of the results of the applied research in VET assignment</p> <p>Name digital services and social media tools for the development of communities of practice.</p> <p>Define digital curation</p> <p>Explain how digital curation, creation and sharing can be used as communication tool for the results of the applied research in VET assignment.</p>	<p>Employ digital and social media tools for dissemination and for running communities of practice.</p> <p>Apply methods and techniques for effective curation, creation and sharing of digital learning resources.</p>	<p>Support dissemination with the use of digital and social media tools as well as the development of online communities of practice.</p> <p>Interpret the exploitation of digital learning content as a process of curation, creation and sharing through a critical approach.</p>

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