



**Project Title:** **ENhANCE:** EuropeaN curriculum for fAmily aNd Community nurseE

**Contract No:** 2017 - 2976 / 001 - 001

**EU Programme:** Erasmus plus

**Start of project:** 1 January 2018

**Duration:** 3 years

## **Deliverable No: D4.2.2 (Annex)**

### **A European e-learning path for VET teachers in the field of nursing**

**Due date of deliverable:** 31 July 2019

**Actual submission date:** 31 July 2019

**Version:** 1st version of D4.2.2

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



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<b>Project ref. number</b>	591946-EPP-1-2017-1-IT-EPPKA2-SSA
<b>Project title</b>	<b>ENhANCE</b> - European curriculum for family and Community nurse

<b>Deliverable title</b>	A European e-learning path for VET teachers in the field of nursing
<b>Deliverable number</b>	D 4.2.2
<b>Deliverable version</b>	Version 1
<b>Previous version(s)</b>	
<b>Contractual date of delivery</b>	31 July 2019
<b>Actual date of delivery</b>	31 July 2019
<b>Deliverable filename</b>	ENhANCE_D4.2.2_v20190731.pdf
<b>Type of deliverable</b>	E-learning course
<b>Language</b>	English
<b>Dissemination level</b>	PU = Public
<b>Number of pages</b>	24
<b>Work package</b>	WP4
<b>Partner responsible</b>	ITD-CNR
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<b>Abstract</b>	The deliverable is intended as a technical annex to D 4.2.2 and is distributed with the European e-learning path for
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	<p>teachers designed and delivered under WP4-Task 4.2 (result R-VI)</p> <p>The document introduces the structure of the path and the main contents addressed by the different Modules. Moreover, it reports some data on the training path attendance.</p>
<b>Keywords</b>	<p>Nursing Education, Open Online Tool, Formal Learning, Competence-based Learning Design, Collaborative Learning, Self-Regulated Learning, Gamification, Professional knowledge, Professional Development</p>

## Signatures

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## 1. Executive summary

This document is intended as a technical annex to D 4.2.2 and is distributed with the European e-learning path for VET teachers in the field of nursing designed and delivered under WP4-Task 4.2 (result R-VI).

The e-learning path is available at: <https://oot.enhance-fcn.eu/course/view.php?id=5>

The e-learning path was conceived for all teachers that will be involved in the pilot courses (in Finland, Greece and Italy), so as to introduce them to the main outcomes of the project and train them on specific methodologies and tools.

In section 2, the document guides through the training path introducing its objectives, structure, contents, etc. In this way, the reader can access the course itself having gained a preliminary idea of it.

In section 3, some collective data on the training path attendance are presented.

## 2. The European e-learning path for teachers description

### 2.1 Introducing the teacher training path in ENhANCE

The European e-learning path for VET teachers in the field of nursing (available at: <https://oot.enhance-fcn.eu/course/view.php?id=5>) was built in the framework of the ENhANCE Project and was directed to the teachers in charge of developing and carrying out the pilot courses based on the localized curricula in Italy, Greece and Finland. Therefore, teachers of the three universities involved in this pilot phase have been involved in the course.

Teachers have been offered an e-learning international training initiative, aimed to introduce them to the most innovative learning design and teaching methods, so that they can collaboratively design effective teaching/learning activities for nurses, starting from the local curricula.

During the path, teachers were led to the development of at least one collaborative activity that they will be expected to carry out during the Pilots

Moreover, teachers were familiarized with the Open Online Tool (OOT), which is a web-based application (see D. 4.1.2 and its release notes) that will be adopted by teachers during the Pilot courses.

Finally, the training path was framed in the '4Cs' approach for continuous professional development [1] that identifies some specific behaviors considered essential for effective learning; therefore, during the path, teachers have been triggered to enact and introject these behaviors, so as to help them becoming autonomous knowledge co-constructors even after the end of the training initiative. Teachers will be in charge of triggering the same behavioral pattern in their students during the pilots.

The training path was delivered **completely on-line on the OOT<sup>1</sup>** and was open just to registered users.

The **official language** established for the training path was **English**; online contents and learning materials have been prepared and delivered in the official language, and the outcomes of both the individual and collaborative activities were expected to be in English. All interactions in forums have been in English.

Other languages spoken in the training path are Greek, Italian and Finnish.

The training path officially started May, 2<sup>th</sup>, 2019 and ended July, 18<sup>th</sup>, 2019, for an **overall duration of 11 weeks**.

It was decided to keep the training path open and available for a follow up phase, where participants can find further support for complete the design of their pilot courses.

#### 2.1.1 Objectives

The main objectives identified for the path were:

- Get the teachers familiarized with the key pillars of the project, including the EU Curriculum and the derived national curricula.

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<sup>1</sup> <https://oot.enhance-fcn.eu/>

- Get the teachers familiarized with the Open Online Tool developed in the project, which has the aim of supporting innovative teaching and learning practices and the sharing of practices among nurses.
- Introduce the teachers to the concepts of: (a) collaborative learning; (b) self-regulated professional learning; (c) gamification and guided in the conceptualization of innovative learning activities based on these three concepts.
- Make the teachers collaboratively design part of the pilots to be delivered.
- Introduce the teachers to the concept of Open Contents and produce or retrieve learning materials to be adopted during the pilots.

### 2.1.2 Activities

This training path has been delivered completely on line. The proposed activities included:

1. Online lectures (in the form of webinars)
2. Collaborative learning activities
3. Individual study activities
4. Assignments/quizzes.

Theoretical sessions have been always coupled with hands on activities, to be carried out individually or collaboratively. Moreover, participants have been expected to actively participate in discussions with trainers and colleagues through forums.

Activities in the path could be Mandatory or Optional. Participants were made clear Module by Module which activities felt under the two categories

### 2.1.3 The 4Cs framework for professional development

The teacher training was framed in a specific model for professional development that is strictly interrelated with the concept of Self-Regulated Learning:

The 4Cs model was introduced by Milligan and colleagues [1]. As the authors highlight, knowledge workers may not be aware of how much they learn while working because learning is a sort of 'side effect' of working. Researchers believe that increasing this awareness may help workers to regulate better their learning process.

Littlejohn and colleagues [2] developed a model of knowledge building in communities of workers. In particular, they identified four key behaviours typical of informal networks, called the 4Cs behaviours that represent ways of sharing knowledge at work:

- CONSUME: consuming knowledge created by others, by accessing intentionally sources of knowledge or even passively, through simple participation in the community
- CREATE: creating new knowledge, operating on already existing sources (people, resources, etc.);
- CONNECT: connecting with people and resources in the community, by sharing suggestions or experiences or by collaborating with others.

- **CONTRIBUTE:** contributing to the community knowledge by sharing the knowledge created with the members of the community.

These behaviours, intertwined, contribute to the achievement of common goals in the community and to the professional development of the individuals.

According to Milligan and colleagues [1] *“these [the 4Cs] behaviours describe how people self-regulate their learning. Together they illustrate how each individual plans, implements and reflects on their learning and development at work. We term this (metacognitive) process of planning and instantiating learning ‘charting’.”*

Persico and colleagues [3] have already instantiated the 4Cs behaviours to the case of educators, by exploring the interplay between teachers’ professional practice and their self-regulated learning (SRL) capacity. In fact, this instantiation describes the relationship between practice, the 4Cs behaviours and the ability to self-regulate own learning.

This model was applied to frame the activities envisaged in the path. Despite the fact that participants have been involved in a formal learning situation while the model was born for informal learning, the training represent the setting where awareness will be gained about these fundamental behaviours.

As described in D4.1.1 (see sections 4.1.1 and 6.1.1), the OOT was endowed with a functionality aimed at tracking these behaviours and results of their actual enactment were shown to single participants through a visual representation of the relative frequency of their behaviours in the 4Cs Dashboard.



**Figure 1 - 4Cs Dashboard**

To support the participants in enacting 4Cs behaviours the course was enriched with Gamification features that will be described in the following section.

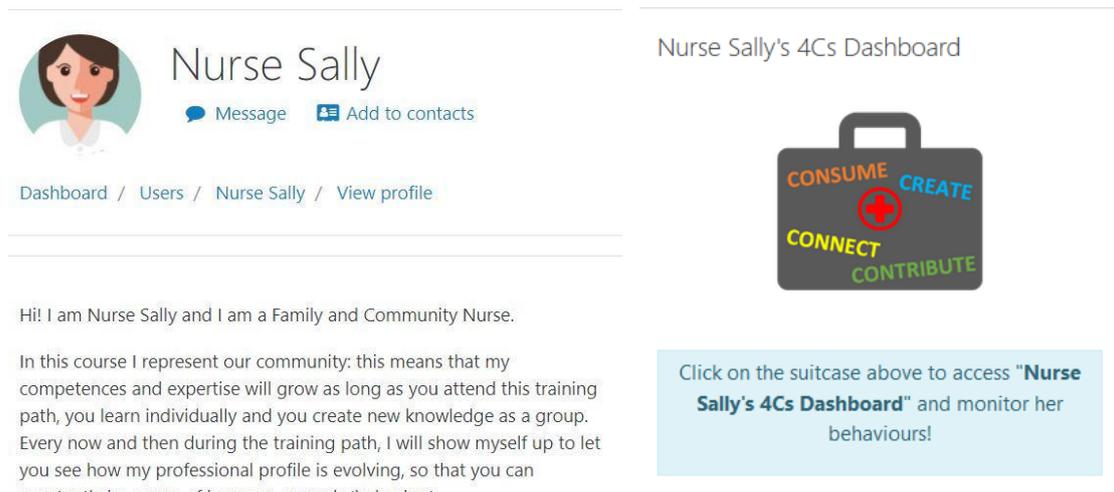
### 2.1.4 Training path gamification

The training path was enriched with gamification features to support participation and the enactment of specific behaviours (see section 3.1.3). Gamification was supported by functionalities made available in the OOT, as described in D 4.1.1 (sections 4.1.1 and 6.1.1).

### 2.1.4.1 Nurse Sally

Nurse Sally was a virtual Family and Community Nurse, representing whole course community. Nurse Sally’s Dashboard was used to reflect the growing of the community competences and expertise for the whole duration of the training path. The message conveyed is that while learners learn individually they create new knowledge as a group (see Figure 2).

Nurse Sally regularly reported in a dedicated forum (Meta-reflection forum, see section 3.3 of this deliverable) the community advancements. Moreover, each participant had the opportunity to access Nurse Sally’s Dashboard from his/her page of the course.

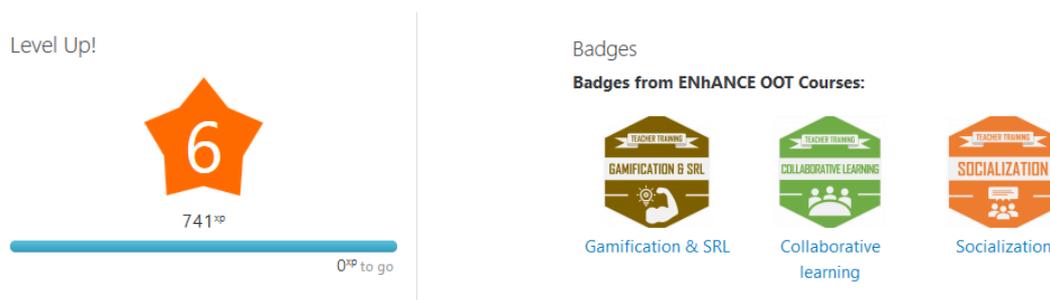


**Figure 2 - Nurse Sally message (left part) – Access to the Nurse Sally Dashboard (right part)**

### 2.1.4.2 Level up!

Level up! is a Moodle plug-in. It aims to promote student participation and engagement in the courses, by means of simple and immediate gamification elements (e.g. points for participation in activities, leaderboard, badges). Moreover, it displays progress visually in a Moodle block.

In the ENhANCE teacher training path this plug in was implemented in order to trigger participants’ involvement through individual rewards (see Figure 3) and competition (see leaderboard in Figure 4).



**Figure 3 - Points and badges in Level up!**



**Figure 4 - Course Leaderboard**

## 2.2 Contents, structure and time schedule of the training path

The training was structured in modules and included 4 main modules, as well as 1 module of familiarization with other training path participants and the technological environment of the course.

Each module was introduced by a webinar that represented an occasion of synchronous interaction among participants and teachers. Recordings of the webinars were left available on the platform, so that trainees that couldn't attend them could watch the recordings afterwards.

Modules 2, 3, 4, and 5 integrate the theoretical session with more practical activities during which participants have been requested, from time to time, to collaborate with their colleagues or work individually. In Module 5, teachers have been guided in developing individually a collaborative activity and at least one teaching/learning material to be used in the activity itself (see Table 3-1).

Due to the highly interactive nature of the training path, continuous and attentive support and monitoring of the tutor were required. Besides the constant monitoring of the exchanges in the different forums, the tutor launched the envisaged activities at the beginning of every module, triggered participation and collaboration among the participants, revised the collaborative and individual tasks produced in Module 3, 4, and 5, and provided individualized feedback and support for the whole duration of the training.

In the Following sections, modules are described in detail.

Module	Module title	Schedule
Module 1	<b>Opening and socialization phase</b>	
	Webinar	May 2 <sup>nd</sup>
	Online activities	May 2 <sup>nd</sup> – May 15 <sup>th</sup>
Module 2	<b>Familiarization with the main project outputs (Curricula &amp; OOT)</b>	
	Webinar	May 16 <sup>th</sup>
	Online activities	May 16 <sup>th</sup> – May 29 <sup>th</sup>

Module 3	<b>Basics of Collaborative Learning and Learning Design</b>	
	Webinar	May 30 <sup>th</sup>
	Online activities	May 30 <sup>th</sup> – June 9 <sup>th</sup>
Module 4	<b>Basics of SRL and gamification</b>	
	Webinar	June 10 <sup>th</sup>
	Online activities	June 10 <sup>th</sup> – June 26 <sup>th</sup>
Module 5	<b>Development of Open Contents and OOT configuration</b>	
	Webinar	June 27 <sup>th</sup>
	Online activities	June 27 <sup>th</sup> – July 18 <sup>th</sup>

**Table 1 Modules of the training path**

### **2.2.1 M1 - Introductory module: Opening and socialization phase (14 days)**

During this module, participants familiarized among each other, as well as with the technological environment of the course, i.e. the Open Online Tool.

The main aim of this module was to create a friendly climate among participants and to plant the first seeds of a European community of teachers working in nursing education. To reach this aim, after the start up webinar, that was introductory of the training path, a socialization activity was proposed. Participants have been asked to introduce themselves to the community within a discussion forum; participation and engagement were supported through a gamified approach: Nurse Sally led the discussion asking each of the participants to state which of the 4Cs behaviours s/he imagined s/he would act the most.

A quiz (the pre-test) has been proposed to help participants placing themselves with reference to their knowledge and skills about the topics of the course.

A set of resources was also made available on the platform, including the course guide and the OOT user manual.

The main contents addressed were:

- What the ENhANCE project is.
- What this teacher training path is.
- Who the other attendants were.
- What the Open Online Tool is.

### **2.2.2 M2- Familiarization with the main project outputs (Curricula & OOT) (14 days)**

During this module, thanks to a webinar, participants have been introduced to the ENhANCE European Curriculum for Family and Community Nurses (FCNs). Some resources were provided for individual study: the FCN Professional Profile, the EU Curriculum and the localized curricula.

In the M2 forum the tutor launched and supported discussions about the national curricula at national level (three discussion threads, one for each nation, were opened).

A survey was set up to collect participants' opinions on three of the main outputs of the project (the professional profile, the EU curriculum, the localized curricula) and the OOT functionalities for the design of the participants' own course within the pilots. A gamified activity to further explore the functionalities offered by the Open Online Tool was also delivered in alternative to reading of a text guide.

The main contents of the Module were:

- What the ENhANCE Professional Profile for FCN is.
- What the ENhANCE EU Curriculum is.
- What the ENhANCE National Curricula is.
- What the main OOT functionalities are.

### **2.2.3 M3 – Basics of Collaborative Learning and Learning Design (11 days)**

During this module, participants attended a webinar introducing the concept of Learning Design and, specifically, an approach for the design of collaborative learning activities, called the 4Ts approach. In particular, the aim was to get a grasp of this approach as well as of some frequently used collaborative learning techniques. After the webinar, participants had the opportunity to put the approach into practice by designing a learning activity for FCNs in collaboration with other colleagues. A peer review activity [4] was set up: participants were divided in 7 groups and worked separately in 7 different private forums, producing the first draft of collaborative activity. This represented the first phase of a peer review task, the other two phases were carried out in Module 4.

One common forum for information and intergroup discussions was created as well.

Resources made available on the platform included lecture notes, the template to be used for the collaborative activity and one mandatory resource about Learning Design that could be studied in form of video or text. Some optional papers dealing with the two topics (Learning Design and Collaborative Learning) have been also made available

The main contents of the Module were:

- What Learning Design is and why it is important, especially for online learning
- What Collaborative Learning is and how FCNs could take advantage of it
- Techniques for fostering collaborative learning (peer review, jigsaw, role play, pyramid, discussion, etc.)
- How to design online collaborative learning activities with the 4Ts approach

#### **2.2.4 M4 – Basics of SRL and gamification (17 days)**

During this module, participants have been introduced to the concept of self-regulated learning as a necessary process for continuous professional development of FCNs and to gamification as a way to encourage and support engagement in this process. As in the previous modules, participants took part in a webinar dealing with these two concepts and the way SRL is/can be gamified in the OOT. During this module, participants kept working in the 7 private forums. They gave feedback about the design created and enriched them with two sections: one related to how to foster SRL in their students and one about gamification features to be added to the designed activity. During this module, participants made experience of the second and third phase of a peer review task. The tutor provided feedback as well.

As with other modules, resources have been uploaded for Module 4: the participants were given two templates for carrying out the activity and a number of papers (some to be read, mandatorily, others optional) for deepening the concepts introduced.

Contents:

- What Self-Regulated Learning is and why it is important, especially in knowledge intensive domains
- The 4Cs model for Self-Regulated professional learning
- What Gamification is and how it can foster professional learning
- Gamifying the 4Cs model.

### 2.2.5 M5 - Development of Open Contents and OOT configuration (22 days)

During this module, after a short introduction to the notion of Open Contents given during a webinar, in a dedicated forum participants were asked to individually design an exemplary innovative activity for the pilots and possibly produce the teaching/learning materials to be associated with it. This design had to include the tools of the OOT that teachers plan to adopt during their activity, so as to have a reference for the adequate configuration of the OOT in order to host this activity. In this way, at the end of the training path participants were expected to have a complete exemplary activity designed and all the elements to be implemented (materials and technological tools). The design and the related activity/ies were to be uploaded in the Open Content repository<sup>2</sup>. At the very end of this module, participants were asked to fill a final survey in so as to collect their overall feedback on the training path, and answered a quiz (post-test) so as to test the knowledge acquired during the training.

Contents:

- What are Open Contents and Open Educational Resources (OERs).
- What are Creative Commons and CC licenses.
- Open Access in academic research.
- How to design OERs.

### 2.3 The e-learning environment

As introduced before, the training path was delivered completely online through the Open Online Tool (see D 4.1.1). The tool was initially conceived and developed for the Pilots (that will be carried out under WP5), but was afterwards identified as the most suitable solution to deliver the Teacher Training as well. Indeed, WP4 partners agreed that it was essential for the teachers involved in the teacher training (Task 4.2) to use the same e-learning platform that their students will use during the pilots instead of using an additional e-learning environment, as it had been planned. By using it teacher could explore and experience the functionalities that they will be expected to use during their courses. For this reason, the OOT was released one month before to what it was planned (M16 instead of M17).

On the OOT each module included:

- A webinar and/or materials to be downloaded to cover the theoretical part
- Assignments or quizzes
- Forums for discussions and collaborative activities (except for Module 4, which used the same forums as Module 3).

To support communication and sharing among the Tutors and participants, the platform was also endowed with the following general forums:

- A General info and news forum: where the tutor interacted with participants as to general information on the course (structure, calendar, etc.)
- A Technical forum: where participants could ask for help regarding technical issues

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<sup>2</sup> <https://oot.enhance-fcn.eu/mod/data/view.php?id=308>

- Meta-reflection forum: where participants could share their reflections about the path, the contents that were delivered during it and their own learning experience.

Further functionalities made available on the platform were:

- The learning journal: a functionality aimed at helping participants in reflecting on their learning process by freely writing their thoughts and impressions. The journal can be accessed by the trainers and the single participant, it is not a tool for sharing.
- Database: a functionality aimed at making the participants share interesting resources (papers, documents, etc.) with the community.

## 2.4 The training materials

During the training, participants were provided with resources for individual study, module by module, downloadable from platform.

In particular:

- **Materials supporting the course and the OOT adoption:** e.g. Course Guide, Open Online Tool User Manual.
- **Materials supporting the activities:** e.g. templates, lecture notes.
- **Supplement materials for individual study:** e.g. papers, book chapters.

All these materials have been also uploaded in the [Open Content](#) repository together with the designs and the OERs produced by the participants (see D 4.2.1).

## 2.5 The community

The community of the training was composed of:

- Trainers: researchers in Technology Enhanced Learning, with a background in innovative teaching and learning methods.
- Tutors: they were in charge of supporting participants in dealing with the proposed activities and the platform for the whole duration of the training. The tutors gave technical and logistic support, they answered questions about the training path contents, and put participants in touch with trainers when necessary.
- Participants: they were the teachers to be involved in the pilot courses of the three Universities involved in the ENhANCE project (University of Genoa, University of Thessaly and University of Eastern Finland). The group, therefore, was heterogeneous in terms of subjects taught and native language.

## 2.6 Evaluation and assessment

### 2.6.1 Participants' assessment

The training path didn't envisage a formal evaluation, nevertheless formative and summative assessments were carried out:

- **Formative assessment:** namely a continuous evaluation of student comprehension and progresses, was carried out for the all duration of the course in form of feedback of the tutor on the participants' artefacts and messages. This monitoring of participants' comprehension of the contents and methods proposed allowed trainers to support the learning process so as to achieve valuable results in

terms of learning and artefacts. This was essential for the project objectives, since the training was considered the place for the participatory design for the Pilots

- **Summative assessment:** participants filled in pre (Quiz M2) and post (Quiz M5) questionnaires on the project contents so as to assess the knowledge acquisition. Questions were mapped against the objectives of the course. Moreover, the final artefacts of M3 and M4 (collaborative learning design activity) and M5 (individual learning design activity + OERs) were provided a final feedback before their implementation in the pilots. These artefacts represent the means to assess the capability of the participants to apply the knowledge acquired at least in the design of their teaching activities

## 2.6.2 Training evaluation

As written in the proposal, the training and its effectiveness will be evaluated under WP6, Task 6.3.

Results will be reported in D 6.3.1.

## 2.7 Participation certificate

Certificate wasn't conditional to the achievement of specific learning results, since it is given as a participation recognition.

Therefore, a certificate of attendance was given at the end of the training to those who:

- Have participated in the webinars and/or watched the videos
- Have contributed meaningfully to the discussions on contents with at least four messages per module
- Have completed the individual proposed assignments or quizzes
- Have shared the design of their exemplar activity and/or the associated learning materials in a common folder (in M5), to made them available to other participants.

### **3. The European e-learning path for teachers: participation and achievements**

#### **3.1 Overall participation in the course**

72 teachers expressed interest in participating in the training path. 41 of them were from Italy, 23 from Greece and 7 from Finland.

Greek and Finnish teachers were enrolled inasmuch teachers of the National Pilot Courses, while the Italian group composition was slightly different. Some of the teachers that will be probably involved in the Italian pilot were not able to attend the course. To address this issue, UNIGE ensured that in each module of its pilot there will be, at least, one teacher who attended the teacher training, and who will support the other teachers that did not manage to attend. Moreover, UNIGE has decided to involve in the training a number of other teachers, working in nursing training and operating for UNIGE, who will not be directly involved in the pilot course. These teachers can benefit in any case from the participation in the teacher training, as they will be exposed to the innovations proposed by the project, thus contributing to the dissemination of project outcomes and their further adoption, even outside the direct boundaries of the project.

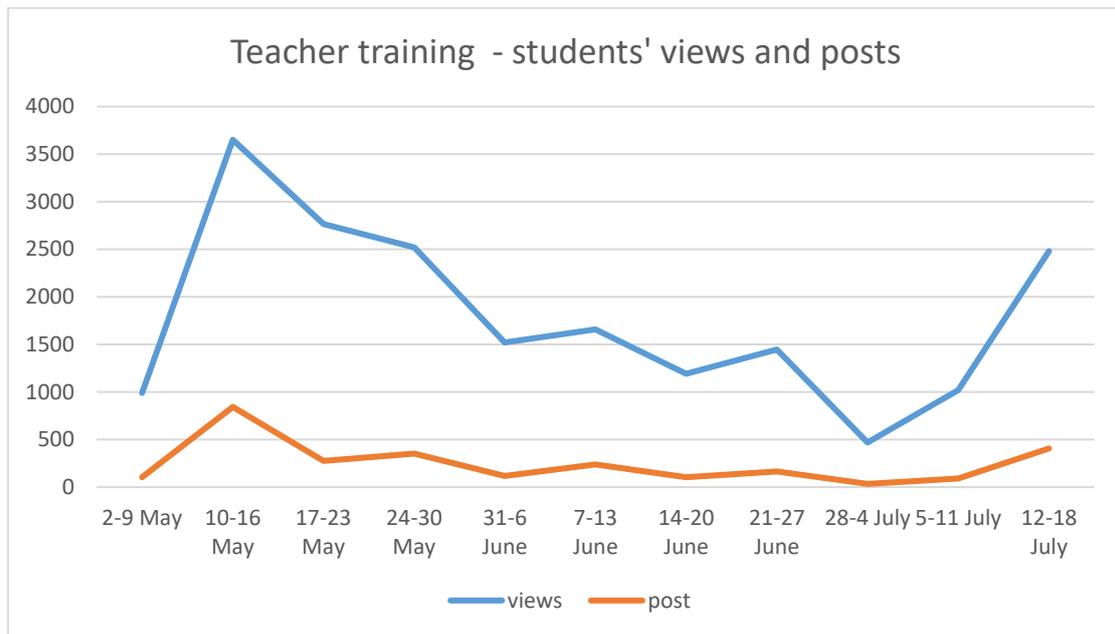
Almost all the participants filled in a pre-course questionnaire so that the training path teachers have gained an idea of their backgrounds and experiences. Some practical info (e.g. the preferred slot for attending synchronous activities) were collected as well.

For all of them a profile has been created on the Open Online Tool. Of these, 6 never accessed the Tool. Therefore, all percentages reported below are computed considering a total of 66 active participants.

The mean time spent in the course by the participants was 7 hours and 25 minutes.

In total, the course homepage counts 11007 views. Of these, 3006 were during Module 1, 2477 during Module 2, 2076 during Module 3, 1306 during Module 4, and 2142 during Module 5. These differences were probably due to the kind of activities proposed in the different Modules, but one can also consider the possibility of a modest – and probably physiological – decline in participation from module to module, which was then followed by a surge of accesses during the last module. Presumably, during the last Module trainees lagging behind made an effort to complete missed assignments and tasks.

Figure 5 shows the trend of views and actions on the platform during the training and seems to confirm this second reading.



**Figure 5 – Number of students’ views and posts (actions) per week**

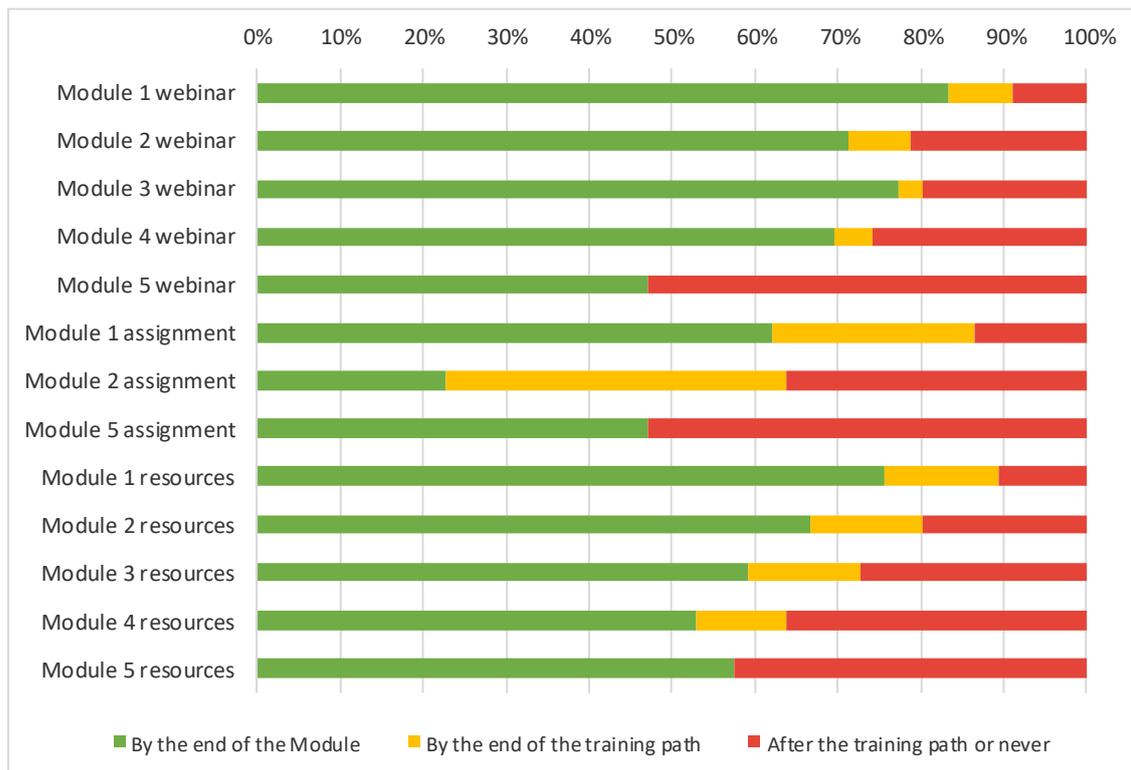
As to participation in the webinars (or visualization of webinar recordings), it is worth saying that it was high during the whole course. During module 1, 83.3% of active participants took part to the webinar or watched the webinar recording; this rose to 91.0% at the end of the course. For the Module 2 webinar, the percentage rose from 71.2% to 78.8%. For Module 3, the percentage rose from 77.3% to 80.3%, and for Module 4 from 69.7% to 74.2%. Lastly, the Module 5 webinar has been watched, at the end of the Module, by 47.0% of active participants.

The Module 1 assignment was submitted by 62.1% of participants during Module 1, and by 86.4% at the end of the course. The Module 2 assignment saw its participation rate rise from 22.7% to 63.7%. Lastly, the Module 5 assignment was submitted by 47.0% of participants before the final deadline.

Module forums were almost exclusively used during their own Module. Overall, the Module 1 forum (which was expressly devoted to socialization) saw 107 posts and replies from trainees (tutor posts were excluded to the count). The Module 2 forum saw 83 posts and replies. The Module 3 forums, which were used in both Modules 3 and 4 (see description below) and that included private forums for coordinating the collaborative activity, saw 121 posts and replies in total. Lastly, the Module 5 forum saw 63 posts and replies.

Module 1 resources were accessed by 75.7% of participants during the Module itself, and by 89.4% at the end of the course. Percentages were 66.7% and 80.3%, respectively, for Module 2, 59.1% and 72.7% for Module 3, and 53.0% and 63.7% for Module 4. Lastly, Module 5 resources were accessed by 57.6% of participants.

Figure 6 summarizes the trainee activity for webinars, assignments, and resources.



**Figure 6 - Participation rate to training path activities by the end of their module and by the end of the whole training path.**

### 3.2 Participation Module *per* Module

In this section, the participation to the activities for each module will be discussed.

#### 3.2.1 M1 - Introductory module: Opening and socialization phase (14 days)

The participation in the webinar (synchronous or recordings) was larger than the other two activities: the 91.0% participated in the webinar, while the 86.4% answered the quiz by the end of the course (62.1% during the Module) and the 63.7% wrote in the forum. The active participation in the webinar can be attributed to its introductory function, but the other two activities recorded a good level of participation as well. Resources were accessed by the 89.4% by the end of the course.

#### 3.2.2 M2- Familiarization with the main project outputs (Curricula & OOT) (14 days)

The participation in the webinar was good even in this second Module. The discussion in the forum was quite active, with 83 post written by 39 participants (59.0%), the most active were the Greek participants (44 messages), followed by the Italian ones.

The playful opportunity of the OOT challenge was appreciated, since the 60.6% selected this option (concluded by the 46.9%) against the 22.7% who read the guide.

As to the survey, only 22.7% filled it in during the Module, but most of the participants tried to catch up by the end of the training (63.7%). This was probably due to the high workload of the Module.

Resources were accessed by the 66.7% during the Module, and by the 80.3% at the end of the course

### **3.2.3 M3 – Basics of Collaborative Learning and Learning Design (11 days)**

The participation was high even for this third webinar (the 77.3% watched it during the Module while the 80.3% have accessed it by the end of the training).

Groups were built trying to mix participants from the different countries, so to foster the creation of a community in the training. Participation (33.3%) was lower than in the two previous activities carried out in forums. The main reasons behind this drop can be the demanding nature of the task (create, collaboratively, a design) and the different competence in English of the participants, that affected their capability to collaborate. Nevertheless, each group concluded the Module with at least one design to be commented by the other participants.

Resources were accessed by the 59.1% during the Module and by 72.7% of participants at the end of the training

### **3.2.4 M4 – Basics of SRL and gamification (17 days)**

Even if lower than before, the participation in this webinar was again good (the 69.7% watched it during the Module while the 74.2% have accessed it by the end of the training).

The participation in the forum (54.5%) increased a bit if compared with Module 3. Each group succeeded in preparing the final version of the collaborative activity design.

Resources were accessed by the 53.0% during the Module and by 63.7% of participants at the end of the training.

### **3.2.5 M5 - Development of Open Contents and OOT configuration (22 days)**

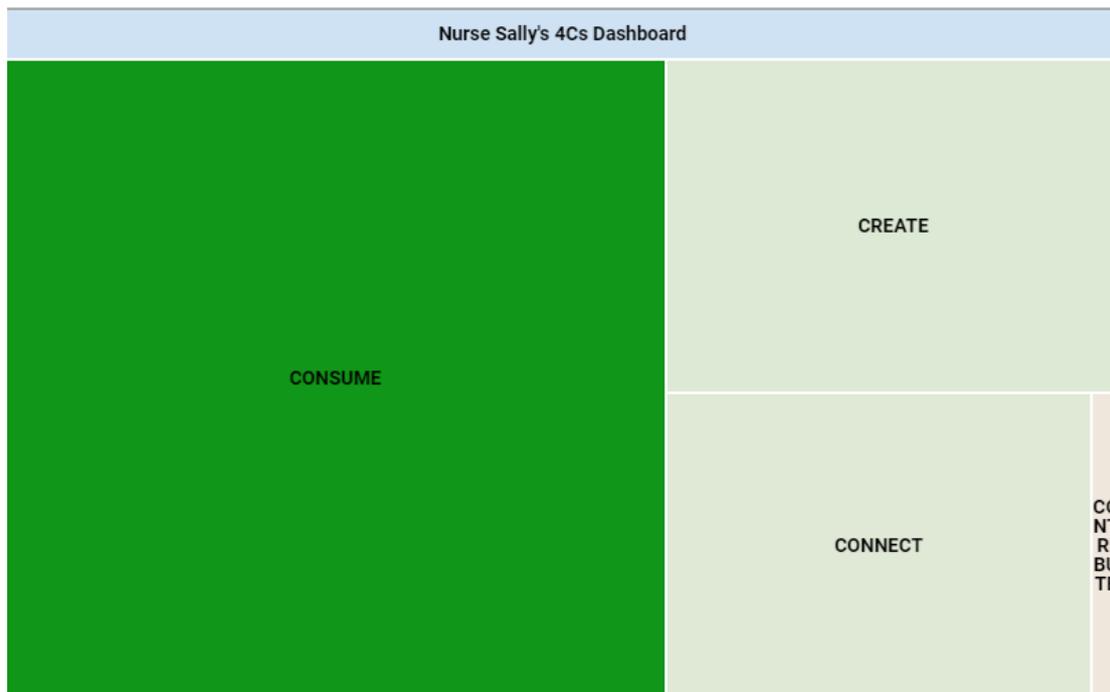
The webinar registered the lower attendance in the training (47.0%), on the contrary, the participation in the forum was quite active (56.0%) and a total of 39 designs and 3 OERs were created by the end of the course. The participants were made aware that they will have the possibility to submit other resources by September 2019.

Module 5 resources were accessed by 57.6% of participants.

## **3.3 The 4Cs dashboard**

The 4Cs dashboard was the litmus test of the different behaviors enacted by the participants and was shown at the end of each Module in the Meta-reflection forum by the virtual community character Nurse Sally (see section 3.3 of this deliverable).

At the end of the training path, Nurse Sally's 4C dashboard state was as shown in Figure 7.



**Figure 7 – Nurse Sally’s dashboard at the end of the training path**

As the Figure shows, the 4C behavior most enacted by participants was consuming educational resources. This result is due to high participation in the course webinars (see Section 3.1), as well as a high rate of access to textual educational resources provided by teachers. The second-most enacted behavior is creating, which in the training path was operationalized as submitting assignments and quizzes (assignments were required in Modules 1, 2, and 5). The next most enacted behavior is connecting with other participants, i.e. writing in the module forums and interacting in the private forums employed for the collaborative activity in Module 3 and 4. Connecting behavior saw a rise during the last weeks of the training path (see Section 3.1). Lastly, Contributing educational resources was the least enacted 4C behavior. Even though a high number of course participants submitted the last individual assignment, as of the end of the course, very few of them uploaded the output on the Open Online Tool. Therefore, they went as far as creating new material, but they struggled when prompted to share it with others.

## 4. References

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