



NICCOLLA

QUALITY ASSURANCE

HANDBOOK

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1. INTRODUCTION

This Quality Assurance Handbook is developed to provide concrete information about the projects' quality assurance activities for the project participants. The PDCA model (Plan-Do-Check-Act) is the basis for project assessment for reaching results and objectives as whole. The purpose of the PDCA model is to monitor the progress of the project against objectives, activities and criteria and to ensure achieving the objectives. The continuous self-assessment of the activities and to get the assessment feedback of the quality makes it also possible to do the improvements to the deliverables.

The purpose of the NICCOLA cooperation is to create a European standard on teaching Technology and ICT (T&I) in combination with Health and Wellbeing (H&W). The concrete results are as follows:

- Via the project website, the newly developed courses will be shared and promoted to all HEI who wish to implement T&I for H&W in their curricula. The courses will also become available as freely accessible OER enabling students at HEIs throughout Europe to follow courses on T&I in H&W which are not available at their own HEI.
- Via the website, the newly developed Care Technology Lab (CTL) blueprint will become freely available for all HEI or other organizations in the H&W service sector who wish to develop a CTL or become more engaged in using and implementing care technology.
- Newly developed courses will become available as Open Educational Resource (OER) for care professionals in the H&W sector to encourage expanding their knowledge base, Lifelong Learning and continuous professional development.
- Via this collaboration, a culture of sharing educational resources between HEIs is stimulated.

The general impacts and benefits of the Niccolla after the project is that involved consortium partners can immediately start using the IOs for the improvement of their HEI specific curricula, i.e. embedding specific content where possible or needed. A very urgent need is addressed through the development of the new courses combining H&W and T&I aspects. New care technologies are tested and innovated in interdisciplinary co-creative labs in a quadruple helix approach, this is also fostering more positive attitudes towards the use of care technology and appreciation of T&I for the H&W service sector. Increased updated knowledge and know-how of care technology, including sharing good/bad practices. Sharing results, output, and experiences through relevant EU higher education networks.

An essential purpose of the project is the sustainability of the produced materials and their further development. Themes like inclusion, participation, multidisciplinary, and the international context are integrally embedded into the project and finally to the curricula. The current partners choose to focus on sustainability and further development of the quality of educational materials, educating future-proof care professionals, and ensuring the European perspective on professionalization in the H&W sector concerning care technology.

2. CONTENT, PROGRESS AND OUTCOMES CRITERIA AND INDICATORS

The Content, Process, and Outcome evaluation (CPO) is used for the quality assessment of the development of the courses in IO1, and the open educational resources development in IO2, as well as in Blueprint development in IO3. For IO2 there are also additional requirements concerning the functional, technical and usability issues when creating the open educational resources. The criteria and indicators for progress, quality and achievements for the development and management are described, and feedback forms of the activities (i.e. TPMs, MEs, and ISPs) are attached to the appendixes 1-7.

An essential part of the quality work is also to assess the work of the General Project Management. Good management is crucial for a successful project, and it is not just the responsibility of the project coordinator, but it is the responsibility of the whole team.

2.1 CRITERIA AND INDICATORS OF IO1 AND IO2 COURSE DEVELOPMENT

The main purpose in IO1 and IO2 is to produce quality learning materials for the HEI students, mainly studying in the social and health care field. Good learning materials have many demands, which need to be taken into account when creating the materials. A good learning material is a collection of information organized and presented in a way that facilitates learning. The instructional approach in the learning material will structure and organize the material, but it is the technical design that brings that structure into reality. Good technical design enhances student access and understanding, as poor technical quality creates barriers to learning, and students are not eager to read the material (Flink 2013). The criteria and indicators of IO1 for the quality material as well as for the progress and outcomes have been collected to table 1.

Table 1. CPO criteria and indicators for IO1 (1-6 courses) quality.

Requirements	Criteria	Indicators
<p>Content</p> <p>REQUIREMENTS FOR THE TRAINING MATERIALS. (EVALUATION AND SELECTION OF LEARNING RESOURCES: A GUIDE 2008; ONTARIO MINISTRY OF TRAINING, COLLEGES AND UNIVERSITIES 2011.)</p>	<p>Content:</p> <ul style="list-style-type: none"> - supports and is consistent with curriculum outcomes - competent authors and producers - high quality in factual content and presentation - appropriate for the subject area - physical format and appearance are suitable for intended use - content is current and accurate - scope and depth of topics are appropriate to student needs - the level of difficulty is appropriate - content integrates “real-world” experiences - is well organized and structured - language is easy to read and visual design is motivating <p>Methodology</p> <ul style="list-style-type: none"> - promotes active learning - activates into co-operative learning - provides support for individual growth - develops critical-thinking and decision-making skills - promotes student engagement and responsibility - questions encourage reflection - questions and activities within the resource attracts attention and increases understanding <p>Concepts</p> <ul style="list-style-type: none"> - clearly introduced and developed - definitions, explanations, illustrations, and examples are relevant to the topic - includes links to and/or develops from previously acquired knowledge - clearly summarized the issues under the topic 	<p>Scale:</p> <p>1 poor 2 satisfactory 3 good 4 excellent</p>
<p>Progress</p>	<ul style="list-style-type: none"> - Progressing in time - Students, teachers, and external stakeholders directly involved in the development of the courses - Keeping the budget 	<p>ahead - in time – delayed number of students number of teachers number of stakeholders under/in /over the budget</p>
<p>Outcomes and sustainability</p>	<ul style="list-style-type: none"> - Benchmark and needs analysis done - Produced courses are embedded to the curriculum - produced courses are available as electives - Objectives and structure of the course determined - 5 ECTS course Transdisciplinary co-creation of technology and innovation solutions for health and wellbeing either intensive module or OER piloted and in use (30 ECTS in total) - The developed courses (1-6) are available in project website - The developed MOOCs are available in open access platform - Produced courses are offered as further training for professionals 	<p>yes - no</p>

The purpose of the IO2 is to produce Open Educational Resources (OER MOOCs), educational materials that are in the public domain or introduced with an open license. To assess the content of the MOOCs, the same content and progress criteria is used as in IO1. The technical and usability criteria of the MOOCs is based on the *Quality Reference Framework (QRF) for the Quality of Massive Open Online Courses (MOOCs)*.

Table 2. Additional criteria and indicators for IO2 (MOOCs).

Requirements	criteria	indicator
Functional	<ul style="list-style-type: none"> - Users of the different items. - Integrate technological tools (e.g., online documents, wiki, video conferencing) to enhance social learning, collaboration and community building tools. - Content management tools so it is easy to add and change information - Secured personal data for log in, and administration of courses is secured 	<ul style="list-style-type: none"> - number of users - yes - no
Usability	<ul style="list-style-type: none"> - Open and free access - Easy to access - Text with audio/video explanation - Feedback possibility - Designer /provider information - Log in is provided for some educational and collaboration purposes - Clear site structure - Navigation is clear and simple - Well designed and attractive - Text on each page is not too much and easy to read - Contact information is easy to be found 	<ul style="list-style-type: none"> - yes - no
Technical	<ul style="list-style-type: none"> - scalable platform for computers, tablets, and mobile phones - can be used in different browsers - easy to up-date - Use open software platforms and open licenses - Use technical platform (e.g., Open edX or moodle) that can integrate all tools useful for learners - Ensure technical maintenance - Sustain infrastructure, data security, documentation 	<ul style="list-style-type: none"> yes - no

2.2 CRITERIA AND INDICATORS OF IO3 BLUEPRINT DEVELOPMENT

The CTL Blueprint is developed for a sustainable transdisciplinary CTL, which can be used for continuous sharing of experience and knowledge, development of projects and transdisciplinary co-creation.

Blueprint for the development of a CTL, learning-through-labs. Guidelines ('recipe') including good/bad (user) experiences, methodology, profile & financial structure, positioning/embedding in HEI. Baseline for EU network/platform of CTL.

The development of the CTL Blueprint is also assessed using content, progress and outcome criteria (Table 3.).

Table 3. CPO criteria and indicators for IO3 quality.

	Criteria	Indicators
Content	<p>Concept definition</p> <ul style="list-style-type: none"> - clearly introduced and developed - definitions, explanations, illustrations, and examples are relevant to the topic - includes links to and/or develops from previously acquired knowledge - clearly summarized the issues under the topic 	<p>Scale: 1 poor 2 satisfactory 3. good 4. excellent</p>
Progress	<ul style="list-style-type: none"> - progressing in time - Students, teachers, and external stakeholders directly involved in the development of the blueprint 	<p>ahead - in time – delayed number of students number of teachers number of stakeholders</p>
Outcome and sustainability	<ul style="list-style-type: none"> - Blueprint - Blueprint is freely available for all HEIs or other organizations in the H&W service sector - Developed ideas for connecting CTLs in the future including a plan to involve stakeholders from business and industry, and other external stakeholders - CTLs are used for further training for professionals 	<p>yes - no</p>

2.3 CRITERIA AND INDICATORS OF GENERAL PROJECT MANAGEMENT

The project coordinator (i.e. the GM) monitors the planning and is committed to the content of the project and will ensure that all outputs and results of the sub-activities are acceptable and in line with the overall project objectives and according to the agreed timing (GANTT chart) and budget. For this reason, the GM is in continuous contact with the leaders of the IOs who will be held accountable on outputs and deadlines. Besides the project content and progress monitoring it is important to assess the project management, internal working and communication. Project coordinator is chairing the common meetings, for example periodic general meetings, which are occasions for sharing and informing and supporting the commitment and cooperation.

Table 4. Criteria and indicators of General Project Management

	Criteria	Indicators
Project management	<ul style="list-style-type: none"> - Day-to-day coordination - Regulation of project organization 	poor – satisfactory-good - excellent
Communication management	<ul style="list-style-type: none"> - Internal feedback to the IOs - Internal support for the IOs - Internal informing - External communication - Internal atmosphere - Commitment of the partners 	poor – satisfactory-good - excellent
Time management	<ul style="list-style-type: none"> - Meetings are planned and implemented in time - Meeting times do not stretch 	poor – satisfactory-good - excellent
Quality management	<ul style="list-style-type: none"> - Monitoring the quality situation - Quality feedback for the IOs 	poor – satisfactory-good - excellent
Financial/Budget management	<ul style="list-style-type: none"> - Staying in a budget - Informing the IOs of financial requirements 	poor – satisfactory-good - excellent
Risk management	<ul style="list-style-type: none"> - Anticipating and avoiding risks - Response to the sudden changes 	poor – satisfactory-good - excellent
Dissemination (see the Dissemination and communication in chapter 6)	<ul style="list-style-type: none"> - Supporting the dissemination activities - Following the progress of the dissemination materials 	poor – satisfactory-good - excellent

Part of the project coordinator's (GM, General Manager) responsibilities is to organize several **general meetings** during the project period. Every member of the project is invited and each IO course team should have at least one representative. These general meetings will have two goals:

1. Align content and sharing information
2. Input for the reports in the different stages of the project

To be able to align the content of the IO1 courses between themselves, as well as with the development of IO2 and IO3, every IO team will deliver an one-pager with the following information: Results so far, goals set, reviews of the associated partners and other stakeholders and questions to the other teams. The steps defined in GANTT chart should be referred (or original application file for further details) for this update.

If needed, for every general meeting the IO1 course teams will receive some specific questions or topics that will be discussed or presented during the general meeting. The course leading partner/participant will be in the lead for this. Besides the presentation of the status quo of each

course, there will be time scheduled for the alignment of all IO courses.

In this way a joint evaluation can be developed which can be used by each course group but also IPS 1 and 2. Arising from the evaluation, a QA list can be made that will be useful for the stakeholders.

Way of working during the general meeting: The general meeting will be opened by the PMT. Then each team will be given time. During the presentation questions can be put in the chat. These questions will be answered by the IO team directly after their presentation. There will be a moderator for each general meeting. For the discussion digital tools will be used during or after the meeting. Each general meeting will be recorded.

5. IMPACT MEASUREMENT

As NICCoLLa will be following a quadruple helix approach, the short and long-term impact of the project will be directed towards diverse stakeholders and target groups. Realizing the intellectual outputs, and direct interaction between the stakeholders and target groups will benefit the participating HEI, students, teachers, care professionals in the field, patients/clients, and tech/ICT providers (business/industry).

The impact measurement is done at the end of the project in TPM6 (36). The impact criteria are presented in Table 5. The scale used is 1 – 5, where 1 is very poor, 2 is satisfactory, 3 is average, 4 is good, 5 is excellent. Impact of the project would be best to assess for example one year after the project ending. That is suggested to be done as a Master thesis work.

Table 5. Impact criteria and indicator.

Target group	Impact criteria	1-5	Argument
PARTICIPATING HEI	- Improved and updated curricular content in line with development in H&W services and T&I solutions		
	- Transdisciplinary work methods, standards, and guidelines are developed		
	- Increased attractiveness and ability to attract students		
	- Transdisciplinary and transnational network fostering initiating future projects		
	- New lines of research that may eventually open new future lines of cooperation in the development of possible master thesis and doctorates		
STUDENTS	- Comprehensive competency development in the field of T&I for H&W by updated courses		
	- Better equipped H&W students able to implement T&I solutions		
	- Better equipped T&I students able to design and develop for the H&W sector		
TEACHERS	-Improved teaching/training expertise in the topics related to T&I solutions for H&W services		
	- Better skills in working with international and intercultural groups		

	- Enlarged international network		
CARE PROFESSIONALS IN THE FIELD	-Improved competencies and better skills in working with T&I solutions for H&W services		
	- updated expertise in line with developments related to their daily jobs and using technology		
CLIENTS/PATIENTS	- better valued for their contribution to T&I solutions they themselves will be using		
	- better valued as a relevant target group in the development of applications and T&I in H&W		
TECH/ICT PROVIDERS	- stronger connection to H&W ecosystems by working within quadruple helix approach and interaction with relevant stakeholders and target groups		
	- better equipped in developing successful services and T&I solutions for the H&W sector		
LOCAL/ REGIONAL LEVEL:	-Better skilled (future) professionals (i.e. educated graduates as well as trained professionals) will enrich the H&W sector and future labor market in line with trends and innovations concerning T&I solutions for this sector.		
	New building blocks for updated education and training for students and professionals.		
	Strengthened local/regional collaborative and co-creative network structure between all four elements of the quadruple helix		
	Promoted co-operation of initiation and development of projects where relevant stakeholders and target groups jointly use real-life cases to further develop skills and competencies in line with trends in H&W services.		
	Learning through a CTL, embedded in ongoing curricula and including the local and regional network, will foster transdisciplinary co-creative learning process.		
NATIONAL AND EUROPEAN LEVEL:	-The collected input, knowledge and experiences will be benchmarked among partners and brought in line with national strategic policies in H&W services and nationally defined H&W job profiles.		
	-A CTL will allow for the participation of other stakeholders and organizations operating on a national level.		
	-The effect of a strong transdisciplinary, collaborative and co-creative network structure will also extend to a European level.		
	- The CTL blueprint will support international partners, relevant stakeholders and target groups in their own		

	development and implementation of a 'learning-through-labs' concept.		
	-An increased number of students and professionals will be able to develop skills and competencies in the area of T&I solutions for the H&W sector via easy and widely accessible OER courses and trainings		
	-A CTL, and possibly future connected CTLs, will also serve as a transnational and transdisciplinary platform for: the transfer of knowledge and experience, and the validation of T&I innovations for H&W services.		
	- Promoted initiation and development of co-creative activities and projects.		
	- Increased discussion of ethical and legacy issues concerning the implementation of T&I solutions in H&W services.		

6. DATA COLLECTION IMPLEMENTATION

The purpose of the data collection is to assess the quality of the deliverables and to monitor the progress of the IO1 – IO3 activities, and to get the feedback for the IO leaders in order to do the improvements to their IO actions. Assessment data is planned to be collected with the questionnaires (Google forms) at the end of the Intensive Study Programmes (ISP1 and ISP 2) and Multiplier Event (ME1 and ME2 Final symposium).

General project management and risk assessment are assessed in each TPM. Each participating organization is responsible to have an assessment discussion concerning the management before the TPM. The assessment is based on criteria, and the summary of the assessment is brought to the TPM. In addition, the General Manager and PSG members are doing the self-assessment as well in each TPM. Based on the feedback the corrections for the management activities are done if needed. Final impact assessment of the project is done in TPM 6. Summary of the QA data collection is presented in Figure 1.

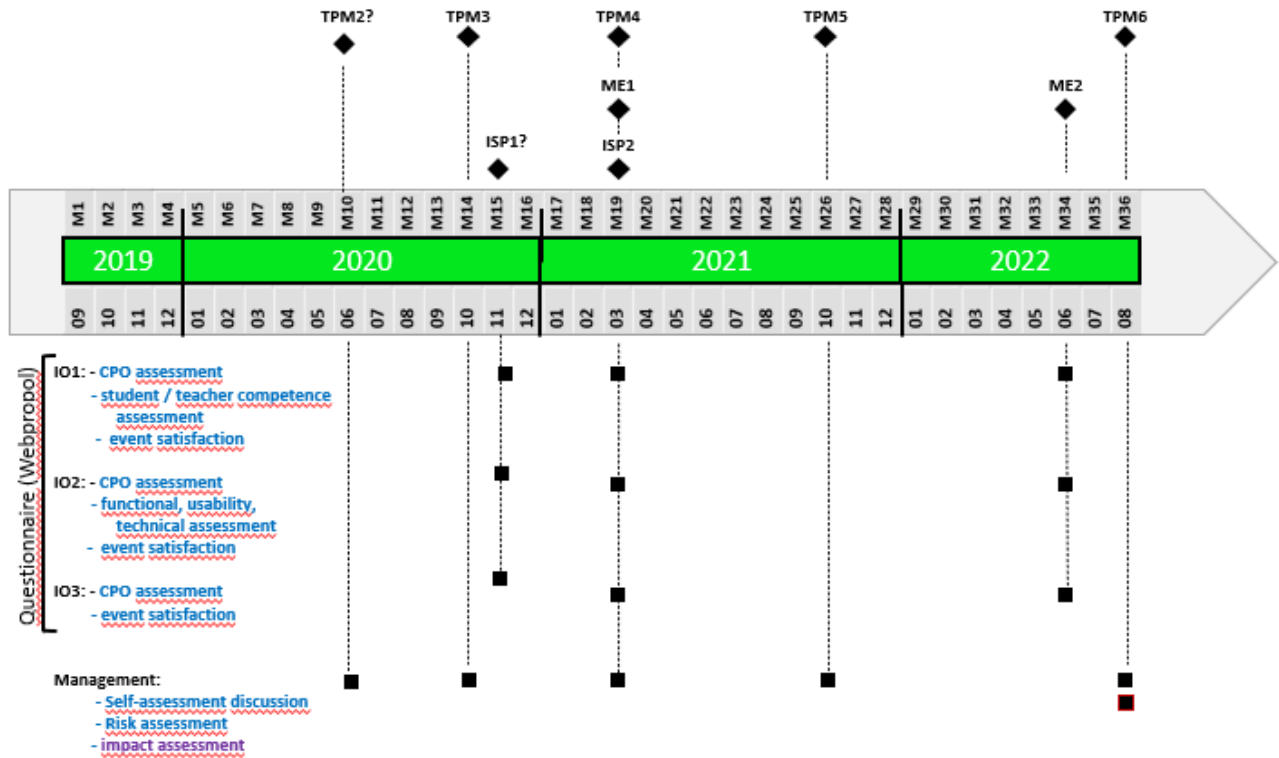


Figure 1. Summary of the implementation of IO1-IO3 and management data collection.

Participating students, teachers, and stakeholders are assessing the quality of the deliverables' content according to the content criteria, IO1-IO3 project members are also assessing their IO's progress and outcomes (appendix 3 and 5).

Besides the content assessment of the deliverables the participating students, teachers, and stakeholders' feedback is collected also concerning the satisfaction of the event content and arrangements, as well as needs for CT Labs, after each ISP / ME / local workshop (appendix 1). The content assessment of the deliverables and the satisfaction of the events are assessed with the scale: poor - satisfactory - good – excellent. The aim is to achieve good or excellent in all measured criteria.

During each ISP / ME / local workshop, the number of authentic cases and challenges provided for the ISPs by local stakeholders and target groups is counted.

The data is also collected from the students at the beginning and at the end of the ISP1 and ISP 2 to measure their enhancement of competencies, and development of professional competencies (appendix 2). Students are also writing reflective learning diaries providing insights in individual competency development and skills levels as well as collective capacity in the area of T&I solutions for the H&W sector.

Each participating organization will collect, analyze and summarize the evaluation data from activities to the evaluation reports and present those in each TPM. The further actions will be decided, and the information will be utilized for developing and improving the activities of the project.

7. REPORTING AND FEEDBACK

The QA activities are reported and checked regularly by participating organizations half yearly, in every TPM. The needed changes and preparations for the project's next steps are made based on the results of the QA approach. Continuous self-evaluation throughout the project is necessary to ensure the realization of results and objectives. The QA reporting timing and responsibilities are collected to Table 6.

Table 6. QA reporting responsibilities.

QA Reporting	Responsible person
CPO (Content, progress, outcome) and ISP / ME / local workshop feedback reports half yearly in: TPM 3 (M14 /Oct. 2020) TPM 4 (M19/March 2021) Midterm progress report TPM 5 (M26 / Oct. 2021) TPM 6 (M34 / June 2022) Final report	IO1 leader IO2 leader IO3 leader
- General Management and IO1-IO3 project results annually reported to EPR (M12; M20; M32) - Progress, Interim and Final reports (M12; M24; M36)	General manager (GM)
- External Project Reviewers, parallel to the Interim and Final reports (M20; M32)	GM and PSG

IO1 courses are also making surveys and consulting each other to progress their working when building up the courses.

During the project lifecycle, every IO leader is officially reporting the CPO quality situation of their IO to the General Manager (GM) half yearly in the TPM meetings. In addition, the more frequent informal monitoring is done by doing the continuous self-assessment in each IO.

Partners responsible for organizing and hosting a TPM, ME, and ISP will have to report on the preparation and results of their event to the GM. Progress will also be discussed during monthly online meetings.

The External Project Reviewers (EPR) will evaluate the project results twice, in the middle and in the end of the project, and therefore add objective value to the progress of the project and status of the achievements. The EPR team is built up as an independent advisory board of 4 experts. As they are working with a quadruple helix approach, the members of the advisory board are from every relevant stakeholder and target group. The team will include at least one representative from business/industry, services users, and an educational specialist.

The EPR will work closely with the PSG focusing on realizing the intellectual outputs according to the plan (GANTT Chart) and in line with the application (objectives, impact, methodology), and in reviewing and evaluating the proceedings of the project. Their role will mainly be to provide feedback to be used for the formal midterm and final report. As there is no separate budget available for physical meetings and no fees can be allocated, the EPR members are stimulated to meet online facilitated by the GM and PSG members. The GM is reporting on the quality of management as well as the IO project results annually to the EPR. The GM will arrange online EPR meetings ahead of the interim report (deadline M24, EPR online meeting planned M20), and final report (deadline M36, EPR online meeting planned M32). The reporting materials are based on the IO leaders' half yearly progress and quality reports. The GM will send the agenda and the related materials two weeks before the EPR meeting for the participants.

8. CRITERIA AND INDICATORS OF DISSEMINATION & COMMUNICATION

Dissemination and communication are essential and important parts of the project visibility and success, and therefore part of the quality assurance as well. The main purpose of dissemination activities is to allow broad acknowledgment of the project and its results. In particular, raising awareness, informing, engaging and stimulating uptake of the project results and developments. During all project activities, time slots in the program are allocated to producing dissemination material.

Table 7. Criteria and indicators of dissemination and communication.

	Criteria	Indicators
NICCoLLa Website	Tracking the visitors to the website	Number of produced materials Number of visitors
Social Media	Tracking the followers: Twitter Instagram LinkedIn Facebook	Number of produced materials Number of followers in Twitter Instagram LinkedIn Facebook
Publications	Published: Internal Publications NICCoLLa Newsletters Press releases	Number of publications Number of subscribers to the newsletters
Conferences & Networks	Conferences & Networks	Number of conferences and networks
Open Educational Resources	Open Educational Resources	Number of MOOCS Number of EDx
CTL	CTL activities	Number of CTL activities

Dissemination and communication progress is assessed in every TPM along with the Project Management assessment (see 2.3). The quantitative follow up is done by the General Manager (GM) of the project.

9. RISK MANAGEMENT

Risk management covers all project activities and aims for a timely response to issues that were not foreseen in the planning phase. Risk management is the responsibility of the general manager, and the risk assessment is carried out by the PSG. The PSG will take an active role in guiding any contentious issues before getting problematic. This means vigilant monitoring of expenses and deadlines, and regular correspondence via online conferences and/or email amongst partners. The partners have agreed to immediately inform the PSG and GM in case of any inconsistencies, so that a timely solution can be found before escalating and possibly endangering the desired project results.

In case of a dispute, the PSG will try to resolve this in an open way by means of a dialogue between disagreeing parties, possibly preceded by bilateral meetings. In the unlikely event this will not lead to satisfying and acceptable resolutions, the PSG may decide to consult an independent external mediator. In case needed, further guidance will be sought through the EACEA office or the Dutch national agency.

In order to anticipate and avoid risks, systematic risk assessment will be done in every PSG meeting. Each risk will be assessed using the probability and impact indicators with the scale 1 – 5 (very low – very high). The risk is estimated using the probability x impact matrix (Table 8). Potential risks and possible solutions or mediations are presented in table 9.

Table 8. Impact Probability matrix

IMPACT PROBABILITY	Very Low 1	Low 2	Moderated 3	High 5	Very High 10
Very Low 1	1	2	3	5	10
Low 2	2	4	6	10	20
Moderated 3	3	6	9	10	20
High 4	4	8	12	20	40
Very High 5	5	10	15	25	50

Table 9. Potential risks and possible solutions or mediation.

Possible or potential (relative) risks	Possible solutions or mediation
Interinstitutional/international/inter-curricular (structural) differences in ECTS	Preliminary general benchmarking at application phase
	Detailed benchmarking at project kick-off
	All HEI are using the EU ECTS system
Lack of students participating in project activities	Detailed tailor-made (to individual HEI) recruitment plan
	Internal HEI-specific publicity and communication activities
	Recognition of obtained credits in personal study plan
	Interinstitutional compensation of available places for participants in project activities
	Detailed marketing and communication plan, HEI specific
	Adequate budget allocation based on general budget plan
	Commitment of staff and institutional project team
Differences and/or difficulties in accreditation processes in case project life cycle coincides with accreditation process	Specific benchmarking on accreditation processes when needed
	Close attention to specific national procedures and planning when needed
Changes in central (project management) and institutional project teams; i.e. changes in allocated staff	EACEA & National agency online guidelines & protocols, direct communication for further guidance
	In case of changes in the central project management, allocate new staff member from HEI
	In case of changes in institutional project team, allocate new team member from within HEI
	In case of changes in project leader, allocate substitute from Avans
One of the HEI will drop out	EACEA and National agency online guidelines & protocols, direct communication for further guidance
	Each HEI signed a mandate letter indicating commitment to the project
	Each HEI signed a Partner Agreement indicating agreement with Grant Agreement, commitment and acceptance of final grant approval
	Clear & detailed communication on co-funding and general purposes of consortium
	Adequate budget allocation based on general budget plan
Disagreements and unsolved problems or conflicts within the consortium	EACEA and National agency online guidelines & protocols, direct communication for further guidance
	Central project management team mediates in collaboration, communication and solution
	External mediator in case needed or requested
	EACEA and National agency online guidelines &

Individual HEI is not delivering according to project plan, project organisation and project activities	protocols, direct communication for further guidance
	Each HEI signed a mandate letter indicating commitment to the project
	Each HEI signed a Partner Agreement indicating agreeing with Grant Agreement, commitment and acceptance of final grant approval
	Detailed project team composition, role definition, defined and clear responsibilities and activity allocation
	Adequate budget allocation based on general budget plan
	Continuous follow-up, monitoring and evaluation of project plan and activities
Intercultural variations/differences causing conflicts between participants	Team Building activities during transnational project meetings, and other project activities
	Raise awareness through including intercultural activities and/or teaching in institutional preparatory activities and in project activities
Language proficiency (English)	Maintain B2 level in recruitment criteria
	Stimulate preparatory activities in increasing proficiency
Incompatible digital & e-learning environments	Use general digital environments; e.g. Google Drive or OneDrive
	Use e.g. EdX, Moodle as easy accessible e-learning platforms

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APPENDICES (TEMPLATES 1-7)

Appendix 1. Multiplier Event (ME) and Intensive Study Program (ISP) satisfaction feedback template

	1 very poor	2 Poor	3 Satisfactory	4 Good	5 Excellent
The content of the program					
Methods used					
Adequacy of teaching / learning materials					
Quality of the contents					
Usefulness of contents					
Learning outcomes were achieved					
Learning experience					
Comments:					

Appendix 2 Student /Teacher competence feedback template

Assess your digital competences by answering each of the argument below especially in the context of health and wellbeing (H&W):

Competence area	Argument My competence on:	1 very poor	2 Poor	3 Satisfactory	4 Good	5 Excellent
Information and data literacy	Browsing, searching and filtering H&W data, information and digital content					
	Evaluating H&W data, information and digital content					
	Managing data, information and digital content					
Communication and collaboration	Interacting through digital technologies with the clients, colleagues and stakeholders					
	Sharing through digital technologies					
	Engaging in professional community through digital technologies					
	Collaborating through digital technologies					
	Netiquette					
	Managing digital identity					
Digital content creation	Developing digital H&W content					
	Integrating and re-elaborating digital H&W content					
	Copyright and licences					
	Programming					
Safety	Protecting devices					
	Protecting personal data and privacy					
	Protecting health and well-being					
	Protecting the environment					
Problem solving	Solving technical problems					
	Identifying needs and technological responses					
	Creatively using digital technologies					
	Identifying digital competence gaps					

MODIFIES FROM: VAN DEN BRANDE L. 2016. THE EUROPEAN DIGITAL COMPETENCE FRAMEWORK FOR CITIZENS. EUROPEAN UNION. DOI: 10.13140/RG.2.1.4687.1281

Appendix 3. IO1 and IO2 Course content feedback template.

scale: Poor 1 – Satisfactory 2 - Good 3 – Excellent 4

	1 Poor	2 Satisfactory	3 Good	4 Excellent
1. supports and is consistent with curriculum outcomes				
2. competent authors and producers				
3. high quality in factual content and presentation				
4. appropriate for the subject area				
5. physical format and appearance are suitable for intended use				
6. content is current and accurate				
7. scope and depth of topics are appropriate to student needs				
8. the level of difficulty is appropriate				
9. content integrates “real-world” experiences				
10. is well organized and structured				
11. language is easy to read and visual design is motivating				
12. supports and is consistent with curriculum outcomes				
13. competent authors and producers				
promotes active learning				
14. activates into co-operative learning				
15. provides support for individual growth				
16. develops critical-thinking and decision-making skills				
17. promotes student engagement and responsibility				
18. questions encourages reflection				
19. questions and activities within the resource attracts attention and increases understanding				
20. clearly introduced and developed				
21. definitions, explanations, illustrations, and examples are relevant to the topic				
22. includes links to and/or develops from previously acquired knowledge				
23. clearly summarized the issues under the topic				

Appendix 4. Risk assessment template (Excell).

Possible or potential (relative) risks		TPM 2	TPM 3	TPM 4	TPM	TPM 6
		dd.mm.yyyy	dd.mm.yyyy	dd.mm.yyyy	dd.mm.yyyy	dd.mm.yyyy
Interinstitutional/international/intercurricular (structural) differences in ECTS	Probability	2				
	Impact	3				
	PxI	6				
Actions		action A				
Lack of students participating in project activities	Probability					
	Impact					
	PxI					
Actions		action B				
Differences and/or difficulties in accreditation processes in case project life cycle coincides with accreditation process	Probability					
	Impact					
	PxI					
Actions		action C				
Changes in central (project management) and institutional project teams; i.e. changes in allocated staff	Probability					
	Impact					
	PxI					
Actions		action D				
One of the HEI will drop out	Probability					
	Impact					
	PxI					
Actions		action E				
Disagreements and unsolved problems or conflicts within the consortium	Probability					
	Impact					
	PxI					
Actions		action F				
Individual HEI is not delivering according to project plan, project organisation and project activities	Probability					
	Impact					
	PxI					
Actions		action G				
Intercultural variations/differences causing conflicts between participants	Probability					
	Impact					
	PxI					
Actions		action H				
Language proficiency (English)	Probability					
	Impact					
	PxI					
Actions		action I				
Incompatible digital & e-learning environments	Probability					
	Impact					
	PxI					
Actions		action J				

Appendix 5. Outcome assessment template

Outcomes and sustainability	Criteria	Yes	No	Argument
	Benchmark and needs analysis done			
	Produced courses are embedded to the curriculum			
	Produced courses are available as electives			
	Objectives and structure of the course determined			
	5 ECTS course Transdisciplinary co-creation of technology and innovation solutions for health and wellbeing either intensive module or <i>OER</i> piloted and in use (30 ECTS in total)			
	The developed courses (1-6) are available in project website			
	The developed MOOCs are available in open access platform			
	Produced courses are offered as further training for professionals			

Appendix 6 Dissemination and communication assessment template

Indicators	TPM 3 Date:	TPM 4 Date:	TPM 5 Date:	TPM 6 Date:
Number of produced web-site materials:				
Number of web-site visitors:				
Number of produced social media materials: 1 Twitter 2 Instagram 3 LinkedIn 4 Facebook				
Number of followers in: 1 Twitter 2 Instagram 3 LinkedIn 4 Facebook				
Number of publications:				
Number of newsletter subscribers:				
Number of conferences and networks:				
Number of MOOCs:				
Number of EDx:				
Number of CTL activities:				

Appendix 7.

Impact assessment template. The scale is 1 – 5, where 1 is very poor, 2 is satisfactory, 3 is average, 4 is good, 5 is excellent

Target group	Impact criteria	1-5	Argument
PARTICIPATING HEI	- Improved and updated curricular content in line with development in H&W services and T&I solutions		
	- Transdisciplinary work methods, standards, and guidelines are developed		
	- Increased attractiveness and ability to attract students		
	- Transdisciplinary and transnational network fostering initiating future projects		
	- New lines of research that may eventually open new future lines of cooperation in the development of possible master thesis and doctorates		
STUDENTS	- Comprehensive competency development in the field of T&I for H&W by updated courses		
	- Better equipped H&W students able to implement T&I solutions		
	- Better equipped T&I students able to design and develop for the H&W sector		
TEACHERS	-Improved teaching/training expertise in the topics related to T&I solutions for H&W services		
	- Better skills in working with international and intercultural groups		
	- Enlarged international network		
CARE PROFESSIONALS IN THE FIELD	-Improved competencies and better skills in working with T&I solutions for H&W services		
	- updated expertise in line with developments related to their daily jobs and using technology		
CLIENTS/PATIENTS	- better valued for their contribution to T&I solutions they themselves will be using		
	- better valued as a relevant target group in the development of applications and T&I in H&W		
TECH/ICT PROVIDERS	- stronger connection to H&W ecosystems by working within quadruple helix approach and interaction with relevant stakeholders and target groups		
	- better equipped in developing successful services and T&I solutions for the H&W sector		
LOCAL/ REGIONAL LEVEL:	-Better skilled (future) professionals (i.e. educated graduates as well as trained professionals) will enrich the H&W sector and future labor market in line with trends and innovations concerning T&I solutions for this sector.		

	New building blocks for updated education and training for students and professionals.		
	Strengthened local/regional collaborative and co-creative network structure between all four elements of the quadruple helix		
	Promoted co-operation of initiation and development of projects where relevant stakeholders and target groups jointly use real-life cases to further develop skills and competencies in line with trends in H&W services.		
	Learning through a CTL, embedded in ongoing curricula and including the local and regional network, will foster a transdisciplinary co-creative learning process.		
NATIONAL AND EUROPEAN LEVEL:	-The collected input, knowledge and experiences will be benchmarked among partners and brought in line with national strategic policies in H&W services and nationally defined H&W job profiles.		
	-A CTL will allow for the participation of other stakeholders and organizations operating on a national level.		
	-The effect of a strong transdisciplinary, collaborative and co-creative network structure will also extend to a European level.		
	- The CTL blueprint will support international partners, relevant stakeholders and target groups in their own development and implementation of a 'learning-through-labs' concept.		
	-An increased number of students and professionals will be able to develop skills and competencies in the area of T&I solutions for the H&W sector via easy and widely accessible OER courses and trainings		
	-A CTL, and possibly future connected CTLs, will also serve as a transnational and transdisciplinary platform for: the transfer of knowledge and experience, and the validation of T&I innovations for H&W services.		
	- Promoted initiation and development of co-creative activities and projects.		
	- Increased discussion of ethical and legacy issues concerning the implementation of T&I solutions in H&W services.		