Specification:

Open Community of Practice (OpenCoP)

Within the Erasmus+ Knowledge Alliance ProDiT – Projects for the Digital Transformation

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1. Summary

An Open Community of Practice (OpenCoP) is a team organization which intends to create new knowledge and to facilitate exchange and learning from each other amongst the members. The term “Open” emphasizes both the possibility to join and leave the CoP and the ambition to publish all results as Open Educational Resources (OER), Open Source Software etc. under an open license, e.g. Creative Commons. OpenCoPs are an organizational pattern and tool in the context of Open Innovation and agile practices.

The OpenCoPs are expert groups which are formed in order to develop, test, improve and maintain a certain set of deliverables based on the expertise of the group members. The OpenCoPs are formed by experts from academia and industry. They can consist of a number of core members which are continuously driving the knowledge creation process and they can also invite experts for certain tasks and topics on a ad hoc or short-term basis. The life cycle of an OpenCoP anticipates the temporary character of the work. An OpenCoP which develops educational resources on a topic or a new standard will have an intensive ramp-up phase, a more opportunistic exploitation and maintenance phase and a ramp down phase when the topic becomes outdated. The community agrees on the work distribution but also on the rights and obligations for using the results. For an OpenCoP the dissemination follows the principles of Open Innovation.

An OpenCoP defines a development process for the knowledge and deliverables. The ambition is to have a co-production process where experts from different domains (including academia, industry, different countries) are involved in the specification, development, review, test and optimization. The process in incremental and should involve frequent releases for review, test and evaluation. The OpenCoP defines roles amongst the members including facilitators, quality managers, developers, testers and reviewers. It specifies the deliverables and schedules the releases. Since OpenCoPs are virtual, cross-border communities they need an IT environment for their operation. The IT infrastructure includes co-authoring tools (e.g. Wikis, like in Git-Book or Atlassian Confluence), task distribution and management tools (e.g. Kanban board, like Trello or Jira), file sharing and versioning tools, conferencing tools and a Web portal for accessing the tools and workspaces.

The OpenCoP also needs a process for on-boarding new members and for leaving the community. The members take obligations and make contributions and they require a reasonable benefit for them and their organization (e.g. sharing the teaching load for a module amongst the members of the OpenCoP). The produced educational resources are made available under a free and public license model, e.g. Creative Commons (CC-BY), following the Open Definition of the Open Knowledge Foundation.

The OpenCoP pursues communication activities for the sake of dissemination & marketing of the produced results and attracting users and community members.

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2. Basics and Life Cycle of OpenCoPs

2.1 Life Cycle

The Open Communities of Practice (OpenCoP) are expert groups with the goal to develop new (and share existing) knowledge and artefacts which make the knowledge available, e.g. for teaching. There are two major areas where OpenCoPs have to be established and operated:

- The development of educational resources, mainly eLearning modules with the respective teaching materials
- The development of supporting documentation, e.g. standards, new concepts, methodology handbooks, publications etc.

Communities of Practice are a common (agile) organizational pattern and tool to form expert groups from heterogenous backgrounds and organizations with the joint interest to work for a period of time on a certain topic.

Figure 1: Work Cycle of a Community of Practice (CoP) [1]

The Community of Practice has to agree on 3 main principles:

- To develop the Knowledge and establish the Practice, a joint development Process has to be defined which allows the heterogenous groups of members (unfamiliar with each other) to enter a systematic production process with a certain quality and maturity level.
- To form the Community, Roles have to be established and the CoP has to agree on the members' duties and tasks. The Open character of the OpenCoP reflects the openness for new members and the possibility to leave the community. This is different from constant teams in larger organizations since the commitment of the members of the OpenCoP is more voluntary and has to be motivated by benefits from the membership and the work donated (another "Open" aspect is the open publishing of results).

- The OpenCoP works on a certain Domain or Topic where the members can contribute their Expertise. Therefore, the OpenCoPs should have a mix of members from academia, from different countries, from industry, including also PhD and Master's students. The goal is to co-produce the results with all relevant stakeholders and experts being involved. Nevertheless, the OpenCoP should remain a rather small group (e.g. 5-15 members) in order to allow a trustful and agile work mode and cooperation.

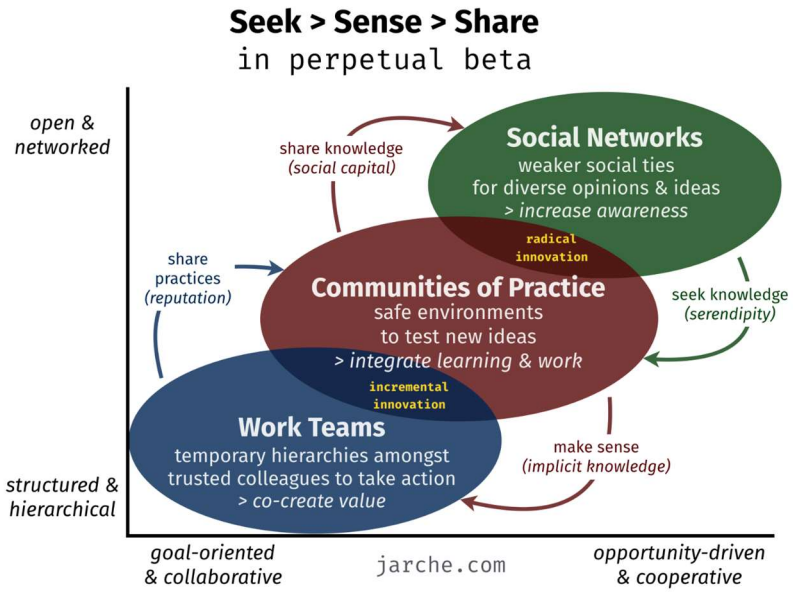

Figure 2: CoPs between work teams and social networks [2]

The OpenCoPs form a link between the more formal and more closed work teams in the participating organizations and the public (reached via the digital channels, e.g. social networks, see Fig. 2). The main goal is to provide a safe (trustful) environment for developing and testing new ideas and a space for joint learning, working and socializing.

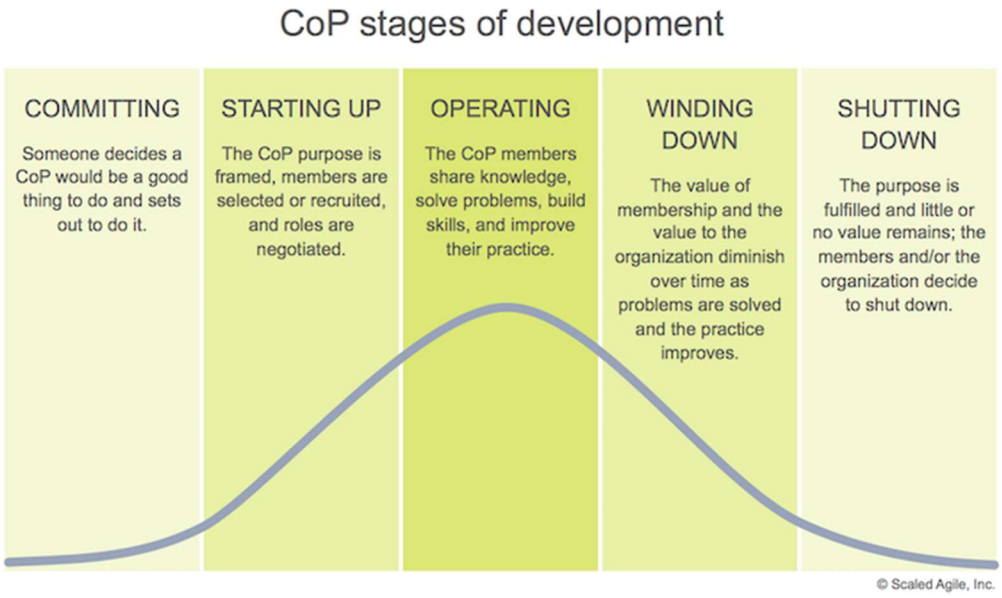

Figure 3: Typical Life Cycle of a Community of Practice (CoP) [source: SAFe – Scaled Agile Framework]

The OpenCoP is a temporary and voluntary endeavour (see Fig, 3) which is formed because the members see a need for new results. It is dissolved when the benefit of the cooperation falls below the effort to continue it. Beyond the development of new results, concepts and artefacts the OpenCoPs have a number of additional tasks which are specifically relevant for the “Operating” and “Winding Down” phase:

- The members form a pool of competent teachers and trainers which are delivering the new competences to students and professionals. They do not only do that in their own organization but they form a kind of “flying faculty” which travels (virtually or in reality) around the different target groups and teaches/trains them.
- The members are consultants and experts for their topic, again both in their organizations and beyond them.
- The OpenCoP is conducting a communication and marketing plan (including scientific publications) in order to disseminate the results, to attract new members and contributors, and to facilitate the exploitation of the new knowledge.

2.2 Process

The development process of the OpenCoP (the so-called co-production process) is iterative and participative, meaning:

- The results are developed step-by-step, refining and adapting them based on the learnings in the community of practice. This follows the agile principle of early user involvement (user-centric development), iterative improvement starting from early prototypes (minimum viable product (MVP) instead of fully elaborated solutions), and trying out many options (learner-centric selection of didactics).

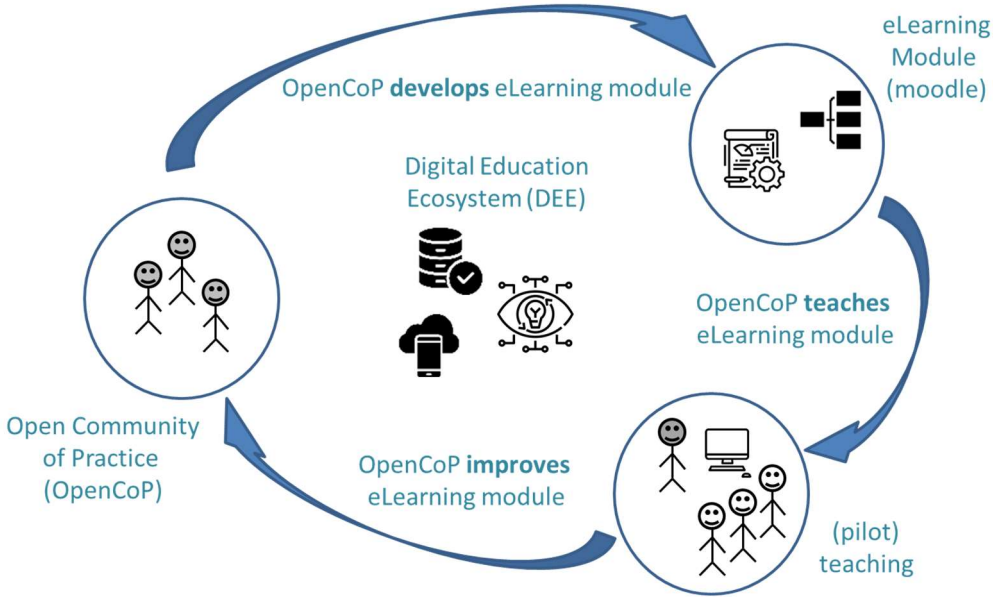

Figure 4: Iterative development of eLearning modules [source: own illustration]

- The community of practice involves relevant experts and stakeholders into the development. E.g. students and industry experts (giving requirements) are already involved in the specification of the educational resources (and modules), they participate in searching for and selecting learning materials (e.g. providing case studies, evaluating serious games), they form the teachers' and learners' community in the pilot teaching, they evaluate every step, and they provide feedback and testimonials for the dissemination.

Since the co-production is done cross-border and cross-organizational, the OpenCoPs use a digital co-production platform with suitable IT-tools. The results are implemented in eLearning modules and delivered via a Learning Management System (LMS, e.g. moodle) and with the help of a digital, virtual classroom system (e,g, BigBlueButton). All these IT tools are part of the Digital Education Ecosystem (DEE) which supports the community, the development and the delivery.

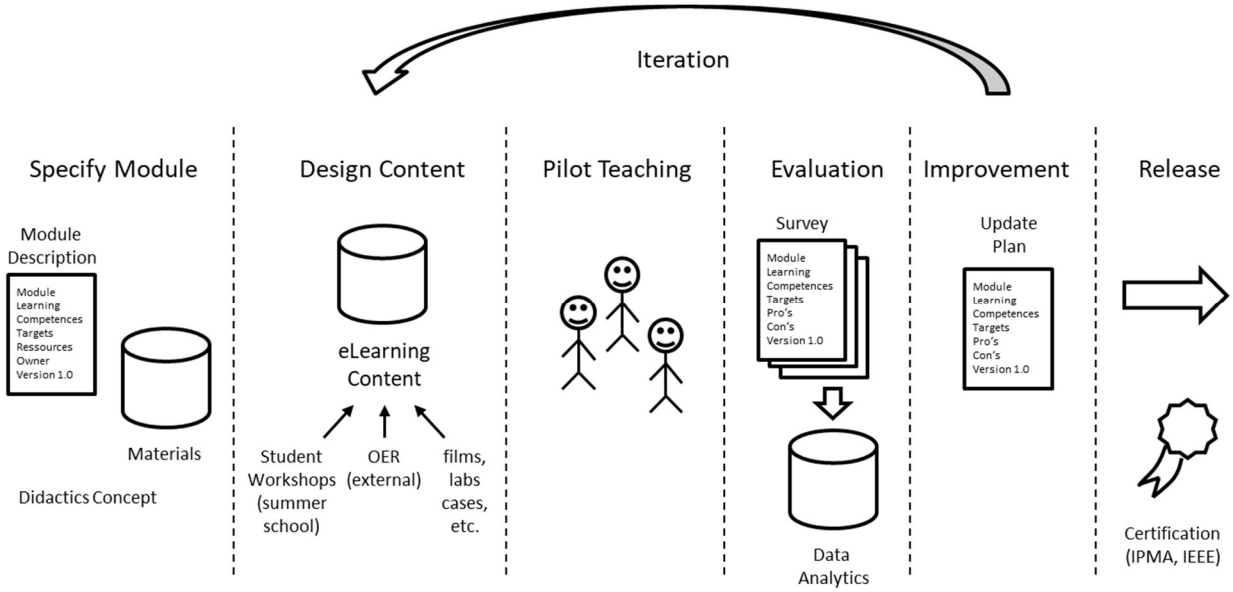

Figure 5: Core process for the iterative development and release of artefacts [source: own illustration]

The iterative project execution within the co-production process (see Fig. 4) – e.g. for the development of an eLearning module – can be mapped to the phases of a knowledge production project (e.g. Erasmus+ projects with their typical project phases):

- Within the Preparation Phase, the eLearning module is specified according to the competence goals (learning objectives), the target group analysis, the content and knowledge, the didactic concepts etc.. The module specification follows a Module Specification Template. It will be iteratively refined according to the learnings from the pilot teaching, new knowledge and content or the requirements of new target groups. The specification outlines the storyline of the module delivery (teaching), the intended learning trajectory of the students (learning) and the student journey through the module (organisational).

- The next phase is the Development Phase, where the educational resources for composing the module are selected, adapted or developed (e.g. online course, case studies). The preference is on the selection of available Open Education Resources (OER) while new learning materials are made available as OER, too. Based on these building blocks of the eLearning module the content design is conducted. Industry experts and students are getting involved. Cases and examples from industry are used, same as project assignments. The assessment methods are part of the module, too. The module development can be based on an eLearning Module Template.
- The Quality Plan of the module covers the Plan-Do-Check-Act (PDCA) cycle of Pilot Teaching – Evaluation – Improvement which leads to the iterative refinement of the module over the whole lifetime. Depending on the quality of the management of the development and refinement process, the iteration cycles can be kept short, leading to a fast delivery of new or improved elements into the eLearning module. The goal is to come close to a continuous integration and continuous delivery (CI/CD) of modifications and improvements into the ongoing educational process.
- The Dissemination & Exploitation is supported by the Release of new versions of the eLearning module to the public. Releases are done based on a review process and by using checklists in order to guarantee the high quality. They are also announced to the public and the implementation of the new version into the curriculum and into teaching is planned (according to a release calendar).

The management of the process can be organized with a combination of Scrum and Kanban which is called Scrumban:

- For the daily work of the OpenCoP and smaller tasks, Kanban is used by establishing a Kanban board for tracking the tasks and by using ticket/issue management systems (e.g. Atlassian Jira) for assigning tasks to people and for tracking the progress.
- For bigger developments (e.g. a new online course) which involve a team of developers the Scrum methodology for incremental development is used.
- Scrumban allows the management of tasks in Kanban and Scrum in the same system and the merging of controlling and reporting tasks.

Setting up an OpenCoP and defining the required processes for the operation and decision making is done with a goal in mind. The intention is to create a vibrant, motivating and inspiring community which yields the new ideas and knowledge which is required while providing the trustful and safe environment which is needed to test new things, to voice opinions, to criticize and praise, and to become acquainted with the people. The members can ask themselves from time to time if the OpenCoP passes the fitness test.

2.3 Roles

The operation and management of an OpenCoP requires the definition and assignment of certain roles. It is for the OpenCoP members to decide about the required roles and to assign them amongst the community. Possible roles are:

- Product Owner: This is a role defined by the Scrum methodology. The product owner of an eLearning module has the overall responsibility for the requirements and the results. The members of the OpenCoP ask the Product Owner about features and requirements and the Product Owner reviews and accepts the results. The Product Owner is not the (only) user of the results. Within the project descriptions a Product Owner is already defined for each eLearning module (or other larger outcome). Nevertheless, assigning the Product Owner is the responsibility of the Project Management Board (PMB).
- Moderator/Facilitator: The group work might require a person dealing with the organisation and facilitation of meetings and the production process. This role is required if the tasks of the OpenCoP go beyond the scrum-style development of one artefact.
- User: The users e.g. of an eLearning module are all stakeholders which are dealing with it. This involves the teachers who are delivering the module, but also the students, IT people who maintain the Learning Management Systeme (LMS), accreditation experts etc.. The OpenCoP analyses and understands the users by doing a needs assessment of the target groups. Users are not limited to the members of the OpenCoP.
- Developers: The developers are all people who are contributing to the concepts and educational resources of the module. They can be part of the OpenCoP (especially the key developers) or external experts (e.g. doing video recording etc.). Their work is managed with the Scrumban process.
- Contributing partners: Project partners (e.g. universities, companies) can be assigned to a OpenCoP as core members who give a commitment to deliver a certain amount of work, e.g. by being developers, reviewers, testers, teachers etc.. Along with the Product Owner there should be 3-4 contributing partners who form the long-term core of the OpenCoP and guarantee a minimum level of operation.
- Teachers: The teachers are using the modules and educational resources for teaching and training. They can be members of the OpenCoP (and also developers) but the dissemination and exploitation strategy aims at enlarging the pool of teachers constantly. Within the co-production cycle, the teachers also contribute with the pilot teaching and evaluation. In order to support teachers in using the results, the Train-the-Trainer module explains the didactics, learning technologies and concepts.
- Reviewers: The reviewers check the results, e.g. educational resources or complete modules. They are part of the quality assurance. They can be teachers, industry experts, students etc.. Reviewers can be chosen from the OpenCoP or from outside (e.g. cross-OpenCoP support).

- Release & Configuration Managers/Curator: Due to the incremental development of artefacts, the different versions have to be administrated and tracked carefully. E.g. if a test from the assessment tools does not fit to the content of an online course, the didactic concept and the learning quality are affected negatively. New versions are released for usage (both for pilot teaching and for usage by the public) after a review and release process. Releases and reviews involve work, e.g. for check, so they need time. Since results are needed for teaching at specific times, the releases need to be scheduled and the schedules need to be synchronized, e.g. with pilot teaching. It has to be guaranteed that the evaluation and the improvement plan fit to the right version of the educational resources, meaning to a certain release. Releases of different educational resources form a version of an overarching results, e.g. a complete module. Putting the right releases together and managing all the dependencies is the topic of the configuration management. Therefore, an OpenCoP should issue a Release & Configuration Management Plan, a Release Schedule, and it should appoint a Release & Configuration Manager. IT tools support Release & Configuration Management (e.g. Git). Assembling the educational resources and didactic formats into a meaningful configuration which supports a certain competence delivery is a curative task which make the Release & Configuration Manager also the Curator of the module – tailored according to the needs.
- Documentation Managers: The documentation of the process, the decisions, the results, the quality checks and release notes and other organizational and administrative artefacts needs to be handled, especially if the OpenCoP is a bit larger or very active.
- IT Technology Steward: The OpenCoPs use IT for the production of educational resources and for the delivery in teaching, e.g. in virtual classroom systems. The IT tools, services and systems need to be maintained. Therefore, the OpenCoP might name an IT expert. Nevertheless, the task is usually not only the operation of IT or the development and deployment of new IT services. Sometimes even more important is the consulting and training of the members of the OpenCoP and the teachers. Stewardship is a format for guiding, coaching, training and consulting by an internal expert who is also involved into the actual work.
- Learning Steward: Learning methodology and technology, modern didactics and the design of proper learning trajectories and student journeys is a complex task, too. Instructional Designers are the experts when it comes to the design of very effective and efficient eLearning modules or didactic formats (e.g. project-based, challenge-based, problem-based learning). Stewardship can help the OpenCoP with this task, too.
- Communicators: For the dissemination and exploitation of the results, the announcement of new releases, the recruitment of new members for the OpenCoPs and for the communication within the OpenCoP, communicators are required which facilitate communication, develop and review messages, distribute the messages via different channels, schedule communications, get into a dialog with user, members and stakeholders (e.g. operate a forum or a blog).

Becoming a member of an OpenCoP requires the commitment to cover certain roles. Trainings can be performed to teach members for their role. Especially project partners with funding are expected to cover the core roles and to contribute work time.

OpenCoPs can differ:

- By the degree of moderation: it can vary from highly moderated – where somebody monitors and controls everything – to loosely moderated – there is a basic structure where anybody may upload materials or propose ideas –
- By the degree of openness: From *Limited to partners only* to *Totally open*

2.4 Tools

The work of the OpenCoP requires certain IT tools, especially in order to allow cross-organizational and cross-border work. Since the IT tools need to be interoperable they are connected and integrated within the Digital Education Ecosystem (DEE) which is described in the respective specification. An OpenCoP can select their own set of IT tools and can tailor the IT tool platform according to their needs. In general, there are 2 types of tools:

- IT tools for Delivery: This includes the Learning Management System (e.g. moodle), a virtual classroom system (e.g. BigBlueButton, but can also be another conferencing system like zoom or Microsoft Teams) and tools for labs (e.g. SW tools delivered via a Virtual Desktop Infrastructure – VDI) and projects (e.g. a collaboration platform or a code repository like Git).
- IT tools for Development and Collaboration: These tools are exclusively used by the OpenCoP for their development work. The functionality involves file sharing (e.g. nextcloud), team calendar, collaboration and joint documents/wikis (e.g. Atlassian Confluence), project & task management (Atlassian Jira), the web portal for publishing the results, recording tools and other tools for media production.

The tools will be either web based or hosted on the servers of the EuroPIM consortium. Support and maintenance will be done by the IT Technology Stewards.

3. Quality Management

3.1 Quality Process

The quality management (QM) follows the EFQM-model of the European Foundation for Quality Management (https://www.efqm.org/). It establishes a QM loop similar to the Plan-Do-Check-Act (PDCA) cycle of the ISO9001 quality management. Improvement cycles are implemented for the development, test and release of the modules and other deliverables.

QM is based on quantitative data and the analysis of this data with data analytics tools. The data for the core process (module development and test) is mainly derived from the evaluation surveys conducted during the pilot teaching and company evaluation. These results are directly used to drive improvement. The project management method for the core process is Scrumban, which combines approaches from the Agile Scrum with Kanban. At a glance, the approach generates improvement tickets from surveys and lessons learned which are handled and documented in Kanban style. In Scrum meetings of the module teams, these tickets are considered and prioritized for implementation. An improvement run (a long “sprint”) for a module ends with a pilot teaching and new findings for improvement. Finally, the module is released by the Internal Evaluation Board (IEB) based on a release review and checklist. The PM and QM processes follow the new OpenPM² methodology of the EU (https://www.pm2alliance.eu/).

The Internal Evaluation Board (IEB) is responsible for supervision and controlling of the quality process. It supports the Daily Management Board (DMB) by handing over release checklist results and improvement plans. The Local Project Teams (LPT) and the OpenCoPs report to the IEB with the evaluation results. Evaluation and QM for the different work packages and results is done by peer review involving experts from the other OpenCoPs. This stimulates best-practice-sharing, too.

The quality processes, the checklists and evaluation forms, and the review processes are documented in the Quality Management Manual. Evaluation is done with online surveys and the data is stored in a QM database which enables data analytics of evaluation results. The analysis of the results from reviews and evaluation leads to an improvement plan (IT-based, ticket system) for each module (or other developed and tested artefact). The Internal Evaluation Board (IEB) meetings are used to review checklists and release documents.

3.1.1 Releases & Reviews

A core element of the quality management process are the reviews and the consecutive releases of developed artefacts:

- A review is a structured process of checks and discussions in order to assess the quality and standard compliance of a result or deliverable. The reviewers can be teachers or other experts. At least 2 reviewers should be assigned by the IEB in order to receive an objective assessment. For a review of an eLearning module, the module specification is

the guiding document. In addition, the IEB or the OpenCoP can establish a review checklist. If the module was already taught, the evaluation reports and the improvement plan can become part of the review. The results are documented in a review report with a recommendation (e.g. approval/conditional approval/rejection). It is advisable to use a review management system (e.g. similar to easychair) to automate the process.

- A release of an artefact contains several elements. First of all, the configuration of the released material has to be defined, meaning for all artefacts/files it has to be clear which version is contained in the release. Second, the data versions prepared for release have to be checked in a review and the release has to be approved (or at least conditionally approved with a list of bugs or required changes). The release contains a release documentation with the review report and a reference of versions of the released artefacts/files.

3.1.2 Evaluation

The evaluation is used to assess the quality of developed artefacts - especially eLearning modules and other educational resources – based on surveys amongst the users (both teachers/trainers and students):

- A module evaluation assesses the quality (effectiveness and efficiency) of the complete delivery (e.g. pilot teaching) with a survey, at least amongst the students, maybe also amongst teachers (especially in case of several teaching sessions).
- An event evaluation assesses one event, e.g. a workshop, a project group, a summer school or a seminar.
- A study programme evaluation assesses the delivery of parts of a Master's programme (or – post mortem – of a complete Master's programme, assessed by alumni). E.g., after 3 semesters, the evaluation is done. Both students and teachers should do the evaluation.

The evaluation is done with a standardized questionnaire, if possible with answers which are given on a Likert scale. In addition to such online surveys, the data on results of the delivery should be collected (grades, number of attendants, number of hours, …).

3.1.3 Improvement Plan

An Improvement Plan as a to-do-list with all the changes that have to be done on the respective artefact, e.g. an eLearning module. For complex changes, a change request form can be filled which describes the improvement and the planned changes for implementation.

Complex change requests should be reviewed and approved. Change requests need to be prioritized (e.g. approved for the next iteration of the artefact) if the amount exceeds certain levels. They can be categorized in major and minor changes. The QM manual describes theses categories, priorities and processes.

The implementation of change request is controlled and managed with a ticket/issue tracking system (e.g. Jira). Changes can become part of the Kanban board of the OpenCoP (especially for smaller changes) or they are part of the backlog of a Scrum-based sprint planning.

The steps of the improvement plan are:

1. Plan a change request based on the evaluation results => Developer/Teacher
2. Issue the change request, approve it (by IEB at least for major changes), categorize and prioritize them => Release & Configuration Manager
3. Schedule the changes by adding them to the Kanban board or Sprint planning, manage and control the implementation => Developers team of the OpenCoP (e.g. daily Scrum)

3.2 Train-the-Trainer (TtT)

The OpenCoPs are providing a pool of qualified teachers and trainers for their modules. This involves members of the OpenCoP, but also external teachers and experts. To make it easy to familiarize with the educational resources and didactic concept, but also to guarantee a certain quality of teaching, the teachers are trained. The Train-the-Trainer concept is based on several components which are implemented as eLearning modules, too:

- Training for the module development, including training about competences + learning trajectory, instructional design, module specification and the “philosophy” of a cross-border module with real and virtual student and teacher exchange. This TtT is mainly used to help OpenCoPs to set up their module development process.
- Training for the module delivery (teaching), including training about didactics and teaching, assessment, module evaluation and the improvement process. An important aspect is the tailoring of the module for the different target groups and curricula, based on the portfolio of the educational resources and didactic formats. The topics of language, especially teaching in English in Higher Education might be relevant, too.
- Training for participating/managing in the OpenCoP which includes the concept of the co-production process with teachers, industry experts and students. Furthermore, the open access concepts are explained and the iterative process with the quality and release management are highlighted. The IT platform for co-production and the web portal need to be explained, too, best in tutorials.
- Tutorials and Tool Trainings for certain IT tools (e.g. moodle, BBB, …)

The Train-the-Trainer does not deliver training on the content of the modules since the pool of teachers is expected to have all relevant competences and insight into it. In addition to the TtT-eLearning modules, a training programme and trainers for the TtT will be established.

3.3 Certification & Standardization

The successful participation in an eLearning module can lead to a professional certificate in addition or instead of the academic credentials. The OpenCoPs will investigate the options for such certification and they will contribute into the development. Certificates will be developed

in cooperation with established partners like IPMA or IEEE, in order to guarantee an industry-wide recognition and a high value for the graduates. It is not intended to have professional certificates for all developed modules, but at least for some. An alternative is to use the module as a preparation for an existing professional certification. In order to develop a certification, the following steps have to be done by the OpenCoP:

- Develop and standardize the competence profile reflected by the certificate => align and possibly embed it into existing certification frameworks.
- Match the competence profile with the competence profile delivered by the eLearning module. Tailor it accordingly, e.g. define a subset leading to the certificate or add further competences which are needed for the certificate but are not part of the module yet.
- Develop the training concept and the educational resources which lead to the certificate.
- Align with a professional association about the certificate, the competences and the assessment (awarding the certificate). Embed it into the delivery concept of the module. Align on certification fees, discounts for students or consortium members.
- Pilot the preparation, certification and assessment, evaluate and improve it.
- Release, standardize and publish the certification process and the respective certificate.

4. Membership, Duties and Intellectual Property

4.1 Membership, Rights and Duties

The OpenCoPs are by definition open for joining and leaving. Each OpenCoP has a Product Owner who is responsible for the results of the OpenCoP (can also be moderator). The members and the Product Owner align on the decision-making processes and the organizational patterns and roles within the OpenCoP. Members have a consensus and agreement amongst them to follow the processes and to agree on the decision-making. New members agree and buy in when they are joining. Furthermore, members agree to take certain roles and to commit work and effort into the OpenCoP in order to achieve the planned results. There is literature about CoPs (https://en.wikipedia.org/wiki/Community_of_practice) and a lot of guidelines and best practices.

Joining a Community of Practice makes sense for practitioners - meaning experts, trainers and teachers - who want to get actively involved in creating knowledge and new artefacts. It is not intended for passive listeners or pure users of the results who will be served by the open access strategy. Therefore, the OpenCoP expects commitment, contribution and work by the members. If organisations assign members to the OpenCoP, they agree to this commitment. An OpenCoP can use a differentiation of membership status, e.g. core members, expert members, associated members, external reviewers etc., in order to represent different levels of commitment. It is advisable to formalize the joining and leaving, same as a change of status, in order to allow the Product Owner and the core members are proper planning of work, tasks and deliverables/releases.

4.2 Treatment of results (Intellectual Property)

For the impact of the project results and the influence on standardization (formal or de-facto) it is very important to open the communities of practice beyond the initial core members. The underlying paradigm is Open Innovation which is happening in 3 facets: Innovation Generation, Innovation Dissemination and Innovation Absorption (see Henry Chesbrough on Open Innovation [3][4]). The “Open” approach of the OpenCoPs touches all theses aspects, meaning it is open to new members which are actively attracted and recruited in order to get new expertise, more workforce and in general a flow of support and participation which keeps the community vivid, creative and alive. In addition is incorporates an Open Innovation mind set and respective processes. The results are Open Source and Open Educational Resources (OER), accessible via a web portal which is augmented with means for interaction and communication (e.g. forum, blog, social media, information and tutorials). All documentations and publications are Open Access. Communication and marketing are targeting all relevant communities and to some extent also the broader public (creating “followers” of the OpenCoP).

This means that the members of the OpenCoP have no exclusive access or rights on what they develop. The benefit for members has to be delivered by other means:

- Early access to new knowledge, trends, results and educational resources.
- Access to the expertise in the OpenCoP, e.g. asking the members to support with consulting in one's university or company.
- Access to the pool of teachers and trainers for conducting the delivery in one's own organisation.
- Reputation gain, e.g. through publications or media appearance.
- Preferable conditions or discounts, e.g. for professional certifications or access to tools or media.

The publication of results will follow an open license model. The model can be decided by the OpenCoP according to their needs. It is recommended to follow a Creative Commons License offering the following features (see https://creativecommons.org/licenses/):

- Attribution (BY): this feature means that any usage of the licensed artefact has to mention BY whom it was created.
- Share alike (SA): this means that any new artefact which is based on the (modified) licensed artefact has to be published under the same license. It avoids that somebody creates a closed artefact (not "open") by using a previously openly published artefact.
- Non-commercial (NC): the usage of the licensed result is only allowed for non-commercial purposes.
- No Derivative Works (ND): it is not allowed to modify the openly published artefact.

In general, none of the features is strictly required. ND does not make sense for Open Educational Resources (OER) and should therefore not be asked for by the OpenCoPs. Joint results or results generated by public organisations may be NC, but it is not required as long as the artefacts can be used freely and without payment (not asking for NC does not exclude free usage which is guaranteed by CC anyway, it just does not forbid additional commercial usage). BY might be advisable during runtime of a publicly funded project. SA can be advisable for core deliverables (e.g. a standard) to make sure that future versions remain open. In general, a CC-BY licence might be sufficient during project runtime. A license with no restrictions is called CC0.

The definition of "open" is published by the Open Knowledge Foundation (OKF). Creative Commons is a non-governmental organisation administrating the CC license model.

5. Dissemination, Exploitation and Communication

5.1 Marketing Plan

The OpenCoP implements a marketing and communication strategy. This is part of the marketing and communication plan of the overall project, but it is an own contribution and the members of the OpenCoP are expected to develop their own plan. A major goal is to support the different aspects of "open".

Typical target groups for the OpenCoP marketing and communication are:

- Recruiting of potential members and contributors
- Attracting users for the educational resources, fostering dissemination
- Attracting other HEIs, companies and organisations as users and contributors
- Internal marketing in the partner organisations to foster usage and support
- Scientific community and experts, both on content and delivery
- Public bodies, e.g. ministries, funding organisations, EU, in order to get support
- Internal marketing in the OpenCoP, the projects and amongst other OpenCoPs

Typical elements and artefacts of the marketing and communication plan are:

- Educational material, e.g. eLearning modules, online courses, any kind of Open Educational Resources (OER), books on content or on delivery
- Scientific publications, conferences
- Events, e.g. TtT events, pilot teaching, summer school
- Social media, films
- Web portal (Open Innovation portal, see below)
- News, e.g. releases of new modules, new certifications

5.2 Open Innovation Portal

The OpenCoPs publish results on a web portal which supports the Open Innovation approach. The web portal is established for a group of OpenCoPs which have a similar scope (e.g. Data Science, Project Management). Elements of the web portal may be:

- Publication of OER, tool download
- Forum, blog
- Tutorials (e.g. TtT), films, publications
- Access to OpenCoP, registration for new members, login for members
- Testimonials, success stories, evaluation results
- News, calendar of events, dates for trainings and certifications
- Links to DEE, co-production platform, moodle, BBB

5.3 Curriculum Integration and Company Academies

The internal dissemination of the project partners is addressing the educational programmes of the universities and the company academies of the industry partners. The goal is to bring the results and especially the eLearning modules and educational resources into application and to expand the user community. Furthermore, it is important to obtain internal support, especially management support. The relevant elements are:

- Internal marketing of the activities and results in order to raise awareness and to win support within the partner organisations.
- Integration of the modules into the curriculum of the Master programmes, e.g. as electives. Furthermore, the establishment of (cross-programme and cross-country) specialisations, e.g. as a 1-semester/30 ECTS minor in a Master's programme (MA+ concept), implementation of extracurricular activities, e.g. Summer Schools, and finally the accreditation of updated educational programmes and the implementation of Double Degrees.
- Implementation of trainings and certifications into a tailored human resource development and professional education programme in the companies. Inclusion of the training credentials and professional certificates into cumulative academic degrees (including practical achievements and projects from the companies).

6. References

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