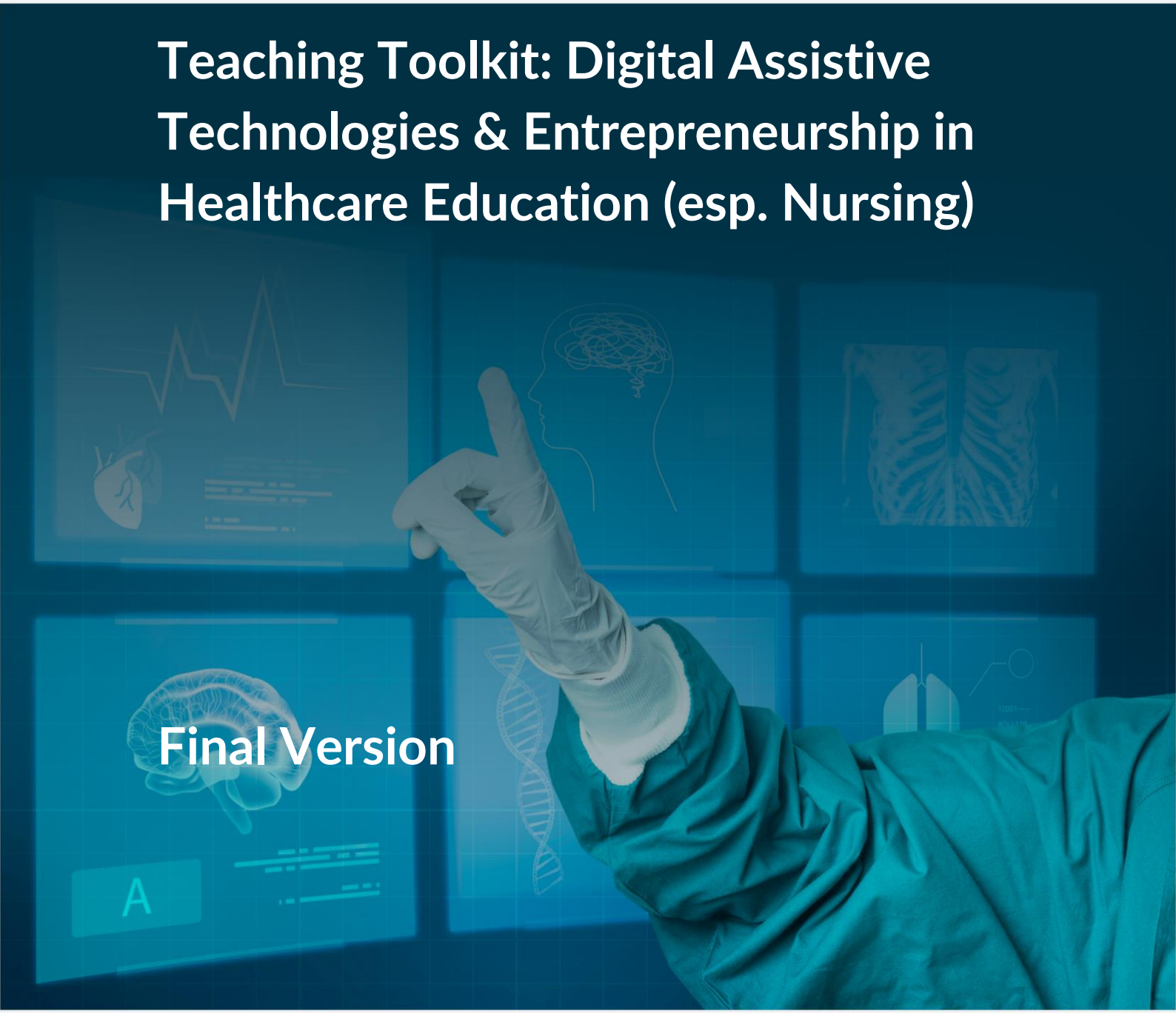
Co-funded by the Erasmus+ Programme of the European Union

SI AH DPC
STUDENT-RUN INTERDISCIPLINARY ALLIED HEALTH DIGITAL PRACTICE CENTER

Teaching Toolkit: Digital Assistive Technologies & Entrepreneurship in Healthcare Education (esp. Nursing)



Final Version

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Preface

The document introduces the SIAHDPC Teaching Toolkit (project output 3.1) which has been developed as part of the project Student-Run Interdisciplinary Allied Health Digital Practice Center (SIAHDPC) funded by the Erasmus+ Programme of the European Union (Key Action 2, Capacity Building).

The aim of this toolkit is the development, testing and comparison of innovative teaching resources in order to widen the knowledge and improve the skills of educators and professionals in the field of healthcare (esp. nursing) in Kosovo. The toolkit seeks to facilitate the integration of digital (assistive) technologies in health educational programs at higher education institutions (HEIs) and wants to support the development of transformative and entrepreneurial mindsets of learners.

The Teaching Toolkit is designed and implemented as innovative teaching material and environment (e.g., future care lab), embracing the above target groups who may choose to integrate modules of the Teaching Toolkit in their educational offers and activities. A second group indirectly targeted with the resources at hand are learners (i.e., in context of SIAHDPC students interested in digital health and entrepreneurship), who may be taught or trained with the help of this Teaching Toolkit when exploited by respective educators.

Further, a modular approach has been selected for the design of this Teaching Toolkit. This means that it does not only support the development of new (academic) course work, but rather gives the opportunity to extend existing lectures, courses, etc., in a flexible way. Therefore, single modules as well as combination of modules may be considered for the design of new teaching activities – depending on the educational contexts and needs of the user. Overall, 8 modules have been prepared, of which 3 suggest learning activities to improve upon digital skills. Another 5 modules are provided to enhance entrepreneurial thinking and acting. Each module may be taught independently, however, combination of modules may be used to design new educative programmes. This teaching toolkit also suggests module combination plans for 2 such programmes.

Further, the structure of the toolkit has been inspired by the Digital Competence Framework for Educators (DigCompEdu) and the Entrepreneurship Competence Framework (EntreComp), both initiated and developed by the Joint Research Center of the European Commission.

The aim of DigCompEdu is to support the use of digital technologies to enhance innovative education and training. This has a double layer meaning in the occupational training of healthcare professions. The use of digital technologies in teaching and the application of emerging digital technologies e.g., VR therapies or Robotics in the development of future healthcare supplies. The DigCompEdu details 22 competences organised in six Areas. Particular helpful for SIAHDPC is that the Framework quantifies the digital competence level as the individual base for professional development of teachers.

To add, EntreComp considers Entrepreneurship as a transversal key competence for lifelong learning. However, not all 15 EntreComp competences can be addressed within the scope of SIAHDPC. Rather, the modules and competences covered by this toolkit have been selected by the target institutions representatives of SIAHDPC following the logic of EntreComp as well as on the basis of most pressing competence needs in their organisations. The prioritisation of competences and, ultimately, selection of teaching modules was done by Kosovo partners within a one-week Study Visit to Halle (Saale), Germany of the entire SIAHDPC consortium in November 2021. Ultimately, the module selection was reviewed, reflected and agreed upon within a (digital) post-reflection seminar that took place two weeks after the Halle Study Visit.

The materials of this toolkit will be made publicly available, enabling also external educators to SIAHDPC to find inspiration for their teaching activities. However, the use of all materials underlies a Creative Commons License (Attribution-Non-Commercial-Share Alike 4.0 international) that is compliant with Erasmus+ requirements with regards to the establishment of open educational materials.

Inhaltsverzeichnis

A. UNDERSTANDING THE TEACHING TOOLKIT (OUTPUT 3.1) WITHIN THE SIAHDPC PROJECT

Internal Logic

The Teaching Toolkit at hand is an integral part of Work Package 3 of the SIAHPC project. This work package has been designed *"to develop Kosovo Partner HEIs teachers´ digital competences in allied health care while enhancing interdisciplinary, evidence informed practices, entrepreneurship, innovation and communication skills"*[1]. These development goals will be addressed by a series of teaching modules that may be used by educators of the SIAHDPC Kosovo partner organisations to enhance respective competences among their learners. The content and (teaching) requirements of these modules will be described within this Teaching Toolkit (syllabus style). To facilitate overall accessibility, the presented modules have been split up into two main sections:

- Digital Education Section (responsible partner: MLU)
- Entrepreneurship Education Section (responsible partner: Univations)

This division also reflects the core expertise of the respective responsible partners (MLU & Univations).

Further, the Teaching Toolkit has been set up in a modular way to allow for a most flexible exploration of the resources therein (see also explanations in Preface). A modular set-up of (new) teaching and learning materials has also been recommended by the EC[2] – also, but not only to pave the way for the potential introduction of micro-credentials at a later stage of curricular development and adjustments. Nevertheless, the following combinations of modules are recommended to constitute two separate programmes:

- A: Basics of Digital Education and Entrepreneurship Education
- B: Advanced Level Digital Education and Entrepreneurship Education

Programme A introduces learners to the fundamentals of digital education and entrepreneurship education in the context of the conceptual understandings as defined in the Digital Competence Framework for Educators and the Entrepreneurship Competence Framework of the European Commission`s Joint Research Center (JRC). It also exemplifies the implementation of these frameworks on the basis of one practical module for each section.

[1] See SIAHDPC project proposal (p. 58).
[2] EC 2020: Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee of the Region an achieving the European Education Area by 2025. https://education.ec.europa.eu/sites/default/files/document-library-docs/eea-communication-sept2020_en.pdf, retrieved 10.02.2022.

Programme B requires prior knowledge gained, e.g., by successfully taking part in Programme A. It focusses entirely on implementing practical driven education interventions in both sections (digital and entrepreneurship education) and assumes a higher proficiency in the understanding of digital and entrepreneurial skills. Therefore, learners may be better prepared and open activities in Programme B if they have been addressed with the contents of Programme A already. However, educators may decide independently on the adequate implementation of each programme given the background of the group of learners they are addressing. The following table summarises the constituent elements of each programme:

Table 1: Suggestions for Module Combinations to set-up Learning Programmes

			Programme	
		Module	*A (basic)*	*B (advanced)*
Module	Digital Education (by MLU)	I	✓	
		II	✓	(✓)
		III		✓
	Entrepreneurship Education (by Univations)	IV	✓	
		V	✓	
		VI	extra module	✓
		VII	extra module	✓
		VIII	extra module	✓

To add, given the complexity of digital education and entrepreneurship education in the context of healthcare, it is evident that SIAHPDC stakeholders needed to select and prioritize a set of teaching interventions best suitable to the requirements and needs of SIAHDPC target institutions. Naturally, the selection process also had to be based on given interventions already existent in the educational portfolios of responsible partners. This has had led to the modules presented in this Teaching Toolkit. However, is it understood that selected modules only present a fraction of all teaching interventions that would be theoretically and practically possible.

Moreover, while the core modules 1-5 can be considered essential to fulfil expectations as formulated within the SIAHDPC development plan, modules 6-8 shall be considered as additional contributions that were not foreseen or expected in the original project design. The latter have been voluntarily integrated by Univations. They are a pro-active response to feedback from Kosovo partners expressed during the post Study Visit Halle Reflection Seminar (held in November 2021) who asked for additional resources from the Entrepreneurship

Education section. Modules 6-8, however, will not be further considered in Output 3.2 or other outputs of Work Package 3.

Translation to Output 3.2

Potential implementations of the Teaching Toolkit modules have been introduced during a Study Visit to Halle (Saale), Germany in November 2021. These implementations also form the basis for SIAHDPC Output 3.2 which further substantiates the module descriptions that are presented within Outputs 3.1. Put differently, the modular descriptions of Output 3.1 are complemented by "ready-to-teach" resources in Output 3.2. As stated above, the modules 1-5 have been selected as core modules of the Teaching Toolkit. Therefore, these will also be considered within Output 3.2. However, the extra modules 6-8 that were added on top of the core modules, will not translate further into other outputs of Work Package 3. Their detailing would go beyond the scope of SIAHDPC given the resources and the according pre-defined project plan at hand.

Overview Output Logic:

			Output	
		Module	*3.1*	*3.2*
Module	Digital Education (MLU)	I	✓	✓
		II	✓	✓
		III	✓	✓
	Entrepreneurship Education (Univations)	IV	✓	✓
		V	✓	✓
		VI	extra module	not considered
		VII	extra module	not considered
		VIII	extra module	not considered

Connection to other outputs of WP3

While the logic connection between outputs 3.1 and 3.2 may be evident (see above), this may not be the case for other outputs of WP3. To pay tribute to the latter and for the sake of a joint and coherent understanding (within SIAHDPC consortium and beyond), a short explanation shall be provided to facilitate the understanding of the internal logic of WP3.

Output 3.3: Providing the teacher's training on pedagogical approaches based on digital technologies

A transfer control workshop that focusses on how modules of 3.1 - 3.2 can be meaningfully and sustainably integrated into the curricular offers for SIAHDPC partner organisations in Kosovo will be implemented in March & April 2022. The preparation and implementation of this transfer control exercise will be the heart of output 3.3. This output will therefore provide as a set of resources that demonstrate how the transfer control from responsible EU Partners to Kosovo Partners was done within WP3.

Output 3.4: Developing the Roadmap (Guideline) for the development and delivery of virtual therapy, remote and tele-health services ("Roadmap")

The Roadmap will detail how the WP3 knowledge transfer from EU Partners to Kosovo Partners was done. Thus, this output will reflect on the key activities that led to the selection and formulation of Outputs 3.1. - 3.2 as well as on the actions implemented to integrate WP3 modules into the curricular offers of target country stakeholder organisations.

Output 3.5: Providing the teacher's training on delivering virtual therapy & tele-health services ("Case-Study Collection")

While Outputs 3.1 - 3.4 mainly focus on inputs given by Univations and MLU only, output 3.5 will broaden the perspective and allow also other relevant SIAHDPC partners (esp. universities) to showcase other meaningful educational practices from their healthcare programmes. This case-study collection shall become an additional inspiration for further potential teaching and learning experiences in the field of digital healthcare education as well as for "services" offered by the digital learning centre (see below).

Output 3.6: Evaluation & Adjustment

This "output" summarizes the reflective measures that were implemented within WP3. Therefore, activities as the *Reflection Seminar 2021* and alike actions will be detailed within Output 3.6.

Relation to other Development Work Packages of SIAHDPC

Work Package 2: "Establish and functionalize the Student-run Interdisciplinary Allied Health Digital Practice Centre"

- WP3 inputs may become an integral part of the Digital Practice Centre but level and form of integration is to be decided by target country representatives in Kosovo as well as WP lead.

Work Package 4: "Development and updating of curricula and digital learning materials for students' competences"

- Will feature inputs of WP3 to design digital learning materials designated for students
- Will also add competences that are not considered within WP3 but that are found to have a higher or equal priority within the context of WP4 activities

B. DIGITAL EDUCATION SECTION

The European Digital Competence Framework for Educators (DigCompEdu) was created in 2017 following up the European Digital Competence Framework (DigComp) which not target group specific but rather addressing the general population. With the aim of an orientation for Educators in all professional fields, and to align teachers' competences to the needs of the 21st Century, the scientifically sound framework provides a general reference frame. DigCompEdu is divided into six competence areas which include 22 elementary competences (Fig. 1).

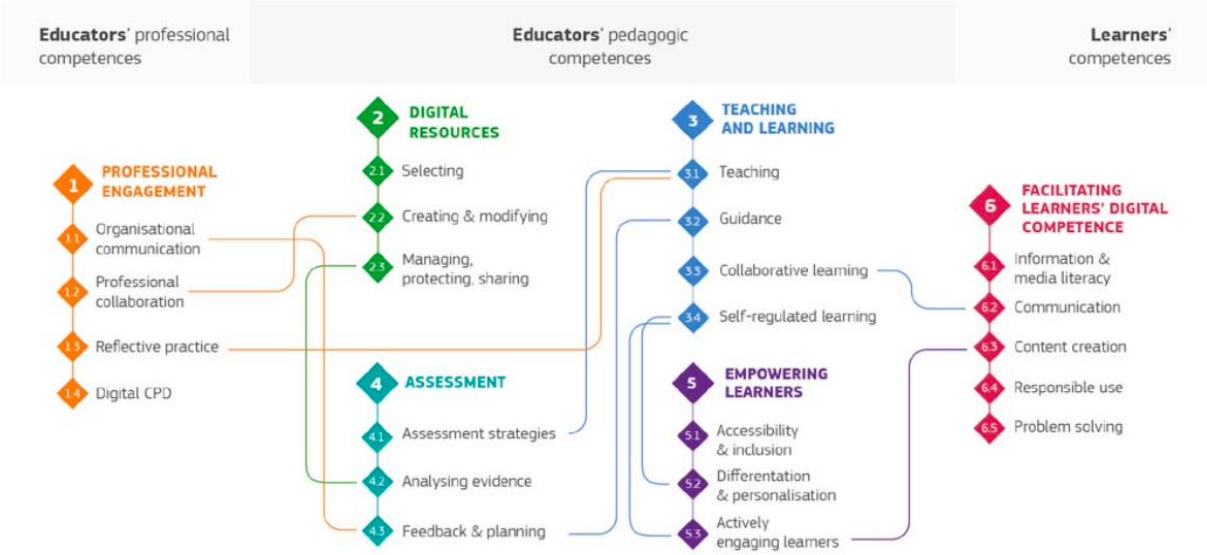


FIGURE 1: THE DIGCOMPEDU FRAMEWORK

Area one is designed for using digital technologies for communication, collaboration and professional development. The second area is for sourcing, creating and sharing digital resources. The third is for managing and orchestrating the use of digital technologies in teaching and learning. Following the latter, area 4 concentrate on digital tools and technologies that can be used to enhance assessment. As in the SIHADPC Project our indirect target group are the learners, therefore the presented framework gives a good example on how to empower them in area five and six, through and with the educators' competences. The technologies can be used to enhance inclusion and personalisation for a learners' active engagement. With personalising learners can creatively and responsibly use digital technologies for different purposes such as information, communication, content creation, well-being and problem-solving.

Educators Professional and Pedagogic competences revealing into Learners competences

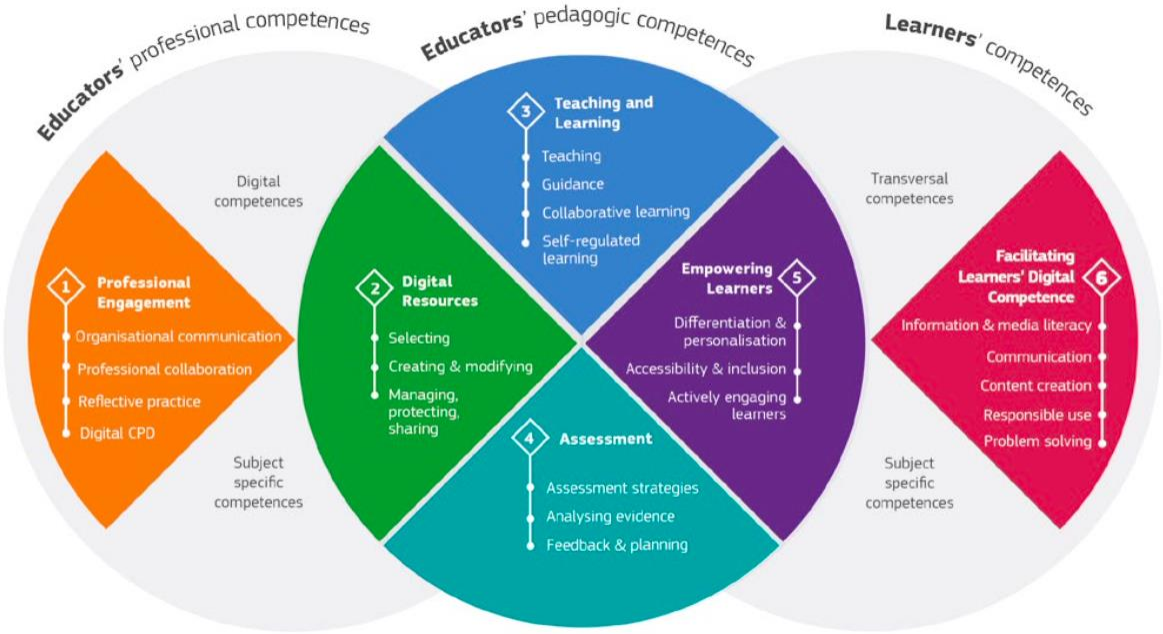


FIGURE 4: SYNTHESIS OF THE DIGCOMPEDU FRAMEWORK

Proficiency Levels

The progression model also describes six proficiency levels for ease and reference of personal strengths and weaknesses. It finds orientation in the Common European Framework of Reference for Languages (CEFR). As this is a widely known and common reference to determine the level of someone's language skills, it can help the educators as an orientation in the domain of digital skills as well. The progression model is also designed after Bloom's revised taxonomy. Figure 5 represents this model, A1 is to be understood as a newcomer or beginner level whereas C2 is the highest proficiency level ("Pioneer" level). The above line of Fig. 5 labels the competences with a focus of digital technology use, which are typical for that stage. These labels and competences are connected to competences that can develop from each stage.

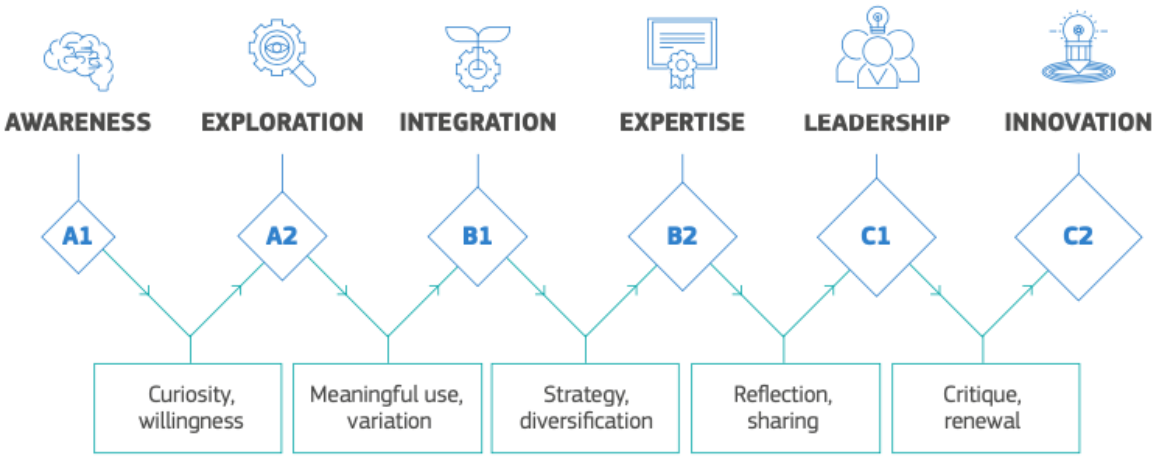


FIGURE 5: DIGCOMPEDU PROGRESSION MODEL

In Table 8 there is a more detailed description to find on how these proficiency levels are linked to the six competence areas that are described above.[3]

[3] European Commission. (2017). European framework for the digital competence of Educators. In Joint Research Centre (JRC) Science for Policy report. Retrieved from: https://moodle.ktu.edu/pluginfile.php/428841/mod_resource/content/1/pdf_digcomedu_a4_final.pdf.

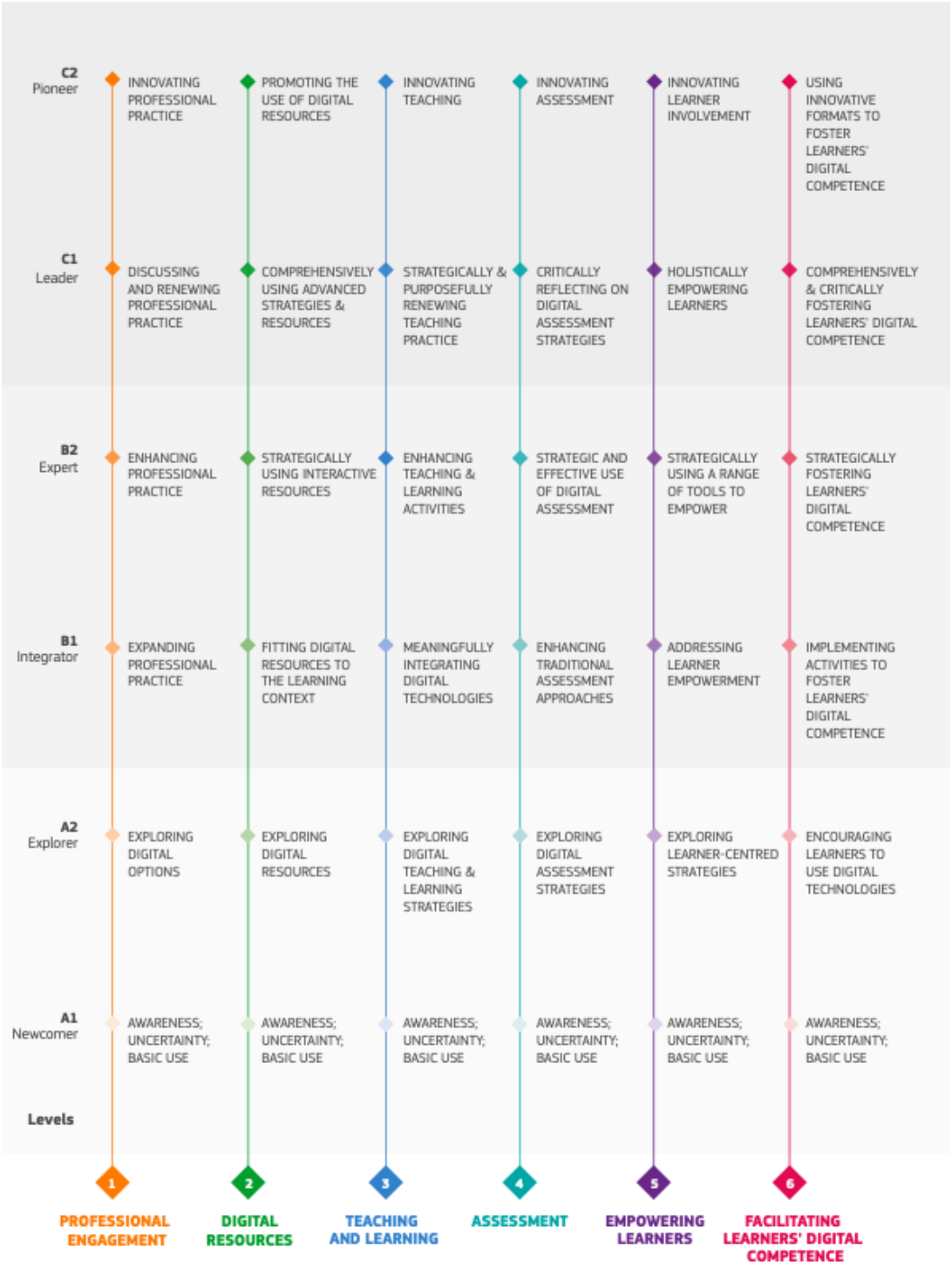


TABLE 8: DIGCOMPEDU PROFICIENCY PROGRESSION BY AREA

1. Module I: Status Quo & Pre-Knowledge of Digital Assistive Technologies in Healthcare

Objective/Aim:

This module serves to prepare an overview about general digital competences according to the DigComp Framework, the European Framework for the Digital Competence of Educators (DigCompEdu) and the corresponding necessary knowledge for the possible use of digital assistive technologies (DAT) in the healthcare system with a special focus on nursing. The participants should acquire the necessary knowledge to identify for which nursing activities and in which professional setting DAT can be used. The participants are encouraged to review and reflect themselves and their professional environment concerning the use of DAT. Consequential they will have the conscious fundament for the decision making regarding he implementation of complex DAT into their working field. This module should serve the purpose to create awareness of the various Professions who take place in the digitization. The aim of this module is to enable teachers specially to identify which professional groups will use the DAT and which competencies are required for this purpose. Digital working tools such as Padlet and Miro are included and deepened in the teaching process. With these tools, the participants should learn how and where they can get up-to-date scientific information's about this issue. This first module is intended to serve as an expansion module for the following modules. The module refers mainly to Area 1, 2 and 4 of the DigCompEdu.

Target Group(s): Teachers & Health care professions

Form of teaching: Presentation, Group Work Pre Work on online Material

Extent: Literature for self-study, ¾ hours, Interactive Presentation

Content/Module Description:

Transformative competencies

The participants are asked about their pre-knowledge of the competencies required to use DAT in the professional context. The digitization in the health sector requires an extensive examination of the competence requirement. Previous competence profiles for digitization are predominantly in the field of IT or computer science, there are only a few approaches for the actors in the health sector themselves, and there is no fixed anchoring in further education and training. The competencies that teachers, students and users should learn for the application and handling on a long term basis in general of DAT are:

- Documentation
- Data protection

- Data security
- Data management
- Information and knowledge management, health literacy
- Ethics and IT
- Electronic communication and data exchange
- Interprofessional cooperation skills
- Critical thinking
- Creating new value
- Taking responsibility

In this module, the following selected core competencies are to be conveyed:

- *Information and knowledge management, health literacy*

With the digital working tools, the participants are to be trained and encouraged to acquire knowledge about digitization, digital transformation and research with and about DAT themselves.

- *Interprofessional cooperation skills*

Due to the digitization in the health system and the changing core tasks of nursing, there is an increasing cooperation with other professional groups. The participants should get an awareness of which professional groups are involved and how an interprofessional work can be designed. Professional groups such as IT, ethics and data protection staff are increasingly included.

- *Taking responsibility*

The participants learn to critically question digitization steps and to take responsibility. Ethical aspects are highlighted so that they can be included in the thought process.

Profession & Roles

The participants get to know the actors at the micro, meso and macro levels in the face of digitization. A focus is placed on the actors at the micro level, the health professions and the patients.

- Micro level: Patients, family caregivers, self-help groups, professionals in the health and care sector as well as all potentially affected people in society.
- Meso level: Institutions in the health and care sector such as hospitals, nursing homes, outpatient services, health and care insurance funds, etc.
- Macro level: society as a whole, politics, economy, education, research. (Kuhn u. a., 2019, P. 8)

Digital working tools - State of the art

The participants work with the already presented working tool Padlet in the entire process and learn to use it, to expand it and to classify literature strategically. You will be introduced to the working tool Miro, which you can use for further module processing. Case studies can be worked on here and results from group work and presentations can be made accessible to everyone.

Acquired Competences

The participating teachers are more confident in handling the digital working tools and can access the state of the art using these tools. They have developed an awareness of which actors play a role in the digital transformation and where they can find themselves as teachers. The participants are aware of the skills required for teaching and can identify which transformative and digital skills users need. In this way, the participants can guide and support the use of DAT in a nursing setting.

Key Literature:

Kuhn, S., Ammann, D., Cichon, I., Ehlers, J., Guttormsen, S., Hülsken-Giesler, M., … Wilbacher, I. (2019). *Wie revolutioniert die digitale Transformation die Bildung der Berufe im Gesundheitswesen? - long version*. (8), 50. Retrieved form https://www.careum.ch/documents/20181/75972/Careum+Working+Paper+8+%28deutsch%29.pdf

OECD. (2020). Transformative competencies for 2030. Conceptual learning framework. In *OECD Future of Education and Skills 2030 Concept Note*. https://doi.org/10.1787/73f23ddf-en

Punie, Y., editor(s), Redecker, C., European Framework for the Digital Competence of Educators: DigCompEdu , EUR 28775 EN, Publications Office of the European Union, Luxembourg, 2017, ISBN 978-92-79-73718-3

2. Module II: Knowledge Building of Digital Assistive Technologies in Healthcare

Objective/Aim:
In this module, the teachers are made aware of the use and handling of digital assistive technologies (DAT). The module follows the European Framework for the Digital Competence of Educators (DigCompEdu). By teaching partly in smaller groups, the participants have the opportunity to experience and try out the different technologies which are available. Therefore, the participants will be able to foster curiosity towards the DAT. The teachers learn to use qualitative or quantitative Assessments (e.g., System Usability Scale – SUS). The module refers mainly to Area 2, 3, 4 and 5 of the DigCompEdu.

Target Group(s): Teachers & healthcare professions

Form of teaching: Interactive Presentation and smaller, Group Work, Pre-Work on online Material, rotation and getting to know Technologies

Extent: Presentation, Online and paper Materials, Discussions

Content/Module Description:
In divided smaller groups, the participants will have the opportunity to experience and question different technologies, which are available on the market. The introduction to the technologies is arranged thematically. The focus on this module is to experience the technologies while learning about their theoretical background and having support staff from MLU being there to answer any questions. The participants will be encouraged to think about possibility's on how and where to use DAT and what the limits of their use might be. Case studies are made available so that initial formal examples can be set. The results can be viewed on platforms like google Drive and Padlet. With this working method, the participants learn to handle, implement and reflect the DAT on a long term basis.

Creating new value

For a change in the healthcare sector by implementing technologies, a conscious look at economic, social and global challenges is required. Each person can create new values through their own ability to innovate and make informed and responsible decisions. This ability can be used to learn an out-of-the-box thinking. This mindset is strengthened by this module as critical topics will be brought up and the participants will be encouraged to create and ask questions. Thus, not only the capability in dealing with DAT but also the curiosity, the critical thinking and the sense of purpose behind the application can be supported.

Innovation

Innovations can be understood as all presented digital and assistive technologies that are used in the healthcare system. The technologies presented in this module represent a reasonable selection of the DAT available on the market.

Acquired Competences

After these attending activities based on this module, the participants can classify the technologies and use them in a professional context. The participants will be able to ask themselves critically questions before, during and after the use of the technologies and develop their own scenarios and adapt them to the specific work areas.

Key Literature:

Kuhn, S., Ammann, D., Cichon, I., Ehlers, J., Guttormsen, S., Hülsken-Giesler, M., ... Wilbacher, I. (2019). Wie revolutioniert die digitale Transformation die Bildung der Berufe im Gesundheitswesen? - long version. (8), 50. Retrieved from https://www.careum.ch/documents/20181/75972/Careum+Working+Paper+8+%28deutsch%29.pdf.

OECD. (2020). Transformative competencies for 2030. Conceptual learning framework. In OECD Future of Education and Skills 2030 Concept Note. https://doi.org/10.1787/73f23ddf-en

Nazeha, N., Pavagadhi, D., Kyaw, B. M., Car, J., Jimenez, G., & Car, L. T. (2020). A Digitally Competent Health Workforce: Scoping Review of Educational Frameworks. Journal of Medical Internet Research, 22(11), 1–26. https://doi.org/10.2196/22706.

Punie, Y., editor(s), Redecker, C., European Framework for the Digital Competence of Educators: DigCompEdu , EUR 28775 EN, Publications Office of the European Union, Luxembourg, 2017, ISBN 978-92-79-73718-3 https://doi.org/10.1787/73f23ddf-en.

Punie, Y., editor(s), Redecker, C., European Framework for the Digital Competence of Educators: DigCompEdu , EUR 28775 EN, Publications Office of the European Union, Luxembourg, 2017, ISBN 978-92-79-73718-3.

3. Module III: Activation & Transformative Implementation for the Use of Digital Assistive Technologies in Healthcare

Objective/Aim:
Based on the modules "Status quo & pre-knowledge of digital assistive technologies in healthcare" and "Knowledge Building of digital assistive technologies in healthcare" (see for both above in toolkit), the participants learn to prepare on a problem based learning method how to prepare students to implement the previously learned skills in such a way that they can use creativity to develop their own ideas for the implementation in their curricula. MLU partners are available to answer questions and support the participants thought the process.

The participants should become aware of their role as future multipliers to enable their students , and the first steps should be taken to find their way into this role. They should become aware of the technical limits and possibilities and be able to use them specifically for their application in various areas. The teachers should base this process on a patient-centered and structured approach according to SEQI method.

Target Group(s): Educators & healthcare professionals

Form of teaching: Presentation, group work, pre-work on online material

Extent: 1-2 days presentation, >one month for online work & preparation

Content/Module Description:
After the group work and presentation about the technologies, all participants can work on initial ideas on how the DAT can be used in their workplace and in teaching. The teachers should experience the technical limits and possibilities neutrally and receive reflective support in order to implement them in the curricula. The creativity of the participants should be encouraged in order to develop their own ideas and application scenarios that go hand in hand with the basic curricular ideas. Thus, not only the capability in dealing with DAT but also the curiosity, the critical thinking, and the sense of purpose behind the application can be supported.

The teachers should learn through in-depth insight and implementation in the curricula to act as multipliers in their own facilities. To this end, they should develop approaches on how they can act as multipliers in this role. These approaches are to be deepened and implemented during the study visit in Pristina in spring 2022. There the participants can act as multipliers with the support of the partners from Halle and expand their skills.

Taking responsibility
The participants are taught their responsibility as pioneers and facilitator for change with the technologies. As teachers and pioneers of the topic, they are not only responsible for actions

that are implied by the use of DAT but are also aware of the consequences that these actions bring with them and enable their students.

In this way, the participants should become aware that they have to reflect on their actions and those of their learners in different approaches. In order to take on responsibility, there should be sufficient aspects of ethical and moral backgrounds so that actions can be used and improved on an ongoing basis with this background knowledge.

Reconciling tension and dilemmas
In order to enable successful solutions for the implementation and acceptance of the anchoring of digitization in the curricula, users need the ability to deal with tension, dilemmas and trade-offs. A greater understanding of the effects of actions is to be gained, since the success of others means the success of oneself. The complexity of all individual contents contained in the curricula and their interrelationships should be taken into account in order to take different views into account and adapt them to the development. Empathy and respect are important values in order to be able to understand other views.

Acquired Competences
The participants know the technical limits and possibilities. They learn to implement their knowledge of digital assistive technologies in their curricula based on a problem and evidence based approach. Through this implementation, they learn the relevance of their position. The participants learn the first steps to act as multipliers and to be able to pass on their knowledge accordingly.

Key Literature:
Aungst, T. D., & Patel, R. (2020). Integrating Digital Health into the Curriculum—Considerations on the Current Landscape and Future Developments. *Journal of Medical Education and Curricular Development*, *7*, 238212051990127. https://doi.org/10.1177/2382120519901275

Deutscher Ethikrat. (2020). *Robotik für gute Pflege*. Retrieved from https://www.ethikrat.org/pressekonferenzen/veroeffentlichung-der-stellungnahme-robotik-fuer-gute-pflege/

Kuhn, S., Ammann, D., Cichon, I., Ehlers, J., Guttormsen, S., Hülsken-Giesler, M., … Wilbacher, I. (2019). *Wie revolutioniert die digitale Transformation die Bildung der Berufe im Gesundheitswesen? - long version*. (8), 50. Retrieved from https://www.careum.ch/documents/20181/75972/Careum+Working+Paper+8+%28deutsch%29.pdf.

OECD. (2020). Transformative competencies for 2030. Conceptual learning framework. In *OECD Future of Education and Skills 2030 Concept Note*. https://doi.org/10.1787/73f23ddf-en

C. ENTREPRENEURSHIP EDUCATION SECTION

1. General introduction to EntreComp

There is no uniformly and unanimously accepted conceptual understanding of what entrepreneurship education (EE) means and includes.[4] To address this issue, the Joint Research Centre (JRC) of the European Commission (EC) has been motivated to clarify the foundational understanding of EE and bring all concerning ideas to the table. These efforts bloomed into the publication of the Entrepreneurship Competence Framework (*EntreComp*) in 2016. Within the framework of EntreComp, entrepreneurship is defined as a transversal core competence and as "the capacity to act upon opportunities and ideas, and transform them into financial, cultural or social values for others"[5,6].

In the SIAHPDC project we consider EntreComp as a baseline for conceptualizing entrepreneurship competences. Applying this understanding, we were able to bring our approaches to a common denominator and derive educational actions that were delivered in multiple institutions and countries. Therefore, we consider it important to understand the basic structure of EntreComp. This is what the following chapter offers to the reader.[7]

1.1 Basic structure of EntreComp

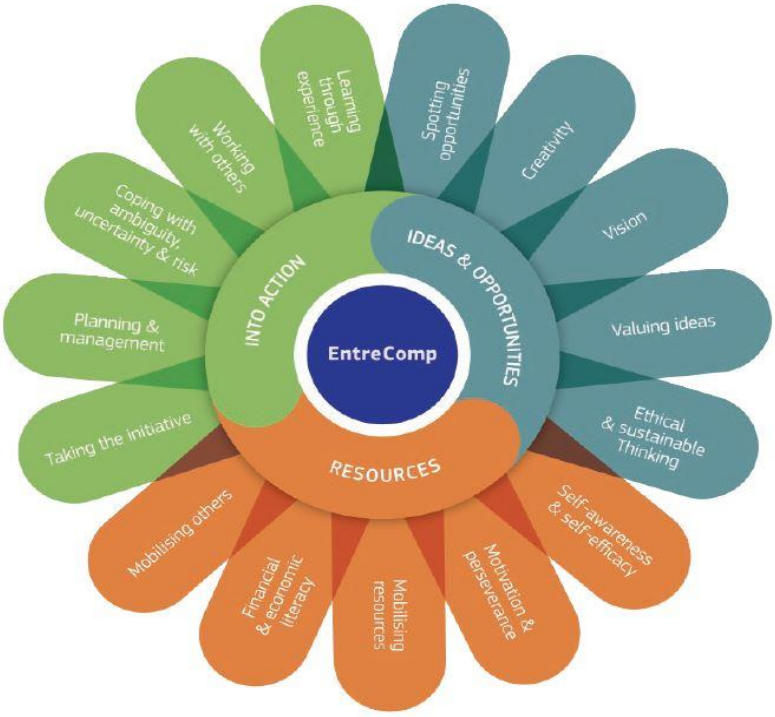
EntreComp proposes the delimitation of three closely related competence areas:

- Into Action
- Resources
- Ideas & Opportunities

Each competence area is in turn based on five competences, which form the foundation of the methodological framework designated as *"EntreComp Conceptual Model"*. The following diagram outlines the basic idea of this approach ("The EntreComp Wheel"):

Fig. 1: The EntreComp Wheel

[4] See also: M. Lackéus et al. (2020): The entrepreneurial employee in the public and private sector - what, why, how (M. Bacigalupo Ed.), EUR 30108 EN, Publications Office of the European Union, Luxembourg, 2020, ISBN 978-92-76-16651-1, doi:10.2760/460123, JRC117661.
[5] FFE-YE. (2012): Impact of Entrepreneurship Education in Denmark - 2011. In L. Vestergaard, K. Moberg & C. Jørgensen (Eds.). Odense: The Danish Foundation for Entrepreneurship - Young Enterprise.
[6] Freely translated accordingly as the ability to generate financial, cultural or social values for third parties on the basis of the implementation and perception of ideas and opportunities.
[7] The content of this chapter is partly based on the results of the Erasmus+ projects Embedding Entrepreneurship Education (EEE) and Partnership for Initial Teacher Education (PIETE) which were both coordinated by Univations GmbH. However, all relevant texts have been written by the team of Univations only.



Source: European Commission 2018, EntreComp into Action: Get inspired make it happen.

According to Figure 1, the competence delimitation takes place at an abstract level. In order to be able to finely distinguish between the individual competences, EntreComp contains brief descriptions (called "hints") that clarify how the competences are to be understood and practically applied. For example, the competence "creativity" inside the competence area "*Ideas & Opportunities*" refers to the ability of developing creative and purposeful ideas.[8] This explanation of a competence is then supplemented with further details (called "Descriptor"), which altogether provides a comprehensive understanding of entrepreneurship competences that can be imparted with the help of Entrepreneurship Education (see figure 2).

Fig. 2: Illustration of the structural levels of the EntreComp Conceptual Model

[8] EntreComp additionally provides a further stage for detailing of then competence understanding ("Descriptor"), which, however, will not be explained further here.

Competences per area
RESOURCES

COMPETENCE	HINT	DESCRIPTION
2.1 **Self-awareness & self-efficacy**	Believe in yourself and keep developing	• Reflect on your needs, aspirations and wants in the short, medium and long term • Identify and assess your individual and group strengths and weaknesses • Believe in your ability to influence the course of events, despite uncertainty, setbacks and temporary failures
2.2 **Motivation & perseverance**	Stay focused and don't give up	• Be determined to turn ideas into action and satisfy your need to achieve • Be prepared to be patient and keep trying to achieve your long-term individual or group aims • Be resilient under pressure, adversity, and temporary failure
2.3 **Mobilising resources**	Gather and manage the resources you need	• Get and manage the material, non-material and digital resources needed to turn ideas into action • Make the most of limited resources • Get and manage the competences needed at any stage, including technical, legal, tax and digital competences
2.4 **Financial & economic literacy**	Develop financial and economic know-how	• Estimate the cost of turning an idea into a value-creating activity • Plan, put in place and evaluate financial decisions over time • Manage financing to make sure your value-creating activity can last over the long term
2.5 **Mobilising others**	Inspire, enthuse and get others on board	• Inspire and enthuse relevant stakeholders • Get the support needed to achieve valuable outcomes • Demonstrate effective communication, persuasion, negotiation and leadership

Source: European Commission 2018, EntreComp Into Action: Get inspired make it happen.

After EntreComp introduces the fundamental entrepreneurship competences, it supplements the *conceptual model* with a "*competence progression model*". Here, a total of four competence levels build on one another and are distinguished as:

- Basic competence level - "*Foundation*"
- Intermediate competence level - "*Intermediate*"
- Advanced competence level - "*Advanced*"
- Expert competence level - "*Expert*"

Based on the *competence progression model*, the respective manifestations of existing entrepreneurship competences (individual or collective) can be qualitatively assessed. In analogy to the detailing of the conceptual part, the EntreComp *competence progression model* is also thoroughly explained and characterised. On one side, the individual competence levels are distinguished by the extent to which the application of the respective competence is carried out with support or independently. In addition, a distinction is made between two consecutive stages for each competence level. The characterisation of the respective competence and/or the skills necessary for competence enhancement are based on this distinction. For example, in the competence field of "resources" (see figure 3), it makes a difference whether you are merely able to roughly estimate the necessary financial resources for the implementation of a project or whether you describe financial necessities with a professional, multi-year finance

plan for various scenarios, both in tabular form and argumentatively. In total, a distinction is made between eight different qualification levels.

Figure 3 illustrates the fundamental structure of the competence progression model by giving an example of the *"Ideas & Opportunities"* competence area and the inherent "creativity" competence:

Fig. 3: EntreComp progression model with reference to the example of the "creativity" competence

EntreComp progression model

FOUNDATION RELYING ON SUPPORT FROM OTHERS		INTERMEDIATE BUILDING INDEPENDENCE		ADVANCED TAKING RESPONSIBILITY		EXPERT DRIVING TRANSFORMATION, INNOVATION AND GROWTH	
Under direct supervision. (Includes, for example, support by teachers, mentors, peers, advisors, or consultancy services)	With reduced support from others, some autonomy and together with my peers.	On my own and together with my peers.	Taking and sharing some responsibilities.	With some guidance and together with others.	Taking responsibility for making decisions and working with others.	Taking responsibility for contributing to complex developments in a specific field.	Contributing substantially to the development of a specific field.
1. Discover Level 1 focuses mainly on discovering your qualities, potential, interests and wishes. It also focuses on recognising different types of problems and needs that can be solved creatively, and on developing individual skills and attitudes.	**2. Explore** Level 2 focuses on exploring different approaches to problems, concentrating on diversity and developing social skills and attitudes.	**3. Experiment** Level 3 focuses on critical thinking and on experimenting with creating value, for instance through practical entrepreneurial experiences.	**4. Dare** Level 4 focuses on turning ideas into action in 'real life' and on taking responsibility for this.	**5. Improve** Level 5 focuses on improving your skills for turning ideas into action, taking increasing responsibility for creating value, and developing knowledge about entrepreneurship.	**6. Reinforce** Level 6 focuses on working with others, using the knowledge you have to generate value, dealing with increasingly complex challenges.	**7. Expand** Level 7 focuses on the competences needed to deal with complex challenges, handling a constantly changing environment where the degree of uncertainty is high.	**8. Transform** Level 8 focuses on emerging challenges by developing new knowledge, through research and development and innovation capabilities to achieve excellence and transform the ways things are done.
EXAMPLE: LEARNING OUTCOMES / AREA: IDEAS & OPPORTUNITIES / COMPETENCE: CREATIVITY / THREAD: DEVELOP IDEAS							
I can develop ideas that solve problems that are relevant to me and my surroundings	Alone and as part of a team, I can develop ideas that create value for others.	I can experiment with different techniques to generate alternative solutions to problems, using available resources in an effective way.	I can test the value of my solutions with end users.	I can describe different techniques to test innovative ideas with end users.	I can set up processes to involve stakeholders in finding, developing and testing ideas.	I can tailor a variety of ways of involving stakeholders to suit the needs of my value-creating activity.	I can design new processes to involve stakeholders in generating, developing and testing ideas that create value.

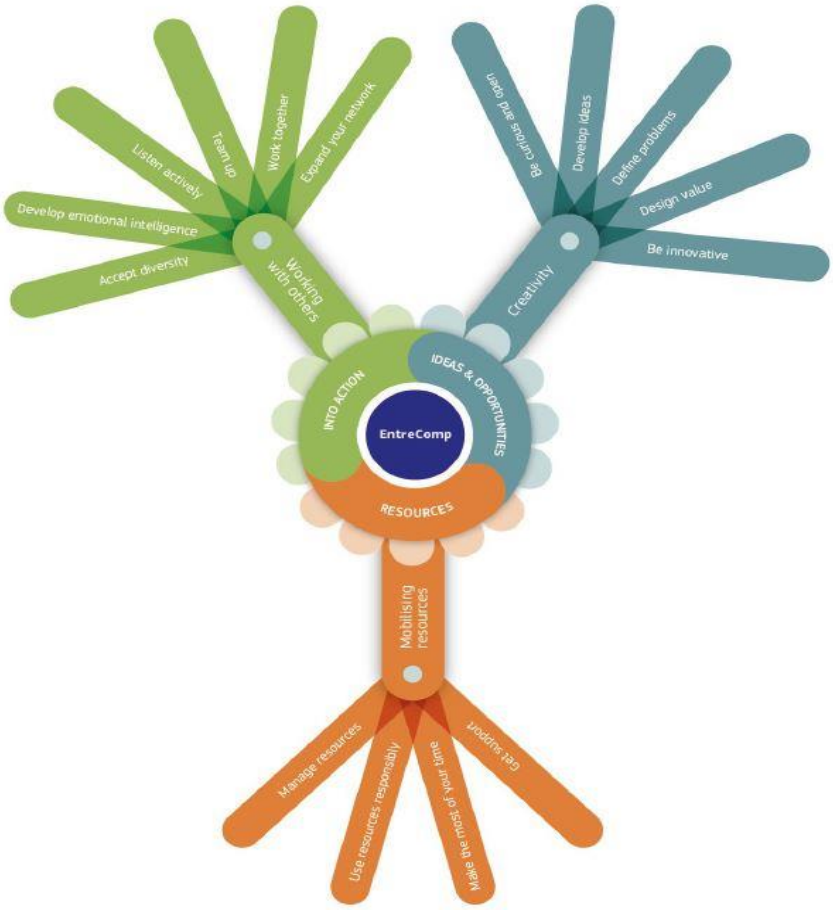
Source: European Commission 2018, EntreComp Into Action: Get inspired make it happen.

The fundamental question now is: How are the *conceptual* and the *competence progression models* "connected" to each other within the scope of the EntreComp framework? They are interlinked by so-called "threads" ("*leitmotifs*"). In the example of the "creativity" competence, the following *leitmotifs* are to be distinguished:

- Be curious and open
- Develop ideas

- Define problems
- Design value
- Be innovative

Fig. 4: EntreComp modules (threads & competences)



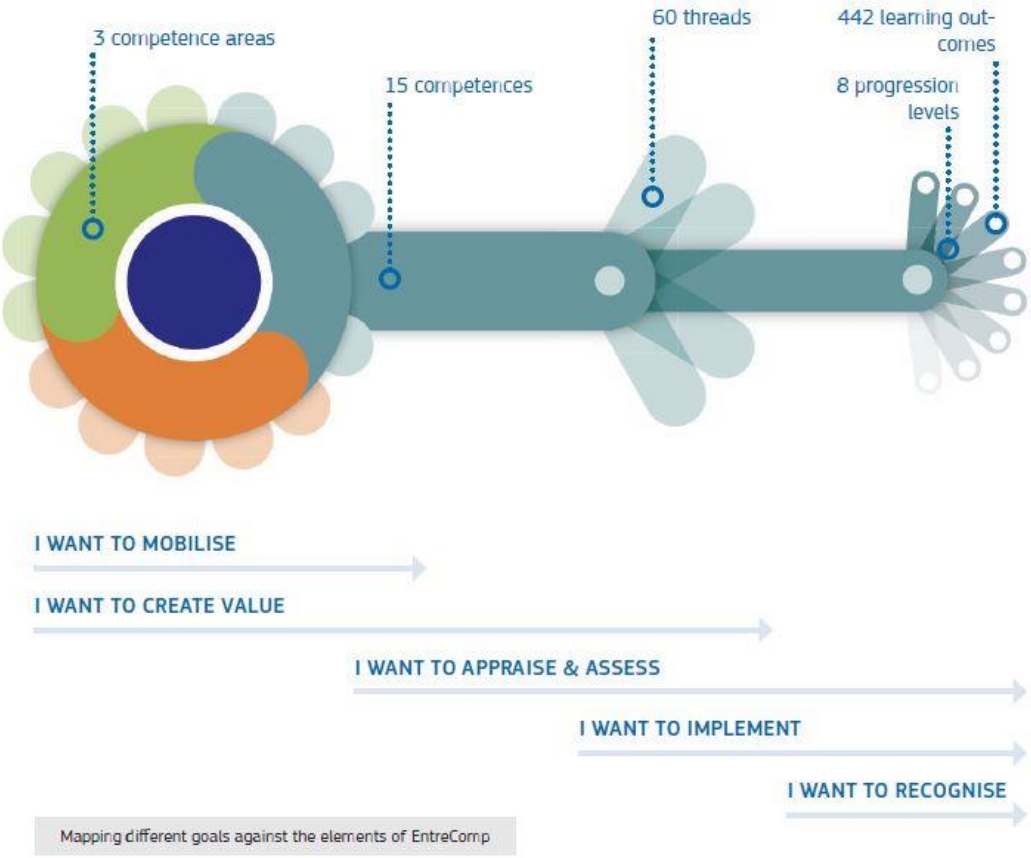
Source: European Commission 2018 ("EntreComp Into Action: get inspired, make it happen.").

Consequently, these "threads" help to solidify the respective components of each competence.

On the other side, the "threads" also serve as superior *leitmotifs* for all progression levels within the respective competence. These threads are used within the scope of EntreComp to structure the *progression model* in terms of learning outcomes.

Ultimately, there are a total of 442 learning outcomes within the scope of EntreComp which are derived from the respective competence area. Due to this, EntreComp can serve as a facilitator for defining learning outcomes of EE activities.[9]

Fig. 5: Exemplifying the general structure of the EntreComp framework.



Source: European Commission 2018 ("EntreComp Into Action: Get inspired make it happen.").

For a comprehensive understanding of EntreComp, including the approach from which the reference framework is derived, we recommend the official EntreComp publication of the Joint Research Centre of the European Commission.[10] Other information material published by the EntreComp team facilitates the understanding of the methodology and allows its use in further communication.[11]

[9] At the same time the originators of EntreComp are aware that the learning outcomes formulated within the reference framework will not always be sufficient to meet the needs of the specificities of didactic planning. In this case, a context-orientated adaptation of the EntreComp learning outcome objectives is proposed.
[10] The document can be retrieved with the help of the following link: http://publications.jrc.ec.europa.eu/repository/bitstream/JRC101581/lfna27939enn.pdf
[11] All the material can be retrieved here: https://ec.europa.eu/jrc/en/entrecomp/support-material.

2. Module IV: Raising Awareness for a Wide Understanding of Entrepreneurship Education & Introduction to EntreComp

Objective/Aim:

Objective

There is no uniformly and unanimously accepted conceptual understanding of what entrepreneurship education (EE) means and includes. To address this issue, the Joint Research Centre (JRC) of the European Commission (EC) has been motivated to clarify the foundational understanding of EE and bring all concerning ideas to the table. These efforts bloomed into the publication of the Entrepreneurship Competence Framework (EntreComp) in 2016. Within the framework of EntreComp, entrepreneurship is defined as a transversal core competence and as "the capacity to act upon opportunities and ideas, and transform them into financial, cultural or social values for others".

EntreComp is a flexible reference framework that defines what is meant by entrepreneurship as a key competence for lifelong learning. The framework is comprehensive and multi-purpose, for use in expanding the entrepreneurial capacity of European citizens and organisations.

It starts with a definition that "entrepreneurship is when you act upon opportunities and ideas and transform them into value for others. The value created can be social, cultural, or financial". Such definition implies that entrepreneurship is both an individual and collective capacity. It also suggests that entrepreneurship is a competence for life, which is equally relevant for active citizenship, civic engagement, career progression or to start something new and of value for others, in the private, public or third sector.

Aim

- Introduction to EntreComp.
- Unfold the existing (mis)conceptions about entrepreneurship.
- Investigate the opportunities and challenges in implementing EE in HEI and healthcare.

Target Group(s): Educators & healthcare professionals
Form of teaching: Presentation, workshop & group work
Extent: minimum 120 minutes

Content/Module Description:

Introduction to EntreComp

EntreComp is the European reference framework for entrepreneurship competences, which has been developed by the Joint Research Centre in 2016. EntreComp is a comprehensive,

flexible, and multi-purpose reference framework that sees and explains entrepreneurship as a key competence for lifelong learning. EntreComp establishes a shared understanding of the knowledge, skills and attitudes that describe what is meant by being entrepreneurial. Thereby, entrepreneurship is not limited to start-up. EntreComp adopts a broader understanding of Entrepreneurship where creativity and the courage to think about doing things differently are put into focus. EntreComp recognizes the chance and benefit to act entrepreneurial in different and several situations of live (school, work life, community initiatives, etc.).

Entry level workshop

A format that serves as a first awareness raising step for EE meanings, benefits, educational applications, etc.

When implementing the module learners take the first step in the EE awareness raising process presuming that most attendee candidates should have almost no previous knowledge about entrepreneurship education (or EntreComp). Apart from explaining and discussing what EE is about in general (wide and narrow EE understanding), it also comprises entry level brainstorming sessions to identify potential barriers and opportunities for EE.

Acquired Competences

The module will rather raise awareness for different understanding of entrepreneurship (education) and introduce EntreComp as a representative for wide understanding. Thus, this module can be considered as a pre-stage for opening the minds of learners to acquire competences which that may not or only partially have been associated with entrepreneurship before. Consequently, participants are introduced to all competences of EntreComp **(see above)** but not trained within the activities they are based on this module.

Key Literature & other relevant resources:

- EntreComp Playbook: with a selection of orientation tools for them to experiment and create their own map to entrepreneurial teaching and learning. EntreComp Playbook
- Bacigalupo et al. 2016: The Entrepreneurship Competence Framework (EntreComp:) https://publications.jrc.ec.europa.eu/repository/handle/JRC101581
- https://ec.europa.eu/jrc/en/entrecomp (official site of JRC-EC)
- https://entrecompeurope.eu (EntreComp Community)
- EntreComp Intro video: https://europa.eu/!BB93vN
- Home - The EntreComp Community ; EntreComp Europe
- UN SDGs: https://sdgs.un.org/goals
- OECD 2030: https://www.oecd.org/education/2030-project/

3. Learning modules to enhance entrepreneurial acting and thinking

This section presents teaching modules[12] that may be used by (healthcare) educators to enhance entrepreneurial competences of (healthcare) learners. Each module focusses on a specific entrepreneurial main competence as labelled in EntreComp. The competences featured in this toolkit have been carefully selected by Kosovo Partners of SIAHDPC upon most pressing educational needs. This module prioritisation was done within a study visit to Halle/Saale, Germany in November 2021 and confirmed by a post-reflection (online) seminar. While each module highlights one main competence, it is understood, however, that each module may also train other (entrepreneurial) competences that are not explicitly mentioned in this Teaching Toolkit. Further, all modules are presented on the level of syllabus (i.e., module descriptions). Thus, educators can take these modules as a starting and orientation point to trigger actual teaching activities thereof. However, they still need to add their own materials for module implementation to initiate actual class-room activities or teaching actions, depending on the respective educational and organisational contexts. Nevertheless, such implementation has been exemplified for modules IV (see chapter before) and V within Output 3.2. of the SIAHDPC project. In fact, modules VI-VIII have been voluntarily added by Univations as extra-modules upon a request made by Kosovo Partners of SIAHDPC within the post-reflection seminar that followed up the 2021 Halle/Saale study visit. Thus, these are not considered as integral to the SIAHDPC project plan or mission and will not receive further detailing within other outputs of Work Package 3 (of which the toolkit at hand is part of) or other (development) Work Packages of SIAHDPC.

3.1 Module V: "Mobilising Others" - Presentation Training (elevator pitch)

Objective/Aim:

There are many ways to present an idea or content to a target audience. One of these methods is the so-called Elevator pitch. The idea of an "elevator pitch" is based on the scenario of meeting an important target person in an elevator and then being able to convince them of an idea or content and, above all, of its value during the elevator stay. If the idea has been presented convincingly enough, interest is aroused and encouraged to deal with the topic further.

[12] The modules presented here are partly based on the results of the Erasmus+ projects Embedding Entrepreneurship Education (EEE) and Partnership for Initial Teacher Education (PIETE) which were both coordinated by Univations GmbH. However, modules VI-VIII have been mainly designed by Management Center Innsbruck under support of consortium member of EEE and PIETE respectively. Resources of both projects underly a Creative Commons License Attribution-NonCommercial-ShareAlike 4.0 international License which needs to be fully respected when working with any open educational materials thereof.

The elevator pitches are mostly used in the area in the context of start-ups and presentation of business idea towards potential venture capital investors. However, the method may also be applied in other contexts as it helps to convey complex issues briefly and clearly.

The aim of this module is to enable your students to present an idea or a healthcare -related issue convincingly and appropriately in a short time by using suitable methods.

Target Group(s): Educators & healthcare professionals

Form of teaching: Presentation, workshop & group work

Extent: Minimum 60 minutes

Content/Module Description:
The module deals with the AIDA method - **A**ttention, **I**nterest, **D**esire and **A**ction! This shows how curiosity is first aroused in the target group. In the further course it will show how students can generate interest in themselves and the content they are conveying. The next step deals with the topic of "creating desire" in order to activate the conversation partner. The last step is the "Call to action". The point here is to encourage someone to participate and to join the idea or project.

Trained (EntreComp) Competence

- Mobilising Resources

Key Literature or other resources:

General:
https://www.punkt-komma.at/en/Online-magazine-for-content/The-elevator-pitch_bba_490
https://www.mindtools.com/pages/article/AIDA.htm
https://fi.co/pitch_deck
https://blog.hubspot.com/sales/elevator-pitch-examples

Examples and Notes for elevator pitch:
https://www.youtube.com/watch?v=uyxfERV5ttY
https://www.youtube.com/watch?v=wVYyCUwDFhE

3.2 Module VI: "Vision/Futures Literacy" [13] – Future Workshop(s)

Objective/Aim:

This module helps students to discover, articulate and develop their own visions for themselves, and the society they would like to live in the future. Visions express hopes and wishes and give direction to realize goals. A vision can be seen as a kind of roadmap, which helps with decision-making and is aligned to a certain philosophy in order to reach the set goals. The life vision of an individual defines who he/she wants to be, what she/he wants to be known for and the set of experiences and accomplishments she/he aims for. The same applies for the collective visions. But talking about the vision will not be enough, in the end, it is all about taking the chance to put it into practice too. Thus, setting goals does not only include where you plan to end up, but the steps that will get you there

The heart of this module is a ***'Future Workshop'*** where different methods can be used by students to create a vision of the future, including:

- **Prototyping** with LEGO® SERIOUS PLAY®, dough, things from nature, digital tools etc.
- **Gamification** with augmented reality, video games (The Sims [real-life simulation]), robots, escape rooms etc.
- **Movement & Visualization** with external learning places and innovative concepts as Walk the Talk

A further option is the elaboration in a **Bachelor/Master Thesis.** Students should work in their Bachelor/Master/PhD Thesis on a project that relates to *'vision/ impacting the future / sustainability etc.'* for at least one semester. This project should put a focus on immediate practical implications (e.g., implementation of solutions for climate protection etc. and scientific evaluation of efforts, processed in a scholarly review).

Moreover, there should be room for creative methods and out-of-the-box approaches to foster the competence 'vision/future literacy', in the day-to-day lectures. One idea here might be to letting students, instead of the educators, prepare and give the next lecture/class. A subsequent reflection on what their vision was and if it has been reached, is recommended.

[13] Possible Iteration: While "Vision" is the competence referred to in EntreComp, "Futures Literacy" is employed in the "European sustainability competence framework" ("GreenComp") which was published in December 2021 by the JRC-EC. It is described as follows: *To envision alternative sustainable futures by imagining and developing alternative scenarios and identifying the steps needed to achieve a preferred sustainable future.* Thus, Module VI may also be exploited for learning activities that focus more or explicitly on sustainability, if relevant for the context of application. If the latter applies, consulting "GreenComp" before is strongly recommended to define learning outcomes.

Educators should choose those learning and teaching methods, which best suit, their given learning and teaching settings, the terms in place and the available resources. Methods can also be combined with each other.

Target Group(s): Educators & healthcare professionals

Form of teaching: Presentation, workshop & group work

Extent:
The format of this course should be held flexible and may vary from a single one or two-day workshop to an extra or over-curricular course format, which may stretch along the whole study program. Accordingly, ECTS recommendations may vary from 2-8 credit points, depending on the chosen format. A workshop of one or two days can be granted with 2 ECTS for example, while a stretched format along the study may also be granted with up to 8 ECTS. Furthermore, it is recommended to foster the implementation of this module across institutions and established standard where possible.

The following formats of integration are recommended to reach the stated learning objectives are:

- starts at the beginning of a study and ends with graduation (e.g., Bachelor/Master Thesis, other long-term university or community-related projects) (up to 8 ECTS)
- extra-curricular and over-curricular course (up to 5 ECTS)
- at specific local/regional events e.g., Long Night of Research or Sciences (one/two-day workshop format) (up to 2 ECTS)

Content/Module Description:
For this module, the following main topics/tasks for students to work on their visions are proposed:

- Meaningful future and challenges of the 21st century
- Creating value in the future for the self and for the society
- Change and Transformation (in personal life or society)
- Me and myself in Future (prospects after graduation)

This list of topics is not complete and can be extended by other topics at any time. The involvement of pressing issues, or local challenges is recommended, as it might increase the motivation of participation. Educators could either specify on a topic upfront or give students the chance to select their preferred topics.

For this module, working in groups is see as efficient as working alone (e.g., Bachelor/Master Thesis). In either case, students should be able to present their results in front of a wider

audience e.g., peers, educators, mentors, external experts etc. (also repeatedly) to get feedback and to elaborate on their ideas/projects.

The module suggests a kick-off event at the beginning, where aims, task and learning objectives are drawn out clearly. Furthermore, information regarding the final evaluation should be shared. During this kick-off event the different methods to visualise and implement the vision (prototyping, gamification, etc.) should be introduced and students should be informed how and when they can access premises and tools. Finally, a short introduction about what vision or futures literacy[14] means should be given. Afterwards, students themselves, independently, alone or in groups work on the respective tasks. On a regular basis, meetings are scheduled with peers and educators, if possible, also with external experts to gather feedback. The outcome is an oral presentation in front of an audience with a subsequent discussion where the vision is challenges by peers, educators and experts. The presentation should be structured, laying a focus on visualization and realization.

As a guidance some support material for students to elaborate on their vision is present below:

Clear Goals

- Write your goal down (use as many details as possible)
- Use the SMART method (specific, measurable, attainable, relevant, time-related)
- Put your goal in the format of a clear personal mission statement
- Measuring success – what metrics will be needed?
- Examine how the set goal makes you feel – are you excited, motivated, challenged? If not, you should clarify it or change the goal

Values

Everyone has values, whether implicit or explicit. Before creating a vision, values have to be defined. You may discover that what you want your values to be are not what they are in the current moment. This type of self-discovery is important when creating your vision. When you have defined the values by which you would like to act, lay them out side by side with your goals. Understand how these categories interact and what you can create from the sum of their parts.

Mission Statement

Before moving on to your vision, you should first carefully consider you mission, meaning where you are in this point in time. Write out your mission if a mission statement doesn't

[14] See also EntreComp or GreenComp for guidance.

already exist, and again lie this side by side with the goals and values you have already established. These three ingredients together are what you will consider in building your vision.

Simplicity

Keeping your vision simple serves a twofold purpose. On the one hand, you need others and the environment to understand and support the vision, if it is overly complicated this will be hard for the outside world. Additionally, keeping your vision simple, makes it more likely that you will meet your goals and turn your vision into reality. A complicated vision is a sign that it is reaching in too many directions, which will limit the quality of each in the end, or that you have added steps you will later discover to be unnecessary. All of this will keep you from concentrating your energy in the direction where it will go furthest.

Ambiguity Test

To put your vision on the ambiguity test, you can show it to 5 independent people. If all five people come up with the same interpretation your vision passed the test. To exclude ambiguity, start with writing down your vision and speaking it out loud. This forces you to put it into concrete terms and thus becomes clearer. Allow a little time to pass (a week or even a month) before you move on with editing the vision. Perspective and distance will help you to refocus your vision.

Forward Thinking

This means thinking of what the environment will look like in the future. It also means considering how to keep your vision sustainable and scalable. Consider how to carry on your plans, activities etc. for years to come.

Timeframes

A vision always has to consider the future. The development of a specific timeline for meeting milestones is key here. Goals are made up of smaller goals and milestones. Along the journey several small goals and bigger milestones will be accomplished and reached and eventually those take you to the overall goal. A number of goals come together, forming the basis for your vision (Hall, 2016).

If students chose to develop a **personal vision** e.g., for their future careers, they can also follow the steps mentioned above, focusing on the following steps:

1. Identification of strengths
2. Reflection of values
3. Evaluation on skills and how they can create real value / solve real world problems
4. Selecting your desired position

5. Writing down the mission statement

Please find more and detailed information about these steps here: https://www.indeed.com/career-advice/career-development/personal-vision-statement.

Independent of the topic, students/educators chose, the ultimate goal should be the implementation of the vision, at least however, the mapping of the steps toward the realization of the vision.

Role of Educator

The role of the educator in this module will be the role of a mentor or facilitator. Thus, whether the educators' role at the beginning of the process will be central, it will also decrease in the course of the process to create space for the learner's evolvement. At the beginning, the educator is responsible for triggering the initiation of a project, of a 'Future Workshop', organisation of a kick-off event, proposing topics etc. Over time, the educator will move back, functioning as a guide throughout the process, remaining available for questions and check backs with students. Furthermore, educators bring together students with experts, fostering exchange and networking.

Educators are challenged to choose the most suitable learning/teaching method which best suit, their given learning and teaching settings, the terms in place and the available resources. Methods can also be combined with each other.

Finally, the educator is responsible for the organization of the final presentation (premises, audience etc.). Rules, requirements and examination modalities have to be communicated to students at the beginning, together with the learning goals.

Educators, who facilitate this module, should have made experiences with similar teaching and learning methods before (gamification, bachelor thesis etc.). For junior educators it is recommended to work in tandems with more experienced (senior) educators when the course/workshop etc. is organized and held for the first time.

Evaluation (suggestion)

The output of this module is a presentation which includes elements of visualization (Prototyping, Gamification, etc.), and a roadmap with concrete steps towards the implementation of the vision. The presentation should have a duration of 15-20 minutes, followed by a discussion of 30 minutes. A jury of educators, students, at least an external expert evaluates the vision according to the principles drawn out in the table below.

Evaluation Criteria	Weight in %
Format & Style Presentation	20

Innovativeness	20
Potential & Feasibility	20
Maturity	20
Value Creation & Relevance	20

Acquired Competences (see also in EntreComp)

Imagine: Students should be able to imagine a desirable future for themselves or/and for the society. They should be able to develop a value creating vision, comparing different future scenarios.

Thinking strategically: Students should be able to explain what a vision is and what purpose it serves. They should encourage enthusiasm and a sense of belonging around a convincing vision.

Guide action: Students should be able to turn their ideas into action by creating a roadmap based on their vision for creating value. They can identify the changes needed to achieve a respective vision, respecting the given system (policy, stakeholders etc.).

Key Literature or resources:

- https://www.indeed.com/career-advice/career-development/personal-vision-statement
- https://www.youtube.com/watch?v=hYifu1jy41U
- https://www.eisenhower.me/vision/
- https://www.indeed.com/career-advice/career-development/personal-vision-statement

3.3 Module VII: "Planning and Management" - The Event Planner

Objective/Aim:

This module helps students to define their goals for a simple "value-creating activity"[15]. Learners can create an *action plan* - which identifies the priorities and milestones to achieve their *goals* - and refine *priorities* as well as plans to (re-)adjust to changing circumstances. In general, entrepreneurial behaviour is much about planning and organizing. However, it is not just about how one's work life, business life or student life is worked out, it may also become relevant when thinking about one´s private life. With the help of different tools and methods the students shall organize an event at their university. While doing so, students get the

[15] *Value creating activity* is the terminology also employed in EntreComp. It has been introduced to emphasize that entrepreneurial activities are not necessarily limited to actions that help to or prepare for starting up a business. Rather, such activities may also focus on intrapreneurship or any other activity aiming that aims to create cultural, financial or social value (see also chapter C.1 for details).

opportunity to improve their planning and management competences and – at a later stage – will be able to transfer their gained knowledge into their personal life, where appropriate.

Target Group(s): Educators & healthcare professionals

Form of teaching: The format of this module should be held in group meetings and sub-group meetings, which may stretch along 2 semesters or several separate sessions. The outcome of this module is the event in front of an audience.

Extent:
For this module, a maximum of 3 ECTS can be accredited.

The following formats of integration are recommended to reach the stated learning objectives are:

- Across institution & established standards
- extra-curricular and over-curricular course/event

Content/Module Description:

The following main topics/tasks for students to work on their competences *'planning and management'* are proposed:
For this module, working in groups and *teamwork* is seen as crucial either case. Students should be able to present their results in front of a wider audience e.g., peers, educators, mentors, external experts etc. (also repeatedly) to get feedback and to elaborate on their ideas/projects.
The module suggests a *kick-off event* at the beginning, where aims, task, subgroups and milestones are drawn out in a project, finance and milestone plan. During this *kick-off event* the different approaches on how to organize and plan an event should be introduced. Further, students should be informed how and when they can access premises and relevant tools. A short introduction what the module *'planning and management'* is about should be given. Afterwards, students work on their tasks in groups and sub-groups. On a regular basis, meetings are scheduled with peers and educators, if possible, also with external experts to gather feedback. The outcome of this module is the event in front of a selected/invited audience.

Role of the Educator

The role of the educator in this module will be the role of a mentor. Thus, the educators' role at the beginning of the process will be central. However, this relevance will decrease in the

course of the process as to create space for the learner's evolvement. At the beginning, the educator is responsible for triggering the initiation of the project (e.g., organization of a kick-off event, proposing topics etc.) Over time, the educator will increasingly stay in the background, functioning rather as a guide throughout the process, remaining available for questions and to check backs with students on peculiar questions. Furthermore, educators may bring together students with experts, fostering exchange and networking.
Finally, the educator is responsible for the organization of the final feedback session. Rules, requirements and examination modalities must be communicated to students at the beginning, together with the *learning goals*.
Educators, who facilitate this module, should have made experiences with similar teaching and learning methods before. For junior educators it is recommended to work in tandems with more experienced (senior) educators when the course/workshop etc. is organized and held for the first time.

Teaching / Learning Methods

Organize Event - Drive Change inside your HEI:

- Create new initiative at your university or attach to existing networks (e.g., TEDx, Toastmaster)
- Organize Regional Innovation Camp
  - ➔ e.g., EU Innovations Camp Methodology (see source link for handbook in references below)
- Organize Promotion Campaign for specific topic inside you HEI
  - ➔ e.g., Promotion Campaign Guide of the project Embedding Entrepreneurship Education (EEE) project → See source link for Promo Camp Guide in references below

Educators should choose those learning and teaching methods, which best suit their given learning and teaching settings as well as the terms in place and with respect to the resources available. Methods can also be combined with each other.
Evaluation

The output of this module is an event in front of an audience - organized by the students - as well as a short-written event summary of 5-10 pages.

The timeframe is flexible and depends on the chosen event type. There should be a final evaluation and feedback session with all students of the course, the educators and mentors that participated in the event and project. Possible evaluation criteria are listed below.

Evaluation Criteria	**Weight in %**
Overall appearance of the event	20

Organization of the event	20
Event summary	20
Teamwork	20
Adherence of project plan and milestones	20

Acquired "Planning and Management" Skills (see also in EntreComp)

Define Goals: Students should be able to clarify what their *goals* are in a simple value-creating activity, identify alternative *goals* to create value in a simple context as well as to describe their *goals* for the future in line with their strengths, ambitions, interests and achievements. They should set short-term *goals* that they can act on, define long-term goals arising from the vision for their (or their team's) value-creating activity. Additionally, they should match short-term, mid-term and long-term *goals* to the vision for their (or their team's) *value-creating activity*. Furthermore, they should be able to design a *strategy* to achieve *goals* in line with their (or their team's) vision. To add, they should be able to manage the balance between the need for creativity and for control so that their organization's capacity to achieve its *goals* is protected and nurtured.

Plan and organize: Students should be able to carry out a simple plan for *value-creating activities*, deal with a range of simple but simultaneous tasks without feeling uncomfortable and create an *action plan* which identifies the necessary steps to achieve their goals as well as allow for the possibility of changes to their plans. They should summaries the basics of project management, apply the basics of project management in managing a value-creating activity, develop and stick to a detailed project management plan, adjusting to changing circumstances to make sure goals are reached and design managerial procedures to effectively deliver value in challenging circumstances.

***Develop sustainable implementation plans*:** Students should be able to develop an implementation model for their idea and define the key elements that make up the implementation model and are necessary to deliver the value they have identified. To add, they should also be able to adapt their *value-creating activity's* implementation model to face new or unforeseen challenges. → The Business Model Canvas or the Societal Business Model Canvas could act as a helpful tools.

Define priorities: Students should be able to recall the order of steps that was needed in a simple *value-creating activity* they took part in and identify and prioritize the basic steps that are needed in a *value-creating activity*. They can set their own *priorities* and act on them, *define the priorities* to meet their (or the team's) vision, stay focused on the priorities set (e.g., despite

changing circumstances) and *define priorities in uncertain circumstances*, with partial or ambiguous information.

Monitor your progress: Students should be able to recognize how much *progress* they have made on a task and whether a task is going to plan. They can identify different types of data that are necessary for *monitoring the progress* of a simple *value-creating activity* and set basic *milestones* and observation indicators to monitor the progress of their value-creating activity. Furthermore, they should be able to describe different methods for performance and impact *monitoring*, define what data is needed to monitor how effective their *value-creating activities* are and think of appropriate ways to collect this data. To add, they should be able to develop the performance indicators 'I' (or 'my' team) need to *monitor progress* towards a successful outcome in changing circumstances. They should develop the competence to design and put in place a data-collection plan to monitor whether their venture is achieving its aims.

Be flexible and adapt to changes: Students should be able to be open to and feel comfortable with *changes* in a constructive way, outside of their control or based on the needs of the team. They can anticipate and include change along the ~~*value*~~*-creating activity*, use the results of monitoring to adjust *vision*, *aims*, *priorities*, *resource planning*, *action steps* or any other aspect of the *value- creating process* as well as communicate effectively to the organization (or their team) the reason for changes and adjustments.

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Key Literature & other relevant resources:

- Guide for the promotion of entrepreneurship education inside universities (2018). Erasmus+ Project EEE: EEE Promo Camp Guide.
- The Business Model Canvas Business Model Canvas
- The Societal Business Model Canvas
- EU Science Hub (2017). Entrepreneurship is about planning and management. Retrieved from https://www.youtube.com/watch?v=R9YJPPp4uTU
- Organize a local TEDx event. Retrieved from https://www.ted.com/participate/organize-a-local-tedx-event
- Toastmaster International. Retrieved from https://www.toastmasters.org/
- https://miro.com/
- https://slack.com/intl/de-de/
- https://trello.com/de
- https://www.microsoft.com/de-de/microsoft-365/project/project-management-software
- https://www.microsoft.com/de-de/microsoft-365/microsoft-teams/group-chat-software

3.4 Module VIII: "Coping with Ambiguity, Uncertainty & Risk" – Uncertain Times Ahead

Objective/Aim:

This module supports students in dealing with ambiguity, uncertainty and risk. Young people often face new challenges, not least to the fact that the information available in some cases is partial or ambiguous and therefore making decisions, calculating and managing risks could create big challenges for students. Since entrepreneurship education includes – among other topics – dealing with ambiguity, uncertainty and risk, the students should be encouraged to make decisions, not to be afraid of making mistakes and to explore their own ways to achieve their goals. By providing tools, methods and concrete examples, the students will find out how to overcome uncertainty, ambiguity and risk. Students get the chance to become more confident in themselves as well as to implement their new ideas, even if it involves a certain risk. The acquisition of these skills is important not only for this module, but also for the personal development of the students.

Target Group(s): Educators & healthcare professionals

Form of teaching: The format of this module should be held in group meetings and can be easily adapted for online teaching as well as for blended lessons. The outcome of this module is the successful implementation and debriefing of a project carried out by the students.

Due to the topic and its structure, this module can be implemented in any course of the curriculum for initial teacher education. Furthermore, the module can also be offered and carried out in the form of an intensive workshop over one semester.
It is crucial to implement enough time for introducing the purpose and aim of this module and for initial brainstorming to identify corresponding projects. Furthermore, the lecturer should also make sure that the students have enough time for group discussions and feedback loops as well as for questions to the teacher. Finally, there has to be an adequate space for the final presentation.

Extent: For this module, a maximum of 3 ECTS can be accredited.

Role of the Educator: The role of the educator in this module is crucial for successfully completing this module. The educator will have the role of a mentor and supporter. Educators conducting this module should strengthen students' self-confidence and encourage them not be afraid of mistakes, ambiguity, uncertainty and risk. After introducing the content of the module, explaining what the module is about and what the learning goals are, the educator starts with the theoretical part. Then, the students begin to develop and elaborate their

projects. The educator should more and more stay in the background and let the students work on their projects but be available for questions and support when needed.

Educators conducting this module should have already used similar teaching and learning methods. Junior educators with little teaching experience should likely work in tandems with senior educators during the lecture.

Content/Module Description:

'Coping with ambiguity, uncertainty and risk' is one of the 15 competences that everyone can develop to become entrepreneurial, according to the EntreComp Framework (McCallum et al 2018). Some people associate the terms 'ambiguity', 'uncertainty' and 'risk' with an uncomfortable feeling. Through this module, students should get a more positive relationship to these terms and gain more confidence in their abilities. Andy Penaluna, Professor Emeritus at University of Wales Trinity Saint David and former Director of the International Institute of Creative Entrepreneurial Development (IICEED) at the University of Wales Trinity Saint David, has been involved in the development of the Entrepreneurship Competence Framework (EntreComp). In the video, Andy Penaluna explains that students often are exposed to uncertain und ambiguous activities where things are changing, deadlines shifting and that there are no clear instructions on what shall be done next. Such situations can have the advantage that students develop strategies to cope and learn to flexibly adapt to changing environments.

This module can help to strengthen the students' existing potential and to support them in developing new skills in dealing with ambiguity, uncertainty and risk. In order to achieve these aims, the module should consist of the following contents:

1) *Introduction to the topic of ambiguity, uncertainty and risk: What do the terms mean?*

The term ambiguity:

The Oxford English Dictionary defines ambiguity as the fact of something having more than one possible meaning and therefore possible causing confusion. Ambiguity describes the state of being difficult to understand or explain because of involving many different aspects. Ambiguity also means that a word or a statement can be understood in more than one way. Overall, one may say, ambiguity describes a situation where you have more than one interpretation leading to confusion and vagueness.

The term uncertainty:

The Oxford English Dictionary defines uncertainty as “something that you cannot be sure about” and “a situation that makes you not be or feel certain.” Among others, uncertainty may result from a lack of information, lack of data, lack of detail, lack of experience etc.

The term risk:

The Oxford English Dictionary defines risk as “the probability of a negative occurrence”. In other words, risk is a situation of exposing something into danger, loss or harm. Other definitions are more detailed:

“Risk is an uncertain event or condition that, if it occurs, has a positive or negative effect on project objectives. A risk has a cause, and if it occurs, a consequence” (Larson & Gray, 2011, p. 211). Chapman & Ward (2011) say “risk means possible unfavourable outcomes” (Chapman & Ward, 2011, p. 3). The definition of Loosemore et al. (2006) is more detailed and states that “a risk is concerned with unpredictable events that might occur in the future whose exact likelihood and outcome is uncertain but could potentially affect their interests/objectives in some way” (Loosemore, Raftery, Reilly, & Higgon, 2006, p. 8).

The difference between risk and uncertainty is that the outcomes of risks are known, while ambiguity is unknown.

2) Learning by doing: let students develop, elaborate and conduct their own projects

After the theoretical part, students develop, elaborate and conduct their own projects. To support the students while working on their projects, the lecturer should provide some helpful input in the form of questions addressed to the students:

To improve the students’ skills, they should ask themselves the following questions on a regular basis:

- What decision must I make to minimize the risk in spite of not having all the information available?
- Can I pull together different viewpoints to take informed decisions when uncertainty is high?
- What big task can I break down into smaller one to facilitate its completion?
- Can I take decisions evaluating the different elements in a situation that is uncertain and ambiguous?
- Can I identify risks in my surroundings?

To avoid exaggeration while dealing with ambiguity, uncertainty and risk, the students should ask themselves the following questions:

- Am I able to find ways of making decisions when the information available is incomplete and creates confusion and vagueness?
- Can I make decisions evaluating the different elements in a situation that is uncertain and ambiguous, or am I making decisions too quickly without a reasonable amount of data
- Am I trying to reinvent the wheel rather than using what I have and what I know?
- Am I able to look actively for, compare and contrast different sources of information that help me to conduct my project successfully?

3) Self-paced learning and feedback loops with the lecturer and involved organizations/companies

Self-paced learning fosters self-reliance and encourages the students to search for new information sources themselves. The implementation of online or blended learning elements boost self-paced learning and can give the lessons a new drive.

Feedback loops are essential for the success of a project to identify areas for improvement. Trough feedback loops key challenges and issues can be tracked and addressed. Feedback loops also support teams in coordinating and collaborating more efficiently and therefore improve the team performance and the output.

4) Group discussions

Group discussions are a dynamic activity and encourage reflective thinking among the group members. Group discussions play are crucial role in reaching a solution on an issue and in generating new ideas or nor approaches to solving a problem. It is important to provide enough time and space for group discussions to discuss current strengths and weaknesses as well as existing problems while working on the project. A regular exchange is very important to get involved all group members and to ensure that all of them have the same information and are motivated to keep working. Furthermore, group discussions help generating more ideas and input and are essential for working together on the project.

Group discussions can also be extended by inviting the other groups to discuss and share their experiences so far.

5) Final presentation and written project report

In the final presentation, the students should present not only the results of the project, but also explain their motivation for choosing their project and provide some insight how they personally handled ambiguity, uncertainty and risk during the project.

The final presentation should be published online as website, wiki or multimedia presentation. Additionally, the students have to write a final summary project report, including also the students' personal experiences and insights in dealing with ambiguity, uncertainty and risk.

A helpful structure of how to write a final summary project report could be: https://newton.ex.ac.uk/handbook/PHY/forms/WLB010919-4.pdf

First page:

This page should contain the title, the author(s) and the date. The title should convey the area and scope of the project

Second page:

The second page should consist of the abstract. The abstract provides a brief summary of the report. The reader should be able to get an idea of what the project is about, how it was undertaken and what has been found out. The abstract should not review the report, but rather gives an overview of the contents of the report. Typically, the abstract should be less than 200 words.

Third page:

This page should comprise a table of contents, indicating the page numbers of the different sections.

Fourth page and onwards:

- Introduction: This section outlines the underlying concepts (and if necessary or required a brief version of the relevant theory) needed to discuss the project
- Results and discussion: This section presents the results in a logical sequence, highlighting what is important and how the data have been analysed to provide the results discussed, adopting a critical approach. It is necessary that all diagrams, graphs etc. are properly labelled and have a caption.
- Summary and conclusion: This section summarizes the results, including a concise discussion, highlighting what have been found out, what have the problems been, and what might be done in the future to improve them. An indication how the outcome could usefully be continued should also be made.
- References: The final report also indicates references to the literature and sources used.

Other Key Methods & Tools:

This module foresees the following teaching and learning methods:

SWOT analysis:

The definition of the SWOT analysis by the Business Dictionary (2020) states that it is a tool for a "situation analysis in which internal strengths and weaknesses of an organization, and external opportunities and threats faced by it are closely examined to chart a strategy. SWOT stands for stands for strengths, weaknesses, opportunities, and threats."

In other words, a SWOT analysis is a strategic planning method to find out what objectives are realistic and achievable, minimizing risk and maximizing efficiency.

- For helpful information on SWOT analysis, including definitions and examples, see https://www.edrawmax.com/swot/?gclid=EAIaIQobChMI9v6Bz7fH6wIVYoBQBh2QZgToEAAYASAAEgL7uPD_BwE.

Source: PIETE Project (based on several sources e.g., Project Risk Coach. Retrieved August 28, 2020, from https://projectriskcoach.com/how-to-perform-a-swot-analysis/

Practice project, including the following topics:

- Identifying opportunities and threats in the environment
- How to deal with limited amount of information or insecure source(s) of information
- Identifying challenges and overcome them

Learning through experience:

After a theoretical introduction to the subject, educators should implement practical elements such as a student-developed project that enables students to learn about ambiguity, uncertainty and risk and to learn for themselves how to deal with them.

Student Activity

Within this module students should develop a practice-oriented project themselves to learn how to deal with ambiguity, uncertainty and risk. After a theoretical introduction to the subject by the lecturer with potential references to the module on 'Planning and Management' (see above), the students form groups of three to five people (depending on the number of students) in order to plan, elaborate and implement a practical-oriented project. Over the period of one semester, marked by self-paced learning, feedback loops with the lecturer and for example involved organizations, companies (if the developed project is done for or in cooperation with organizations, companies etc.), group discussions and a final presentation, the students will work on their project and acquire practical knowledge and experiences of dealing with ambiguity, uncertainty and risk.

During this one-semester module, the students should be encouraged to be not afraid of making mistakes by exploring their own ways to achieve things and should be animated to pull together different viewpoints to take informed decisions when the degree of uncertainty is high, as well as to find ways of making decisions when the information is incomplete. Furthermore, while working on their practice-oriented project, students should be supported in making decisions evaluating the different elements in a situation that is uncertain and ambiguous.

This extensive module needs a good support of the students by the lecturer, including interactive and practical-oriented teaching and learning methods. The module also requires students' engagement and active participation to be able to successfully carry out the projects they have developed.

At the end of the semester, students organize a so-called project fair, where they present their projects and their experiences with ambiguity, uncertainty and risk to their fellow students and if the developed projects have been conducted for or in cooperation with organizations, companies etc. in front of their representatives. The way of presentation is left to the students (e.g., PowerPoint presentation, flip charts, short video etc.) and encourages and supports their creativity, with references to the module 'Become Creative'. The lecturer and – when present – the representatives of organizations, companies etc. will ask some questions and give feedback on the presentations.

Acquired Competences

According to EntreComp the competence ***'Coping with Ambiguity, Uncertainty and Risk'*** is about making decisions when the result of that decision is uncertain, when the information available is partial or ambiguous, or when there is a risk of unintended outcomes. The overall learning goals are defined as follows:

- Within the value-creating process, there should be included structured ways of testing ideas and prototypes from early stages to reduce risks of failing
- Students should be able to handle fast-moving situations promptly and flexibly

Other relevant competences include *'Taking the initiative'*, *'Learning through experience'*, *'Spotting opportunities'*, *'Self-awareness and self-efficacy'*, *'Valuing ideas'*, and *'Financial and economic literacy'*.

Learning Goals

1. *Cope with uncertainty and ambiguity:* Students should not be afraid of making mistakes while trying new things and explore their own ways to achieve things. Furthermore, students should be able to discuss the role that information plays in reducing uncertainty, ambiguity and risks, and should actively look for, compare and contrast sources of information that help them reduce ambiguity, uncertainty and risks in making decisions. In addition to that, students should be capable to find ways of making decisions when the information is incomplete as well as to pull together different viewpoints to take informed decisions when the degree of uncertainty is high. This includes the ability to make decisions evaluation the different elements in a situation that is uncertain and ambiguous, and to set up appropriate strategies for collecting and monitoring data, which help them to take decisions based on sound evidence.

2. *Calculate risk:* Students should be able to identify examples of risks in their surroundings as well as describe risks related to a simple value-creating activity in which they take part. Additionally, the students should tell the difference between acceptable and unacceptable risks as well as weigh up the risks and benefits of self-employment with alternative career options, and make choices that reflect their preferences. Furthermore, the students should be able to apply the concept of affordable losses to make decisions when creating value, and to compare value-creating activities based on a risk assessment. Finally, they should assess the risks their ventures are exposed to as conditions change and are able to evaluate high-risk long-term investments using a structured approach.

3. *Manage risk:* Students should critically evaluate the risks associated with an idea that creates value, taking into account a variety of factors. The students are able to critically evaluate the risks related to the formal set-up of value-creating venture in the area in which the students work. To add, they should demonstrate that they can make decisions weighing up both the risks and the expected benefits of a value-creating activity, as well as to outline

a risk management plan for guiding their (or their team's) choices while developing their value-creating activity. Furthermore, the students should be capable to use strategies to reduce the risks that may arise during the value-creating process and should come up with strategies to reduce the risk of their value-creating initiative becoming obsolete.

Evaluation

After completing the module there will be a final evaluation and feedback session with all students of the course, the educator and – if relevant – the involved organizations, companies etc. for which the projects were carried out.
The final feedback session and the final evaluation should include the following set of questions:

- How did you conceive the problem at the beginning?
- What was your strategy?
- What worked well?
- What did not work?
- What are your personal experiences and insights in dealing with ambiguity, uncertainty and risk?

Possible evaluation criteria could be:

Evaluation Criteria	**Weight in %**
Approach to the project	20
Dealing with the issues of ambiguity, uncertainty and risk	20
Teamwork	20
Way of working	20
Presentation of the results	20

Helpful links for educators when teaching the topics ambiguity, uncertainty and risk:

- A Handbook for Teaching and Learning in Higher Education. Enhancing Academic Practice: https://www.sun.ac.za/english/faculty/arts/Documents/HandbookTeachingLearningHigheEd.pdf
- ECT Enhancing the Curriculum Toolkit provided by EEUK (Enterprise Educators UK): https://www.etctoolkit.org.uk/all-etc-how-to-guides-case-studies/

- The Entrepreneurship Competence Framework: https://publications.jrc.ec.europa.eu/repository/bitstream/JRC101581/lfna27939enn.pdf
- Risk Management in Business Lesson Plans: https://study.com/academy/topic/risk-management-in-business-lesson-plans.html
- Free Management Templates: https://www.projectmanagementdocs.com/#axzz6WhkGoyKO

Other Key Literature & Relevant Resources:

Bacigalupo, M., Kampylis, P., Punie, Y., Van den Brande, G. (2016). EntreComp: The Entrepreneurship competence framework. Luxembourg: Publication office of the European Union; EUR 27939 EN; doi:10.2791/593884; https://publications.jrc.ec.europa.eu/repository/bitstream/JRC101581/lfna27939enn.pdf.

Business Dictionary (2020). What is a SWOT analysis? Definition and meaning. Retrieved August 25, 2020, from www.businessdictionary.com/definition/SWOT-analysis.html.

Chapman, C., & Ward, S. (2011). How to manage project opportunity and risk. Chichester: John Wiley and Sons Ltd.

Larson, E. W., & Gray, C. F. (2011). Project management: The managerial process (5th ed.). New York: McGraw-Hill Irwin.

Loosemore, M., Raftery, J., Reilly, C., & Higgon, D. (2006). Risk management in projects (2nd ed.). Abingdon: Taylor & Francis.

McCallum E., Weicht R., McMullan L., Price A. (2018). EntreComp into action: Get inspired, make it happen. A user guide to the European entrepreneurship competence framework. (M. Bacigalupo & W. O'Keeffe Eds.) EUR 29105 EN, Publications office of the European Union, Luxembourg, 2018. ISBN 978-92-79-79360- 8, doi:10.2760/574864, JRC109128.

Project risk coach (2020). Retrieved August 28, 2020, from https://projectriskcoach.com/how-to-perform-a-swot-analysis/.

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