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D5.2 PILOT EVALUATION REPORT

Project Title:

**Academy for Sustainable Future
Educators**

Project Acronym: **EduSTA**

Drafted by: University of Gothenburg and Tampere University of Applied Sciences together with all partners

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SUMMARY

Piloting of “**Sustainable Future Educator**” digital open badge constellation was organised in the five partner organisations of EduSTA – Academy for Sustainable Future Educators Teacher Academy in 2024. All partner organisations piloted at least one micro badge. Pilots organised in connection to Initial Teacher Training (ITE) programmes focused on embedding individual badges into existing courses, while the whole badge constellation was offered in pilots organised as part of professional development or as a part of Vocational Teacher Education programme for participants with professional background. The pilots were mostly organized in the local language.

Altogether 276 individuals participated in the pilots. 181 of them earned at least one badge. Total of 575 digital open badges were issued in 2024 in the pilots. This included 23 Sustainable Future Educator meta badges, 201 milestone badges and 351 micro badges.

The pilots demonstrated the applicability of the badge constellation to diverse teacher educational contexts. Both organisers and badge applicants found that the constellation is motivating even though getting started with digital open badge driven learning caused some confusion for learners. From organiser perspective, it is critical to find a suitable course in the ITE curriculum for embedding the badges. In professional development, the most difficult issue to solve is finding time for the teachers and get them started. After that they were motivated and found that the badges offer a tool for developing both their competences and their work.

From badge design perspective, the piloted proved that the constellation describes competences, assessment criteria and tasks for demonstrating the competence already in a quite aligned way. Still, needs for alignment, checking possible overlaps and simplifying language were identified during the process. Also, some demonstrations have to be changed as they were prone for the use of AI. These issues are taken into consideration in the revision in spring 2025.

INTRODUCTION

Work Package 5 of EduSTA (WP5 see appendix A) builds on the foundations established in WP2, WP3, and WP4 necessary for the transnational collaboration in the development of the digital badge constellation. In WP5 the work of the mentioned WPs was applied in national contexts to learn how applicable the designed open digital badges are both in initial teacher education and in professional development. This would inform about needs to refine the badges and to reflect findings of WPs 2 and 3. In the project plan this is called “**Revisiting WP2, WP3 and WP4**”. Tampere University of Applied Sciences was the leader of WP5 with University of Gothenburg as co-leader and leader of Task 5.3 Evaluating the pilots.

WP2 was launched in 2022 and focused on developing a collaborative community where partners were to build a shared understanding of each country’s background and key sustainability concepts. In 2023, WP3 outlined course content, pedagogical approaches, instructional methods, and accessible learning resources, and were then aligned with the digital badge-driven learning in WP4. a design template developed in WP3 assisted the design process and helped guarantee the quality of pilots. The piloting contexts, scope, target group(s) and pedagogical arrangements of the pilots were decided by the national teams. This involved also co-operation with faculties and other institutional bodies in the partner universities, and with an associated partner in the Finnish case.

The outcome of WP4 was a master document with descriptions of the competence objectives, assessment criteria and demonstration of competence in English. After agreeing on the badge constellation, each partner translated at least the badges to be piloted into the local languages. Visualisation for each badge was ordered as part of WP4.

Open Badge Factory (OBF) was used as the piloting platform and licence for year 2024 was purchased as part WP4. Both the English and translated badge descriptions were transferred to the OBF by the Finnish expert team, which acted as the factory administrator during the pilots. The team created badge applications, managed assessment (issuing) settings and created common templates for all badges in all languages used. The feedback forms were also created in English and then transferred into all languages used. The feedback forms were created and managed by the Finnish expert team as well. The links to the feedback forms were attached to the badge approval message.

The Finnish team provided ongoing guidance and support to other partners in the use of the OBF and the assessment process.

This document reports the evaluation of the pilots (Task 5.3):

- the quantitative results of the pilots as numbers of issued badges and as individuals that have participated in pilots. This data was produced through Open Badge Factory.
- The organisers' reflections are discussed through case descriptions, which have been produced in a process including organising teams' self-reflection, descriptions collected by Task Leader, University of Gothenburg, and interviews conducted by the representatives of WP5 leader and leader of Task 5.3. The process is described in the beginning of the section Descriptions of Pilots.
- Summary of the badge earner feedback (students and teachers who participated in the pilots). This is presented in the section Participant Feedback.
- Assessment of the success of piloting.

Digital Open Badge Constellation

The piloted digital open badge constellation "Educator for Sustainable Future" (Picture 1) consists of four milestone badges and altogether nine micro badges.

1. **Sustainability Literacy** milestone badge consists of 3 micro badges, (1) Knowledgeable Problem Articulator, (2) Critical Developer, and (3) Complexity Embracer
2. **Learning Ecosystem Design** milestone badge consists also of 3 micro badges, (1) Systems Thinking Promoter, (2) Futures Thinking promoter, (3) Value Awareness promoter
3. **Enabling Action** milestone badge consists of 2 micro badges, (1) Active Collaborator and (2) Action Facilitator.
4. **Reflexive Praxis** milestone badge consist of 1 micro badge, Conscious Change Agent



Picture 1: The EduSTA badge constellation

To earn **Sustainability Literacy** Milestone Badge, educator must achieve at least two of three micro badges.

To earn **Learning Ecosystem Design** Milestone Badge, educator must achieve at least two of three micro badges.

To earn **Enabling Action** Milestone Badge, educator must achieve one of two micro badges.

To earn **Reflexive Praxis** Milestone Badge, educator must achieve one micro badge.

And to earn the **Sustainable Future Educator** Meta Badge, educator must have earned all Milestone Badges (4).

RESULTS FROM THE PILOTS

All partner organisations piloted at least one micro badge. Typically, individual badges were piloted when badges were embedded into **Initial Teacher Training** (ITE) programmes, while the whole badge constellation was offered as part of professional development or as a part of **Vocational Teacher Education** programme for participants with professional background, but no previous teacher training. The pilots were mostly organized in the **local language**. The national teams translated the competence objectives, assessment criteria and competence demonstration descriptions to the local languages before piloting could start.

Altogether **276 individuals participated in the pilots**. 181 of them earned at least one badge (Table 1). **Total of 575 digital open badges were issued** in 2024 in the pilots of the EduSTA project (Table 2). This included 23 Sustainable Future Educator meta badges, 201 milestone badges and 351 micro badges.

Table 1: Summary of individuals participating in the pilots

Pilot	Number of participants in the pilots who received at least one badge	Number of participants who enrolled to the pilot
Catalan	13	13
Czech	68	122
Dutch	29	29
Finnish	52	93
Swedish	19	19
Total	181	276

Table 2: Issued digital badges in the pilots of EduSTA 2024

Language of badges	Catalan (Spain)	Czech	Dutch	Finnish	Swedish	English	Total
Sustainable Future Educator (Meta badge)			5	18			23
<i>Sustainability Literacy</i> (Milestone badge)			7	27			34
Knowledgeable Problem Articulator (micro badge)			10	35	19		64
Critical Developer (micro badge)			3	22			25
Complexity Embracer (micro badge)			4	12			16
<i>Learning Ecosystem Design</i> (Milestone badge)			7	25			32
Systems Thinking Promoter (micro badge)	7		2	21			30
Futures Thinking catalyser (micro badge)			7	26		11	44
Value Awareness Promoter (micro badge)		12	7	17		12	36
<i>Enabling Action</i> (Milestone badge)			6	26			32
Active Collaborator (micro badge)			2	13			15
Action Facilitator (micro badge)			4	14			18

Reflexive Praxis (Milestone badge)	13	56	7	25		2	103
Conscious Change Agent (micro badge)	13	56	7	25		2	103
Total badges	33	112	78	306	19	27	575

The country-specific figures provide insight to the pilot arrangements of partners. University of Girona focused on piloting “**System Thinking Promoter**” and “**Conscious Change Agent**” embedded to ITE courses. Totally in Catalan 33 digital badges were issued. The Czech University of Life Sciences Prague piloted “**Conscious Change Agent**” also and issued 112 digital badges together. The Swedish partner, the University of Gothenburg, focused on piloting “**Knowledgeable Problem Articulator**” digital badges. 19 badges were earned in two consecutive pilot rounds embedded to VTE courses. Meanwhile, the Dutch partner, Hanze University of Applied Sciences, tested all the digital badges as part of its professional development project of the staff of Hanze University of Applied Sciences and finished with the number of 78. The coordinating organisation, Tampere University of Applied Sciences (TAMK), piloted the digital open badge from the constellation in three different settings: the staff of **Tredu VTE college** (an associate partner of the project), **TAMK staff** and two other universities of applied sciences, and an **elective pedagogical course** for VTE students in TAMK’s Programme of Professional Teacher Training. These pilots concluded with 306 badges. In addition, all together 27 micro badges were issued in English. The English language badges were earned in the Czech and Dutch pilots. 12 Value Awareness Supporter micro badges, two Conscious Change Agent micro badges and two Reflexive Praxis milestone badges were issued in the Czech pilot. 11 Futures Thinking Catalyser micro badges were issued in the Dutch pilot. In the pilots, the meta badge “Educator for a Sustainable Future” was earned by five participants of the Dutch and 18 participants of the Finnish pilots.

In the EduSTA project plan the extent of the pilots is described as participants, expecting 200 participants. This number was reached even if the participants did not divide evenly between the pilots. In the end, a more important figure describing the scope of pilots is the number of micro badges and the range of issued badges. The total number 575 badges and

the fact that all badges were piloted in at least two different contexts speak for the applicability of the badges. The descriptions of the pilots provide an insight to this matter.

DESCRIPTIONS OF PILOTS

This section presents the national pilots starting with the pilots piloting one or two badges (Catalonia, Czechia and Sweden) and presenting later the pilots on the whole constellation (Finland and the Netherlands). The descriptions have been compiled in the following process.

In 2024, a template was developed by UGot and TAMK for WP5 to document each partner country's experiences in implementing the pilot(s) and their outcomes (see Appendix 1). The template consists of four sections, to be completed by the partners.

The first section captures general information, including the name of the institution/department, the program or courses where the badge(s) were piloted, the targeted participants, any incentives offered, and the expected outcomes of the pilot.

Section A focuses on ethical approval, the date of the first pilot, and details about the department, course, and program involved. It also includes a personal perspective on how well the badges suited the local context, how they were advertised to participants, the training received for the Open Badge Factory, and any concerns encountered during the pilot.

Section B addresses the selection of digital open badges from the constellation being piloted. It includes questions on the number of micro badges chosen, how well participants met the learning outcomes, reflections on why a micro badge worked (or didn't), and whether the workload was appropriate for participants.

Section C allows for personal reflection on what went well and what could have improved the pilot experience.

The templates were filled by the national teams in the planning phase of the pilots, completed with reflections after or at a late phase of pilots and followed with an interview to guarantee the quality of information and to expand the answers. Based on all this material the Task 5.3 leader produced case descriptions, which were sent to the organising teams to be checked and completed. This participatory process has served to produce comparable descriptions of the pilots with the voice of the teacher educators who planned, organised and implemented the pilots.

THE CATALAN PILOT

PROMOTING SYSTEMS THINKING AND CHANGE AGENCY IN INITIAL TEACHER EDUCATION

The introduction to micro credentials and digital open badges was piloted in the Catalan language in the **Teacher Education Program** at the University of Girona, Spain between 2023-2024.

There were four members involved in piloting the project. Two members re-designed two existing modules with the help of the other colleagues. These two members were also responsible for teaching each, one of the modules. They were responsible for the assessment of the student's task in the context of the modules and 'oriented' students in applying for the micro badges for each module, while the other two team members from the University of Girona were responsible for assessment, feedback and issuing of the digital badges via the Open Badge Factory.

Two digital open badges "**Conscious Change Agent**" and "**Systems Thinking Promoter**" were embedded into the pre-existing second-year Primary and Early Childhood courses taught by the project's two team members who are teachers.

Embedded in the course Geography in a Changing World was the "**Conscious Change Agent**" badge. This course certifies the ability to carry out sustainability actions that simultaneously improve professional teaching practice, school management, and relationships within the community (Ametller et al. 2024 blog).

Embedded in the course, **Scientific and Environmental Education Proposals for School** was the "**Systems Thinking Promoter**" badge. This course certifies the teaching competence to design contextualized teaching-learning sequences, intended to help students understand the functioning and characteristics of systems in educational contexts (Ametller et al. 2024 blog).

Pilot results and challenges

13 students applied for both micro credentials.

There were 13 students applying for the "**Conscious Change Agent**" badge who were approved while 8 students out of the 13 applying for the "**Systems Thinking Promoter**" badge were successful. Seven were returned for revision due to a lack of specificity in the proposals or the lack

of depth in the reflections required to obtain the micro badge. One of the students returned the application after revision and was approved. The applications were assessed by EduSTA – UdG team members (Ametller et al. 2024).

The challenges experienced by the teaching staff related to integrating the badges into the pre-existing courses and secondly, understanding the demonstration task and assessment criteria where the teachers sensed both constraints and the criteria being somewhat superficial.

The positives of both badges were that they provided the teaching staff an understanding of ESD competences especially since both courses are central to the scientific and environmental learning of future teachers at the University of Girona.

In addition to the international learning resources used to support students in the open badge application included also national Catalan resources.

Students were enthusiastic after they had successfully completed the courses. Most students expressed that they had a deep understanding about the meaning of sustainability, and they had enjoyed the practical approach as well as the close support from the teachers. Yet, there were students who did not feel sufficiently capable for defending these competences in a class in a real context. One of the challenges applying for the badges related to the timing since it was at the same time as students had other exams, and that resulted in students being unfocused.

After the piloting some decisions were made to improve the quality of the teaching for future courses. Both courses, **Geography in a Changing World** and the **Conscious Change Agent** badge, will be incorporated into different courses that are compulsory for all students to complete. The course titled, **Scientific and Environmental Education Proposals** for School provided in the 4th year of study will embed and offer the “Systems Thinking Promoter badge”.

Reflections and next steps

To sum up, the process of integration of the digital micro credentials for accrediting competences in education for sustainability into the existing subjects of the scientific-environmental specialization has been a rewarding experience for both student teachers and teachers at UdG. The results obtained suggest that this innovative methodology can be a potential tool for fostering more practical, integrative, and autonomous

teacher learning, including opportunities for educators in formal and informal areas. Formal recognition of teachers involved in projects related to sustainability in educational or learning centres (e.g., Teaching Green Schools Network, & Schools Networks for Sustainability) would be a future proposal. Also, the Catalan team would like to inform university policymakers about the opportunity to certify ESD competencies for UdG staff as part of the university's sustainability plan. The EduSTA project could serve as an excellent starting point for this initiative.

Concluding comments

The participants of the Catalan pilots highlighted the way they worked and deepened their understanding of sustainability through the practical approach and constant support from their teachers, which were key factors in the success of the pilot. One student's reflection was "This vision of systemic thinking makes you realize that easy answers always leave things out."

The team is continuing to use the developed models with some alternations as part of the ITE curriculum. Further, the team will continue to find ways how to include the badges in in-service teachers' professional development programmes and tries to find partners for certification of competences.

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References:

Ametller et al. (2024). *Reflection on Integration of Pilots into Existing Courses – the Catalan case*, [available online](#).

THE CZECH PILOT

INNOVATION IN TEACHING SUBJECTS SCHOOL PEDAGOGY AND ENVIRONMENTAL EDUCATION

At the Czech University of Life Sciences, the micro credentials and digital open badges were piloted in the Czech bachelor study programme **“Pedagogy for Teachers of Practical Training”** in summer semester 2023-2024 and in the lifelong learning programme **“Concurrent Pedagogical Study for CZU Students”** in winter semester 2024-2025. There was an initial plan to offer the Meta Badge Educator for Sustainable Future however this did not eventuate, instead, two milestone badges Learning Ecosystem Design, and Reflexive Praxis were offered to the following student cohorts. Moreover, the badges were also offered in English language.

“Learning Ecosystem Design” and the micro badge **“Value Awareness Supporter”** was offered to 27 second-year VET student teachers of lifelong learning programme **“Concurrent Pedagogical Study for CZU Students”** (CVUOP2). The link between the micro badge **“Value Awareness Supporter”** and the subject **Environmental Education** relates to students’ familiarity with the objectives of environmental education. For instance, methods and the educational process, as well as building on their knowledge of environmental education, offered participants learning to apply the goals and objectives of environmental education practically.

The expected outcomes for students completing the **“Value Awareness Supporter”** badge included developing their ability to integrate sustainability values into teaching through activities that promote reflection, empathy, and responsibility. Students should also be able to reflect on their personal sustainability values, understanding how this shape their teaching practices and interactions.

Additionally, students were required to design innovative educational strategies that encourage learners to explore their values and act on environmental issues. Through insights into community-focused projects, students would learn how to foster collective responsibility for sustainability.

Finally, earning the **“Value Awareness Supporter”** badge provides formal recognition of their competence in value-based environmental education, enhancing their professional credentials and confidence. These outcomes

align with the course's goal of preparing future educators to inspire sustainability and critical thinking in their classrooms and communities.

Milestone badges "**Reflexive Practice**" and micro badge "**Conscious Change Agent**" were incorporated into an undergraduate BSc course titled "**Pedagogy for Teachers of Practical Training**" and it was integrated to an existing subject titled, "**School Pedagogy**" (UPV1). The intention for choosing the "**Conscious Change Agent**" micro badge" was to develop students' reflexive and critical thinking skills or abilities, important skills to master during both their study and in their future professional career. In the course a total of 62 first year's student teachers were enrolled and consisted of both young and more mature students with some already working as teachers but lacking in formal academic skills. The program was offered in a hybrid mode that included an opening lecture/tutorial, LMS Moodle support, and scheduled lectures.

Pilot results and challenges

The target group of piloting was **89 future VET teachers** (= students of two study programmes) at the Institute of Education and Communication. a total of 70 micro badges were achieved through the pilots offered by the Czech University of Life Sciences in Prague, Czech Republic.

The reason for not offering participants the opportunity to complete the **Meta Badge Educator for Sustainable Future** was due to practical limitations. As a smaller institution with a limited number of students, it would have been challenging to conduct an effective pilot for multiple educational modules. CZU focused on ensuring a high-quality experience for the students. This approach ensured that the pilot was meaningful and impactful within the scope of our capacity.

There were challenges such as managing a large cohort of 62 first year student teachers who were also hesitant learning new technological tools. Nonetheless, 58 student teachers out of 62 successfully completed the micro badge "Conscious Change Agent". Students appreciated that the course work was aligned with their experiences, linked to the environment and especially to their future practice as teachers.

From a total of 27 second year VET teachers 12 successfully earned the micro badge "Value Awareness Supporter". Others expressed that they had too many other obligations and would have needed more time to apply for the badge, such as in January. However, this was not feasible due to the course schedule and institutional timeline.

The Czech team faced challenges with when trying to embed the Enabling Action milestone badge in a course offered for in-service teachers at Czech vocational schools and staff from Czech non-governmental organisations. Headmasters of 25 vocational schools and directors from 6 NGOs were invited for contact Methodical-didactic Seminar at the Institute of Education and Communication in September 2023.

During the seminar, EduSTA project and the process how to achieve the badge was presented during two-hours session. These representatives were asked to share a possibility to demonstrate competences in this area to their staff/colleagues. Unfortunately, no in-service teacher, nor staff from NGO applied for the badge. One explanation was obtained in a feedback session in September 2024. The time in-service teachers can use of trainings is quite limited. That's why they must prioritise trainings providing certificates. Because certificates in sustainability competences are not recognised by the Czech School Inspection, they applied for courses or training which are directly connected to the field of their professional specialization.

Reflections and next steps

Reflective skills are necessary for all students, and it is important that the educator help the learner to focus and examine the assumptions that underlie their beliefs, feelings and actions. It is important to be open to gain an overview of the development of pedagogical thinking and to develop necessary skills and strategies for effective learning. The course introduces elemental instructional strategies and methods. At the end of the course, participants can perceive the current educational topics and issues and formulate their own opinions.

Students of both courses were provided with detailed feedback, highlighting strengths and areas for improvement, if needed. Students appreciated that the content of both pilot courses were aligned with their experiences, linked to the environment and especially to their future practice as teachers. They also considered the badges application to be supportive for teachers' professional identity. The pilots demonstrated the potential of digital badges to provide formal recognition of ESD competences, enhance professional credentials and confidence among student teachers, and foster innovation in teaching methodologies.

The badges applicant recommended for the future process to expand badge offerings by introducing additional micro badges to supply to diverse interests and competences. They also asked for improvement of

scheduling by offering more flexible timelines to accommodate varying student commitments.

Concluding comments

The pilots at CZU successfully demonstrated the integration of the “Value Awareness Supporter” micro badge into the Environmental Education course and milestone badge “Reflexive Praxis” into School Pedagogy course. By aligning course content with ESD competences, the project not only enhanced student teachers' understanding of sustainability but also provided them with practical tools to inspire critical thinking and responsible action in their future classrooms. This initiative represents a significant step forward in embedding sustainability into vocational teacher training programmes.

After evaluating of both pilots, the members of IEC EduSTA team concluded that:

- The tested competence could be important (and further developed) during the following part of study courses as well as for the future professional lives of the participants.
- To invent innovations and apply them was easier for those who already work at schools and have some responsibility or motivation to improve own practice (e.g. have both attitudes and experience).

After some worries at the beginning, the students were able to operate the OBF system, also evaluation was easy. This success motivated the IEC team to continue with these initiatives also beyond the end of EduSTA project. These days, the course titled “Sustainable Future Educator” has been implemented on CZU Moodle and will be offered as a new life-long learning course.

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SWEDISH PILOT

SUSTAINABILITY LITERACY: AN INTEGRAL PART OF VOCATIONAL TEACHERS TEACHING PRACTICE

The introduction to micro credentials and digital open badges was piloted in the Swedish **Vocational Education Teacher Program** (VET) at the University of Gothenburg between 2023-2024. The translation from English to Swedish was important to ensure their relevance to the VET student teachers.

At the university of Gothenburg, sustainability in education and research is a crucial aspect of the university's work. To ensure sustainability is embedded in courses and programs the university is using a labelling system that has been in place since 2014. The course **Development, Work and Action Research** (LYK80G) for vocational teachers is certified as sustainable, which made it an ideal fit for the EduSTA pilot. The course addresses sustainable development as a concept, as well as a didactic element within vocational education, which align well with the micro credentials in the micro badge, "**Knowledgeable Problem Articulator**" that is part of the milestone badge "**Sustainability Literacy**".

A "Knowledgeable Problem Articulator" is somebody who understands the background, the reason and purpose of education for sustainable development (ESD) towards achieving sustainable development goals, (SDGs). They are aware how these terms connect to their educational context and teaching praxis, so it's not just a general content knowledge, because the knowledge problem articulator should be able to draw on pedagogies to enable the applicability of both concepts in a specific educational context. (Swedish Team)

The course engaged VET student teachers from various sectors like IT, healthcare, agriculture, and more, helping them integrate sustainability into their teaching practices. Several of the VET student teachers were either working part- or full-time alongside their study. Some were already employed in the VET sector either in secondary or adult education.

The course content featured lectures and workshops on sustainable development delivered by university professors from biosciences, as part of the lectures were both peer to peer and group discussions. For the assignment the VET student teachers were required to design teaching activities linked to SDGs within their respective vocational fields and context.

In collaboration with their peers, it was important for students “to be able to act together, think together, formulate questions together and design activities”. These activities formed by groups of VET student teachers related to the first assessment task in the course, a group presentation. Each group provided a 45-minute presentation to their peers and their teachers on a specifically chosen topic, and where their peers and teachers were required to provide constructive feedback and engaged in discussion. In addition to the group presentation, the VET student teachers were also required to complete individual written reflections.

All VET student teachers had been provided information about the EduSTA project in Swedish both via email and in person by the course coordinator who was also part of the Swedish Team. The goal of the pilot was to introduce VET student teachers to the benefits of micro credentials and micro badges, as well as evaluating the efficacy of the micro credentials, most importantly to provide a novel way of integrating SDG knowledge into their praxis.

Pilot results and challenges

A total of 19 VET student teachers out of 81 participated across the two pilot phases (December 2023 and June 2024). All VET student teachers successfully completed and was issued with the micro badge “Knowledgeable Problem Articulator”. While there was interest in the badge, the uptake was slow due to limited advertising and incentives, such as the lack of ECTS credits. It was also important to recognize that this was a pilot, a small study and where neither the Swedish project leader or team member had experience in micro credentials or digital open badges.

Initial or expected concerns related to technical issues, issuing of micro badges, learning the Open Badge Factory. In the first pilot, the main problem that occurred was when students used their workplace accounts for submitting their work to the Open Badge Factory and due to a fire wall prevented the assessors access to their assignments. This was resolved through support from the Finnish Open Badge Factory team. From the first pilot we used the learning experiences to further develop our work, for example, developing a pamphlet with questions and answers to common technical problems when submitting of the assignment to Open Badge Factory or the issuing of micro badges.

Reflections and next steps

It was clear that the digital open badge “Knowledgeable Problem Articulator” aligned well with the course objectives, and students found the workload manageable, especially given their full- or part-time employment status. The Swedish team discussed extensively the value of the digital open badge constellation to be embedded in the VET Teacher Education Program especially since the EduSTA project aligned with the University of Gothenburg’s Policy Document on sustainability.

Concluding comments

The pilot provided valuable insights into the digital open badge implementation in the Swedish VET Teacher Education course, and future improvements will focus on making the badges more accessible.

Despite the limited number of badges issued the students showed interest and were positive about the badges, being a new and innovative way of validating competences.

“... at first we thought 20 VET student teachers is not so many, but then we thought about it and realized that of course 20 qualified VET teachers will have in the future maybe between 20 students each in their courses per year that's close to 400 students, so 20 students can sound like quite a little, but actually it can have a great impact we think”. (Swedish Team)

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References:

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<https://unesdoc.unesco.org/ark:/48223/pf0000371316?posInSet=15&queryId=a5dbc967-e85f-40da-bbb3-05b6ec88d1d7>

DUTCH PILOT

ESD FOR ATELIER FOR HEI TEACHERS AT THE HANZE UNIVERSITY OF APPLIED SCIENCES

The entire constellation of digital open badges was offered as part of the pilot in the in-service learning module **ESD Atelier** at Hanze UAS. There were 14 participants (8 teacher-researchers, 2 teacher-trainers, 1 team manager, 1 living lab coordinator, 1 psychologist, 1 junior researcher) in the track and (in service) and four applicants (HE and VET) who obtained the badges independently and self-paced. In total 29 persons applied for one or more badges.

Design requirements of the ESD Atelier

At Hanze the EduSTA badges were integrated in a professional learning programme; the **Education for Sustainable Development (ESD) Atelier**. This was a track for teacher/ educational professional development in which a group of professionals committed themselves to attend all 7 meetings and work on this subject in between the monthly sessions.

The meetings were designed by the EduSTA members, based on the badges, to let colleagues walk the talk, in a hands-on training, aimed at integrating the education for sustainability in their own educational setting. Creative and critical dialogue were stimulated, sprouted from the knowledge that this is what helps transformative learning, and by giving participants autonomy and purpose. By defining their own learning goals their learning process was based on intrinsic motivation (How can we ...?). Support on the badge constellation followed the format: hybrid -in person and online -, flexible structure and coaching on demand.

Program/Course: ESD Atelier

The purpose of the program was to encourage participants to develop their teacher competences and execute an intervention in their educational context to stimulate the implementation of ESD in courses. Sustainable development is addressed both as a concept and as didactical element within vocational education, using a whole school approach. Various tools for **Learning for Sustainability** are tested, followed by discussions from a didactical-pedagogical perspective.

Central principles in our programme: learning by doing, co-creation, stimulating each other to try out new things and inspire some transformation within the participants.

The module requirements and assessment tasks (see below) related to the full badge constellation, with specific emphasis on Conscious Change Agent as a red thread through the module (who am I as a sustainability teacher?).

All participants were encouraged to apply for the Badge **“Knowledgeable Problem Articulator”** and the badge **“Conscious Change Agent”**.

Participants could apply for other badges as relevant to their own intervention. During the sessions they already started working on parts of it. Whether they want to dive further into the badges and finish them is voluntary.

Content of the program

The module ran across 7 sessions; each session related to various components of the badge constellation:

1. Introduction session, a 24-hours meet up in nature, focusing on getting to know each other, ESD and SDGs. Milestone badge Sustainability Literacy with Knowledgeable Problem Articulator guiding the session.
2. Familiarising with didactics suited to ESD. The milestone badge Learning Ecosystem Design is placed central here. Participants are asked to introduce didactical activities to their courses and teaching practise.
3. ‘The difficult conversation’. This session focuses on dialogical skills, especially for complex societal challenges and navigating different perspectives. The link is made to Milestone Badge Enabling Action.
4. Revisit futures visioning (zooming into badge Futures Thinking) to emphasise navigating different paradigms and frames of reference regarding education, specifically in Dutch vocational education.
5. Building further on Milestone Badge Enabling Action by focusing a session on acting as change agent in relation to the intervention the participant would like to execute.
6. This session is an evaluative session and preparation for the final meeting, based on the concept of ‘the Last class (Bleicher).
7. The final wrap up; Ceremony, show and share. Focusing on the badge ‘Conscious Change Agent’.

Pilot results and challenges

A total of **46 micro badges** were successfully applied by the Dutch participants and the independent applicants; This included 5 participants successfully receiving the meta badge **“Sustainable Future Educator”**,

7 participants each achieved 3 out of the 4 milestone badges with 6 participants achieving the milestone badge **“Enabling Action”**. The most sought-after micro badge was the **“Knowledgeable Problem Articulator”** with 10 micro-badges successfully applied and received.

The batch application process in the Dutch context revealed several key insights. Some participants were notably enthusiastic about earning badges, particularly the meta badge Educator for Sustainable Future or as it was referred to the **“gold medal”** badge. Two participants saw it to establish themselves as changemakers for education for sustainable development (ESD) within their institutions. While this motivation was encouraging, it also highlighted a broader issue – they felt the need for formal recognition through badges to validate their contributions.

Another participant, nearing retirement, viewed the meta badge (or gold medal) as a culmination of years of dedication to ESD, giving it a symbolic significance like a lifetime achievement award. Additionally, an external candidate, unaffiliated with Hanze, earned a gold medal just one month after the application process opened. This individual, who was already engaged in badging and futures literacy, demonstrated how prior experience and motivation can accelerate the process.

It is interesting that Dutch educators in general are not accustomed to receiving formal recognition by badges for their professional development learning by their government; which may hinder the implementation of digital badges across educational settings. On the other hand, exactly out of curiosity for this new form of recognition some participants wanted to experience what it is like to apply and obtain a badge.

Lastly, as with all newly introduced technology there were some technical challenges encountered by participating during the process, offering further lessons for improvement.

Reflections and next steps

In the Netherlands the availability and benefits of the badges, highlighting their symbolic value for example as a recognition of lifetime contributions, is not widely known. The whole concept of micro credentials has been piloted last years in the Netherlands and has now proceeded in the second phase of piloting. For the moment micro credentials have not been incorporated in the legislation of Higher Education in the Netherlands. Consequently, HE institutes have not yet embraced the concept of badges and therefor it is not recognized as a formal validation, yet. Until legislation

has been approved, the concept of obtaining badges is purely dependent on personal sensitivity to these forms of recognition. Inspiring stories of persons exposing their obtained badges might work stimulating to others. Since Dutch educators are less accustomed to receiving formal learning recognition, it may take some time to get acquainted with this. Taking this into account, the number of badges applied for in the pilot is quite substantial.

Overall, the positive results noting from the badge applications in the Dutch pilot, in combination with the national process towards legislation of micro credentials, is promising for the future of digital open badges in the Netherlands.

Another positive development related to a “**Library Guide**” offered as a resource guide on education for sustainable development (ESD) by the media library that is available to all European Universities.

Dutch team members:

Elles Kazemier, Corine Seelen, Lisette Wierenga, Lauren Verheijen, Juliette Ode, Joost Haverkort

FINNISH PILOT

VET TEACHERS AS SUSTAINABLE FUTURE TEACHERS

The entire badge constellation was offered by the Finnish partner for piloting and included **three** different cohorts,

- 1. The EduSTA project organised a coaching programme VET teachers at Tredu, a major Vocational Education Provider (VET),** in Finland, and an associate partner of the project. Tredu is also a training school for the teacher students of TAMK.

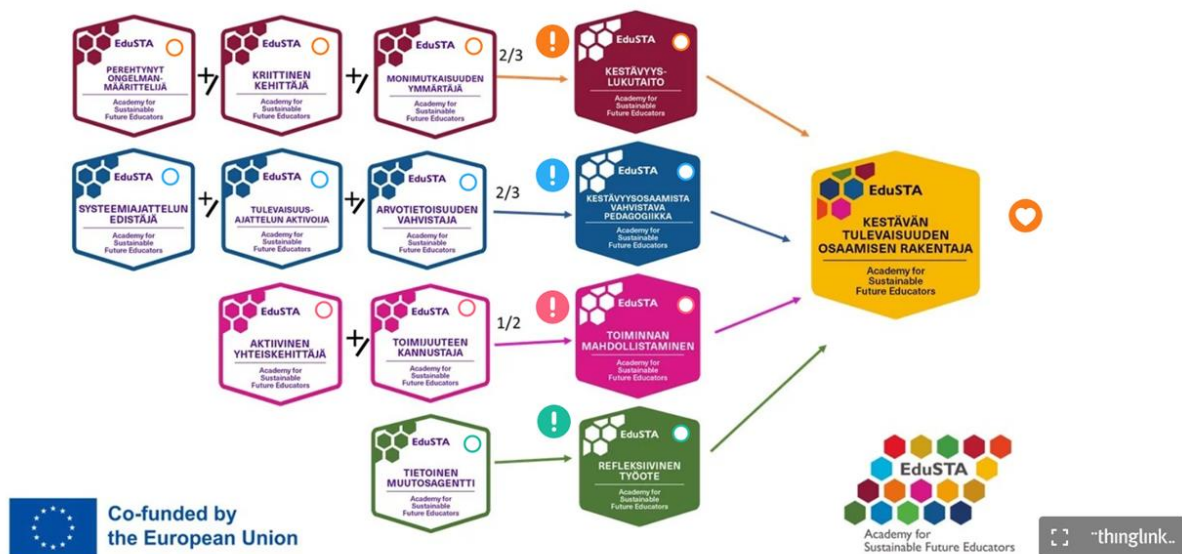
Twenty VET teachers were chosen by their supervisors according to discipline, (two teachers for each discipline). The employer (Tredu) allocated two working days for the VET teachers participating the pilot. The project was part of VET teachers' professional development. The project was deemed acceptable as it related and was part of sustainability certification of the Tredu as an educational institution, and it was in accordance with the values of the institution.

Two members of TAMK EduSTA team were responsible for leading the coaching programme (Outi Rantanen and Miika Huikkola).

- 2. TAMK Teaching staff:** the pilot was offered as part of TAMK teachers' pedagogical development, their participation in the programme was voluntary. Three members of the TAMK EduSTA team (Nina Eskola-Salin, Jenni Majuri and Hanne Mäki-Hakola) and were responsible for the arrangements of the pilot. The pilot was advertised in TAMK both Intranet and in person.
- 3. The third cohort consisted of 18 TAMK VET Student Teachers.** The pilot was advertised to the VET student teacher as an optional online study opportunity that would earn 5 credits upon the completion of the meta badge. The pilot was communicated through teacher tutors and official communication channels / digital platforms. The course materials consisted of the study materials for each badge. Two members of the TAMK EduSTA team (Hanna Davis and Kirsi Purhonen) were responsible for conducting this pilot

The responsibilities of arranging the pilot modules were divided according to the above description. Still, the entire TAMK project team, 8 people, participated in designing shared materials and learning environments which included Moodle and ThingLink. Further, all EduSTA team members examined the badges they had been developing. Some of the teachers / examiners were also involved in the EduSTA badge development teams.

All cohorts used same digital ‘landing’ (platform) created by ThingLink (Picture 2) consisting of descriptions of the badges and short introductory videos. Secondly, each cohort had its own Moodle. The overarching principle was independent study supported by coaching. However, the extent of interaction and guidance differed between the pilots. The TAMK teachers who volunteered in the pilot received invitations to workshops, which discussed the competence areas and facilitated teachers in identifying and describing their competences. The Tredu teachers’ pilot started with a kick off meeting introducing the idea of digital open badge driven learning, giving the teachers an opportunity for self-assessment of their competences and deciding tentatively, which badges they would be interested in. During the pilot the Tredu teachers were offered face-to-face guidance approximately once a month. For teacher students, an online kick-off webinar was arranged and online guidance for individual study was available biweekly. These opportunities were not used very much, however. Instead, the assessment process of the demonstrations of competence was an important part of coaching process.



Picture 2: The ThingLink landing page of Finnish pilots

Pilot results and challenges

A total of 185 micro badges were successfully applied by the Finnish participants. This included 18 participants successfully receiving the meta badge “**Sustainable Future Educator**”.

Each of the four milestone badges proved popular with, 27 participants received the “**Sustainable Literacy**” milestone badge, 25 participants received the “**Learning Ecosystem Design**” milestone badge, 26 participants received the “**Enabling Action**” milestone badge and 25 participants received the “**Reflexive Praxis**” milestone badge”.

The most sought-after micro badge according to the participants was the “Knowledgeable Problem Articulator” with 35 micro badges followed by 26 “Futures Thinking Catalyser” and 25 “Conscious Change Agent” micro badges.

One of the challenges related to being aware of the importance of managing participants' expectations regarding the time required for earning badges and/or the meta badge.

Overall, all participants found that they received new content or material to their courses and looked at their work from a new angle. This was very rewarding. Next points present a summary of challenges related to the pilots.

1. VET teachers of Tredu found that it is easiest to start with badges where the competence description and demonstration of competence was something concrete: planning a lesson or organising an event. Rather abstract competence descriptions or assessment criteria hindered starting to work with some badges. In the beginning the teachers felt that the process might be quite demanding. Later the teachers emphasised the empowering and inspiring experiences. Demonstrating and developing competences has brought new drive to work.
2. TAMK Teachers showed interest, but they didn't necessarily apply for the badges. Although there would have been need for guidance, the supporting workshops were relatively sparsely attended. This applies to all TAMK pilots.
3. Some teachers needed help in organizing their existing knowledge and skills into a competence demonstration that answers to the competence needs specified in the badge descriptions.
4. The TAMK VET student teachers noted the applicability of the badges to various teaching contexts and fields, for example nursing, forestry,

tourism and hospitality, and fashion and design. Some students required support in brainstorming how the badge descriptions connected to their own work context. Peer discussions were considered by the student teachers as especially helpful.

Reflections and next steps

Evaluation data of the pilots was collected by focus group interviews with pilot participants and TAMK team members involved in running the pilots. The results indicated that the participants found the badge constellation relevant and helpful in conceptualizing teacher's sustainability competences. They found that it provides a practical framework that "forces" to reflect and translate abstract ESD knowledge into practical action. They also valued the ability to contextualize and connect ESD knowledge with their own field and subject matter, as well as conversations and teamwork with colleagues, also across subject matter borders.

The most notable challenges involved putting abstract knowledge and previous competences into words, narrowing down and focusing in, and making sure that all evaluation criteria were addressed in the competence demonstration.

It was fun but it was very challenging to figure out how to package it, how to make your competence visible and put it into words. And it was great to have it evaluated by an expert.

There were several suggestions for improvements. For example, the workshops and conversations in groups were recognized as useful yet, were not attended as well as one would have expected a suggestion was that to perhaps the concept of the workshops could be further developed.

The participants needed guidance in narrowing down and articulating their competences to meet the specific criteria of each badge. There were some concerns about the language of the badge descriptions that needed to be clarified, and the learning resources offered could be also improved to reflect more current resources.

There was also a call for development of community both for participants and providers.

TAMK has a well-established badge factory and commitment to use digital-open-badges in competence-based trainings. TAMK will continue the process of embedding the badges into teacher training curriculum both by providing an elective course on teacher's sustainability

competences and by embedding badges to some of the courses. Additionally, TAMK will create professional development programmes based on the created badges.

Concluding comments

The pilot proved that the badge constellation lends itself very well for vocational / professional teachers' initial and continuous learning purposes. The various professional fields that the pilot participants represented provide rich context and material for sustainability competence demonstration. It can also be concluded that the constellation was successful in that it offers participants the opportunity to leverage their zone of proximal development and approach the competence development from where they currently stand.

The Finnish pilot also offered the entire constellation for all target groups. This provided valuable insight to how the micro badges work as parts of a whole. The pilot evaluations show that the individual badges lead the participants to reflect on their sustainability competences from various, complementary perspectives. On the other hand, it is important to make the entire constellation and the interconnectedness of the badges visible from the beginning. Understanding the big picture helps participants get started and see micro badges as pieces of a more holistic picture, which also helps them verbalize and demonstrate the different aspects of their sustainability competence.

TAMK team:

Eveliina Asikainen, Hanna Davis, Nina Eskola-Salin, Miika Huikkola, Jenni Majuri, Hanne Mäki-Hakola, Kirsi Purhonen and Outi Rantanen

PARTICIPANT FEEDBACK

Preparing the feedback form and process

The participant feedback was collected to understand the participants' learning process and their feelings and experiences about the badges and the badge-driven learning process. The purpose for collecting feedback was to produce information for the badge revision process. The questionnaire was designed by the Finnish team and is based on questionnaires used previously in researching motivation on applying for micro badges (Turkowska et al.2023; Ismail et al. 2025).

The form was translated to all languages of the project by each national team. The answers were collected through Microsoft Forms and only the Finnish team members had rights to see the answers. The answers were collected anonymously, and the respondents gave their consent for using the answers in the project.

The feedback form contained questions about the badge application process of each badge and the overall experience about the badges as a way of learning. Questions on the badge application process related to

- competence demonstration,
- how demanding achieving the badge felt,
- relevance of learning resources.

The questions about the overall experience about badges were divided into two sets of questions depending on whether the applicant received the badge or not. The ones who received the badge were asked about their experiences of the badge-driven learning process. The ones who didn't receive the badge were asked about the reasons why they didn't finish the badge application process. The full feedback form can be found in Appendix 2.

The participant feedback was collected after each micro badge had been approved. The feedback form contained also questions for those who did not complete the micro badge. To reach this group and to gain more answers the feedback form was also sent by email to the whole pilot group. However, those who didn't complete the micro badges were difficult to reach and feedback was only received from badge recipients.

Responses

Feedback was received of only 14% (n=50) of all approved micro badges (n=351). The answers per micro badge vary between 2 – 12. The exact numbers of received feedback per each micro badge are presented in Table 3.

Table 3: The amount of received feedback per micro badge

Micro badge	Number of received feedback
Knowledgeable Problem Articulator	12
Critical Developer	3
Complexity Embracer	4
Systems Thinking Promoter	11
Futures Thinking Catalyser	4
Value Awareness Supporter	4
Active Collaborator	2
Action Facilitator	5
Conscious Change Agent	5
Total	50

The number of answers per micro badge is too low to draw conclusions. Hence, we couldn't fully use the feedback in the badge revision process. Still, the answers provide feedback from the user perspective and will be presented on the level of whole constellation and on the level of milestone badges.

The first part of the feedback form was about overall experiences about the badges. The second part of the form contained micro badge specific questions. All the questions were optional to answer, and many responders chose to answer especially to the micro badge specific questions, especially the ones who had given feedback already about some other micro badge. Only **Dutch and Finnish badge receivers** answered to the feedback and the general question on badges as the whole constellation was piloted only in the Netherlands and Finland.

Results on the level constellation

Altogether, 23 badge receivers answered the questions about the badges in general. In general, the badges were received well in general (Figure 1). Mostly the responders found the badges to be an interesting way to structure their learning process, to follow their progress, and to show their competence in sustainable development knowledge. The instructions, activities and the guidance were considered to be helpful by most of the respondents. Most of the respondents also saw the badges as proof of their skills and competence in teaching sustainability. Further, the visual appearance of the badges was found pleasing.

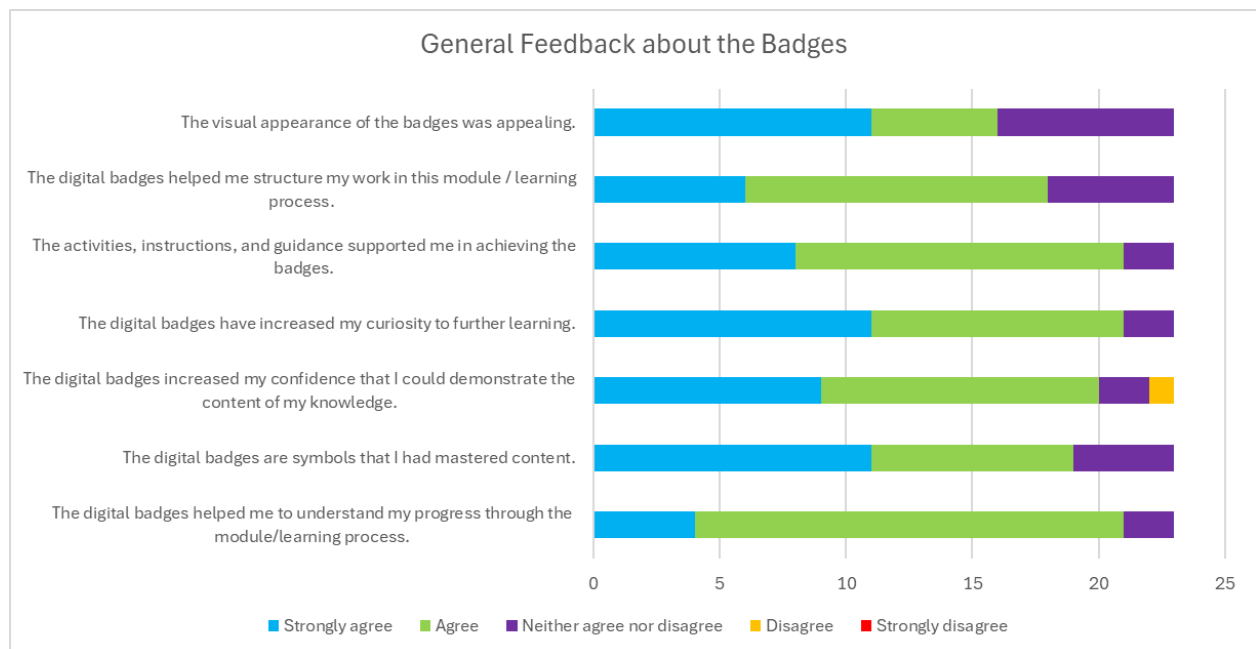


Figure 1: General feedback about the badges

The open comments (n= 19) expressed satisfaction with the process and badges. Some respondents described the struggle to start at the beginning when the badges and the whole process was new. However, after starting to do the competence demonstration and completing the badges they felt more content in producing the other competence demonstrations. Many respondents also mentioned that the badge process was providing them new ideas to teach sustainability and also made them reflect the depth of their work as teachers. One in-service teacher commented:

“The badges were an excellent way to process your own competence, while at the same time giving you confidence in developing your own activities

and opportunities to influence. I got more courage to act according to my own values in my work, thank you!"

This comment sums up well one goal of this project, to inspire and support teachers in their work of teaching sustainability.

Comparison on the level of milestone badges

Since the amount of feedback per micro badge was too small, the feedback was grouped into milestone badges (Figures 2, 3, 4, and 5). Overall, the responders liked the micro badge learning process. The micro badges were mostly not found too hard nor too easy to earn, except in one **Sustainability Literacy** badge one responder wished the badge was a little easier to earn. Some comments also described that the Sustainability Literacy badges were the first badges of the learning process and hence, a little harder when getting used to the badge-driven learning process. Also, the respondents were from Dutch and Finnish pilots where the badge constellation was piloted as a whole, which could seem like a laborious task at the beginning. One comment in the open comment section expressed the difficulties in defining the focus of the **Sustainability Literacy badges competence demonstration** due to the abundance of the knowledge and eagerness to search deeper than there was time to use in earning the badge. One comment also mentioned that 20 hours given for the completion of the whole constellation was not enough. In one Finnish pilot the participants were given some work time to complete the constellation. Also, the limit of one page of competence demonstration was too short in one responder's opinion. This was the competence demonstration document limit in **Critical Developer** micro badge. The assessors of the badge applications mentioned also the problems in the short competence demonstration, and this was changed in the revision of the badges.

The learning resources were mostly found helpful for the competence demonstration, except in Enabling Action badges the responses varied a lot between all the response options. Still, over half of the responders (4 out of 7) found them helpful. There were no comments on the learning resources in these micro badges, which makes it difficult to assess the reasons.

Most of the respondents found the instructions for the competence demonstrations easy to understand. a couple of responders found the instructions for the competence demonstration unclear except in Reflexive Praxis where all the responders found the instructions clear. One

reason for the unclear instructions for the competence demonstration could be that one idea was to give freedom in the way of making the competence demonstration and to keep the competence demonstration suitable for teachers from different educational contexts. This made the phrasing of the instruction a bit challenging as the competence demonstration needed to suit all teachers from early education to academic staff as well as teachers at different phases of their careers. On the other hand, one of the respondents commented that one of the Enabling Action badges was most clearly phrased micro badges.

The methods of competence demonstration were found relevant to the competence objectives of the micro badge according to most of the responders. In Enabling Action badges one responder felt the competence demonstration irrelevant to the competence objectives. Again, there were no comments in the open comment section about the irrelevance of the competence demonstration, so it is difficult to evaluate the reason for that. The varying competence demonstration assignments in each micro badge received also good feedback in some comments.

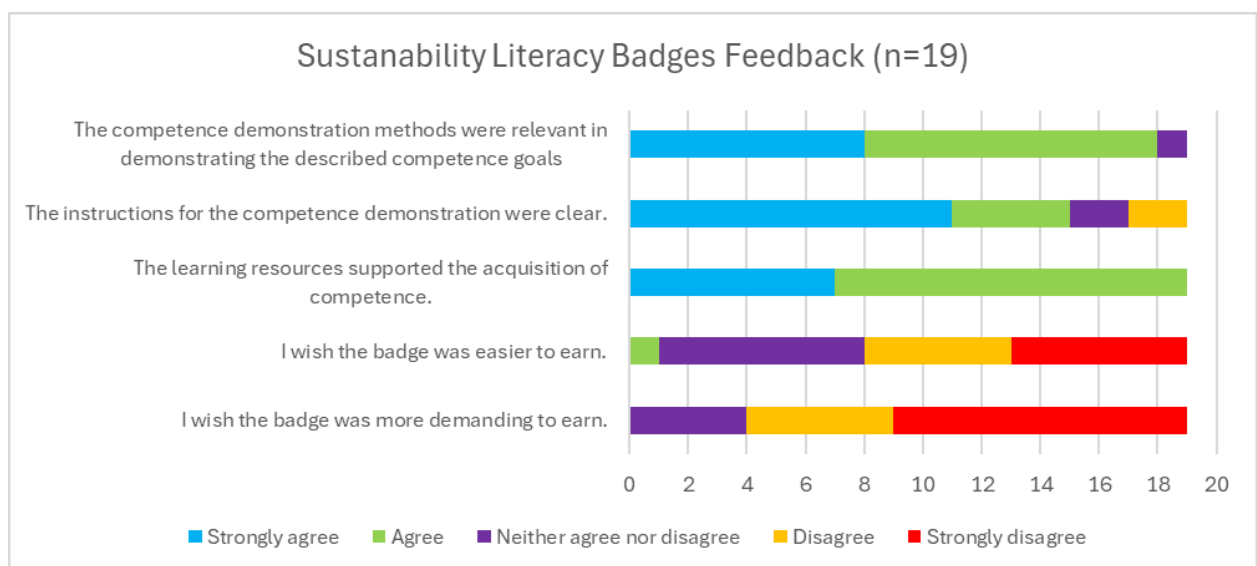


Figure 2: Sustainability Literacy milestone badge feedback. This milestone badge contained three micro badges

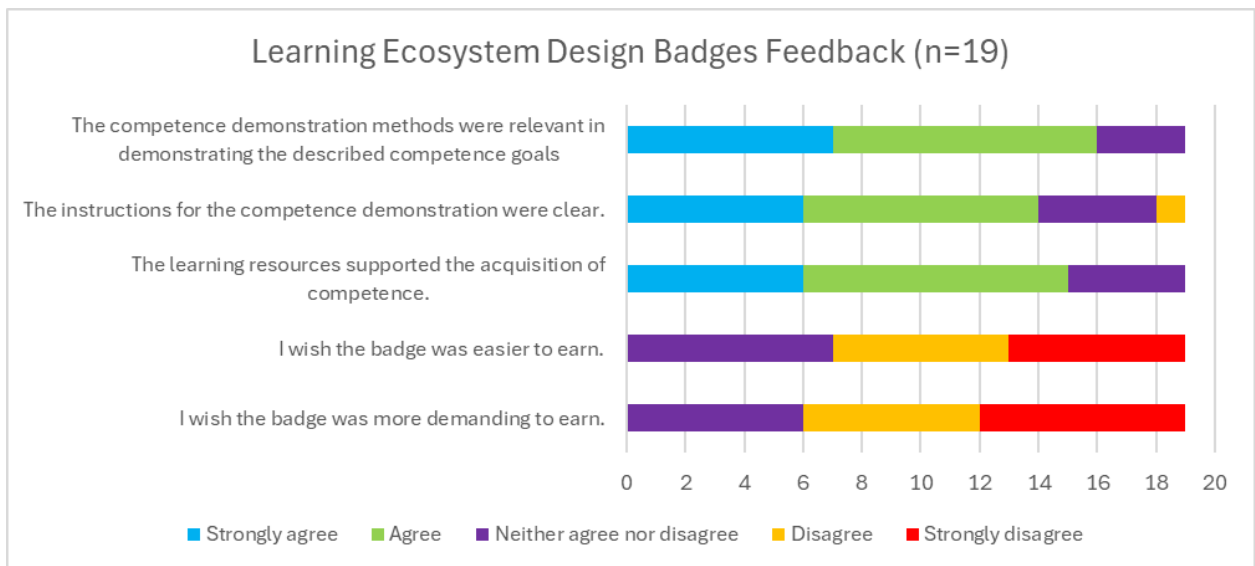


Figure 3: Learning Ecosystem Design milestone badge feedback. This milestone badge contained three micro badges

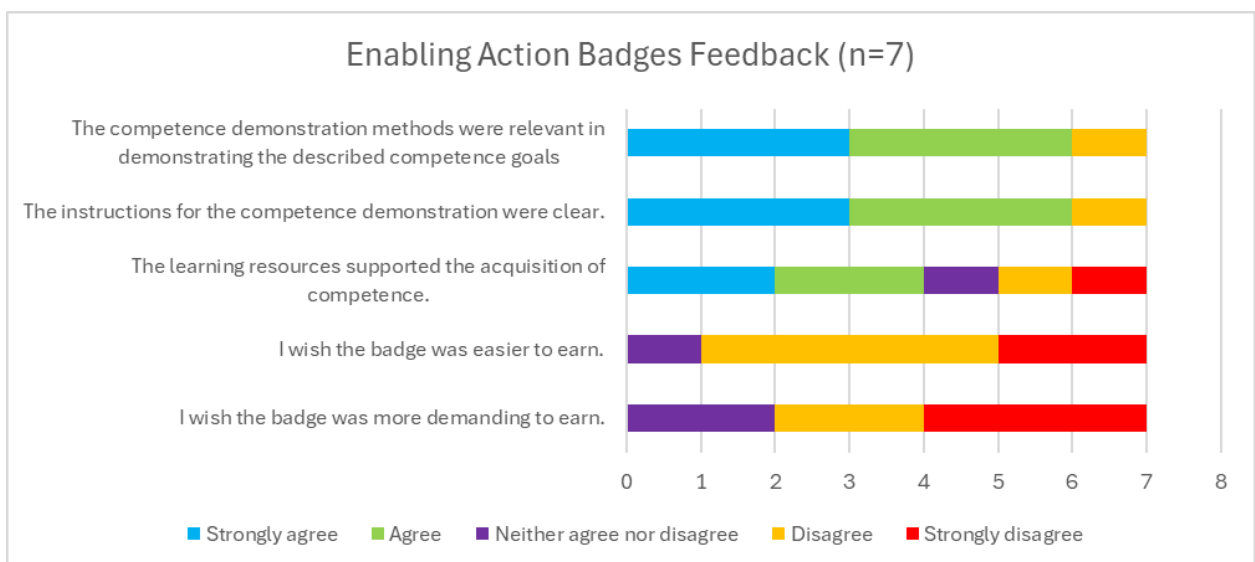


Figure 4: Enabling Action milestone badge feedback. This milestone badge contained two micro badges

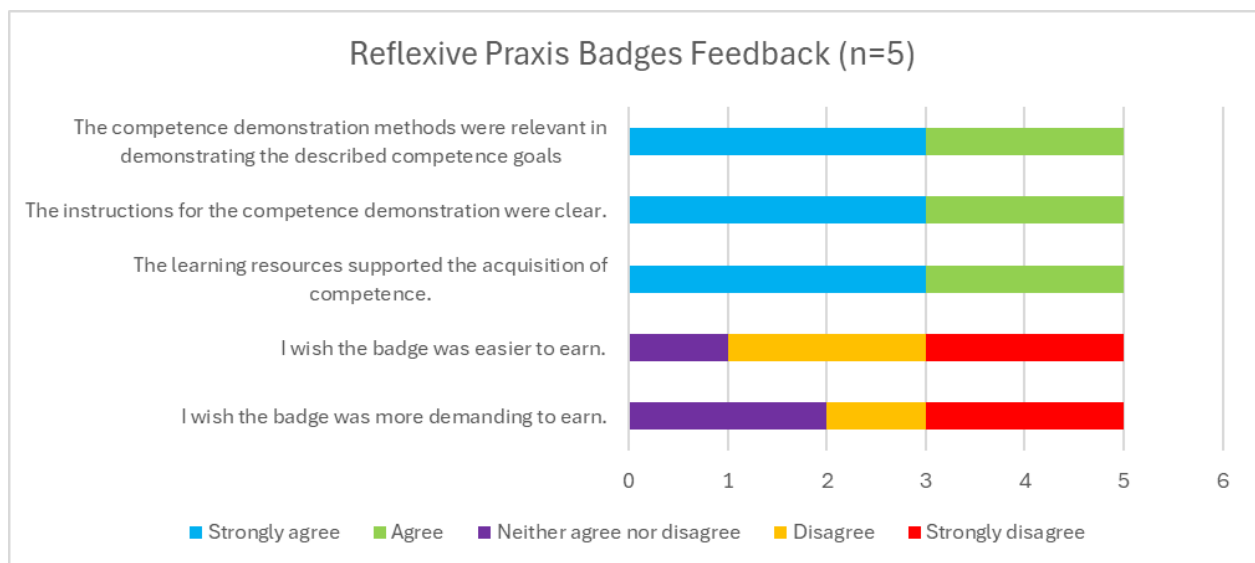


Figure 5: Reflexive Praxis milestone badge feedback. This milestone badge contained one micro badge

Conclusion

Even though the amount of feedback was scarce we could get some experiences from the participants which we can use in the badge revision process. The badges as a way of learning were received well and inspiring to develop teaching work from the sustainable development point of view.

The feedback was only from Dutch and Finnish pilots where the whole constellation was piloted, and it would have been interesting to get more feedback from the pilots where only couple badges was piloted. Reasons for the low number of feedback can relate to the feedback link being part of the badge approval message. It may have been easily missed among the badges. On the other hand, this was reckoned as the most convenient solution for collecting the feedback. The importance of giving feedback for the badge revision process could have also been emphasized more in the pilots, and more reminder emails could have been sent to improve the feedback percentage. However, the feedback of the pilots piloting the whole constellation gives quite good understanding of how much work the badges require.

Overall, the open comments were mostly positive and affirming the pilots were well-received. The comments mentioned the pilot being eye-opening and much needed since there is not much time and place to develop sustainability points of views in everyday work. This is one of the successes of the pilot, to provide participants with a structured way to develop teaching sustainability.

References

Ismail, C., Siklander, S., Impiö, N., & Brauer, S. (2025). *Digital Badges in the Pedagogical Design for Collaborative Problem-Solving: Students' Experiences in Higher Education*. Manuscript submitted for publication.

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ASSESSING THE SUCCESS OF PILOTING

Scope of piloting

The pilots organized by all EduSTA partners provided a good view on the applicability of the constellation as the pilots ranged from ITE of early education to professional development of VET teachers and academics. The badges proved to be applicable in all these contexts. An important feature of the badges that made this possible is that the demonstration of competence is also related to the present or future working context of the person demonstrating their competence.

In the project plan, EduSTA aimed to have at least 200 participants in pilots. With **276 enrolled participants** and **181 people** that earned at least one badge the scope has been reached. The total number of **575 earned** badges including the milestone badges and meta badges describes that many participants earned several badges. Finally, **23 meta badges earned in the Dutch and Finnish pilots** demonstrate that the badges serve as a tool for professional development in Education for Sustainable Development.

Applicability of badges in different contexts

The most important institutional challenges in applying the badges in ITE (Catalan, Czech and Swedish pilots) related to finding ways to integrate or embed them into existing courses. Partners had to find suitable course(s) matching the competence criteria a badge. Also, the traditions of course arrangements or evaluation practices needed to be negotiated. On the other hand, looking at a course through the competence criteria provided a lens for pedagogical development of the course to serve better the development of sustainability competences. Further, the course design canvas provided designed by the Dutch team in WP3 facilitated the pilot design.

The solutions of integrating badges differed as well. In Czechia the badge was a compulsory assignment before attending the final examination. In Sweden and Catalonia, students had an opportunity to apply the badge after completing the course. Thus, they had to have special motivation and

some understanding of the added value the badge would provide them. This resulted in a lower number of badge applications.

An important notion from the ITE pilots is that courses related to teacher's sustainability competences using micro credentials should be situated towards the final years of study. Both the Czech and the Catalan team decided to reschedule some of the courses for later years of study. At that point students should have some experience of different kinds of school environments and they are able to at least imagine how to apply the competences in practice.

The Finnish pilot for VET teacher students presents a bridging arrangement between the ITE pilots and professional development. The course was an elective course in which the students needed to complete the meta badge to pass the course. This presents a solution applicable e.g. in Open University contexts.

The Dutch and Finnish professional development pilots were focused on vocational teachers and academic staff. These pilots proved that with institutional support (Tredu, worktime allocation) or personal commitment (Hanze) digital open badges can provide an effective tool to combine personal professional development and processes of developing ESD in the educational institution. At the same time, the challenges met by the Czech team in recruiting in-service teachers and NGO staff to pilot the badges describe challenges related to the lack of certification of teachers' sustainability competences. Teachers easily prioritise trainings that provide certifications.

The structure of constellation and individual badges

The pilots' implications for the need of revising the badge constellation has been discussed three communal meetings of EduSTA consortium in November-December 2024. These meetings included sharing pilot experiences and discussing the improvement needed to make the constellation easier to implement. Also, an expert intervention on badge design provided help for the refining process.

The general result based on both pilot organizers' experiences and on participant feedback was, that the badge constellation has succeeded in one of the major goals of the EduSTA project: operationalizing ESD competences.

The most important needs for refining relate to:

- checking the alignment of competence objectives, assessment criteria and demonstration of competence
- checking some possible overlaps of competence areas
- using plainer language
- making some competence demonstrations more AI proof.

It should be emphasized that these are minor revisions.

The badge design teams have started working on the revisions and the refined constellation should be available in March 2025.

APPENDIX 1: INFORMATION COLLECTION ON THE PILOTS

Instructions:

Below you will find the follow up template.

The new information that is required after piloting includes responding to 3 sections (A, B & C).

The information you will provide will be helpful not only with the evaluation of the competence badges but also of the pilots.

Please follow below steps.

1. Please check your country's information is correct and amend it where necessary.
2. It is important that you respond to all questions in each of the sections. Section B is about the badges you are piloting. (Leave blank relating to badges that you are not piloting).
3. If there is more than one teacher in your department piloting badges, feel free to respond to questions together, or you can also respond separately, just copy this form.
4. Once you have filled in and responded to the questions in the table, please upload to Teams WP5 data collection file UNDER your respective country.
5. Once I have received your responses, I will invite you to a briefing via zoom or teams 40min – this is to check that I fully understand your responses.

It is important to contact me if you have any questions (yes, even before you fill in this doc). Feel free to contact me, by sending me two dates and times that you can meet, my email: Liisa.uusimaki@gu.se

Take care,

Liisa

Country & Name of University	
Name of the Department	
PILOT Name the Milestone badge and micro badges that will be offered.	
Will the badge be offered to participants in their native language	
Target group and number of participants	
Name of program or course and an overview or description of the course	
Briefly describe the link between the course and your choice of the Digital Badge. "if applicable"	
If the badge or badges are offered as a stand-alone provide its relevance to the target group.	
Will the badge provide formal ECT points towards completion of the course or	

program? (how many ECT points)	
What incentive do you think there is for students to complete the badge?	
What is your expected outcome?	
Other comments, concerns, questions?	

SECTION A	
Has ETHICAL APPROVAL been granted to conduct the pilot? DATE:	
Please provide the date for your first PILOT date:	
Name of the Department, the course or program. (if not applicable write NA)	
How well do you think the badges that have been developed in the international co-operation, suited to the context in which they were piloted.	

How was the pilot advertised to the participants?	
What was your role (teacher/examiner OR both)? Did you have a colleague supporting you with the pilot?	
Were you provided with sufficient training how to understand and use the Open Badge Factory?	
How do you think the participants experienced the application process?	
Did you have any problems during the pilot? if so, what were the problems and how did you resolve the problems?	
Comments:	

SECTION B	
Meta Badge - Educator for Sustainable Future (EduSta)	
Explain Why you chose to offer, or not offer the participants to complete the Meta Badge <i>Educator for Sustainable Future</i>	
Milestone badge Sustainability Literacy	
Explain Why, you chose to offer, or not offer the participants to complete the Milestone badge Sustainability Literacy?	
Sustainability Literacy Micro Badges	
1.1 Knowledgeable Problem Articulator 1.2 Critical Developer 1.3 Complexity Embracer	
1.1 Knowledgeable Problem Articulator How many participants completed this micro badge?	
Please explain why you chose this micro badge?	
1. How well did the participants meet the learning	

<p>outcomes of this micro badge?</p> <p>2. Why do you think the learning outcomes worked</p>	
<p>Did you had any concerns/worries relating to either the objectives or the outcomes of the micro badge?</p>	
<p>How well do you think the learning resources met the needs of participants applying for this micro badge?</p>	
<p>Do you think that the workload was adequate? or not.</p>	
<p>What do you think worked well and what do you think can be improved on?</p>	
<p>Comments:</p>	
<p>1.2Critical Developer</p> <p>How many participants completed this micro badge?</p>	-
<p>What was the reason for this micro badge?</p>	
<p>1. How well did the participants meet the learning</p>	

<p>outcomes of this micro badge?</p> <p>2. Why do you think the learning outcomes worked (or did not work)?</p>	
<p>Did you had any concerns/worries relating to either the objectives or the outcomes of the micro badge?</p>	
<p>How well do you think the learning resources met the needs of participants applying for this micro badge?</p>	
<p>Do you think that the workload was adequate? can you elaborate as to why you think the workload was adequate or not?</p>	
<p>What do you think worked well and what do you think can be improved on?</p>	
<p>Comments:</p>	
<p>1.3Complexity Embracer</p> <p>How many participants completed this micro badge</p>	-
<p>What was the reason for this micro badge?</p>	

<p>1. How well did the participants meet the learning outcomes of this micro badge?</p> <p>2. Why do you think the learning outcomes worked (or did not work)?</p>	
<p>Did you had any concerns/worries relating to either the objectives or the outcomes of the micro badge?</p>	
<p>How well do you think the learning resources met the needs of participants applying for this micro badge?</p>	
<p>Do you think that the workload was adequate? can you elaborate as to why you think the workload was adequate or not?</p>	
<p>What do you think worked well and what do you think can be improved on?</p>	
<p>Comments:</p>	
<p style="text-align: center;">Milestone Badge – Learning Eco-System Design</p> <p>2.1 Systems Thinking Promoter</p> <p>2.2 Futures Thinking Catalyser</p> <p>2.3 Values Awareness Supporter</p>	

<p>2.1 Systems Thinking Promoter</p> <p>How many participants completed this micro badge?</p>	
<p>What was the reason for the choice of this micro badge?</p>	
<p>1. How well did the participants meet the learning outcomes of this micro badge?</p> <p>2. Why do you think the learning outcomes worked (or did not work)?</p>	
<p>Did you had any concerns/worries relating to either the objectives or the outcomes of the micro badge?</p>	
<p>How well do you think the learning resources met the needs of participants applying for this micro badge?</p>	
<p>Do you think that the workload was adequate? can you elaborate as to why you think the workload was adequate or not?</p>	
<p>What do you think worked well</p>	

and what do you think can be improved on?	
Comments:	
<p>2.2 Futures Thinking Catalyser</p> <p>How many participants completed this micro badge?</p>	
What was the reason for the choice of this micro badge?	
<p>1. How well did the participants meet the learning outcomes of this micro badge?</p> <p>2. Why do you think the learning outcomes worked (or did not work)?</p>	
Did you had any concerns/worries relating to either the objectives or the outcomes of the micro badge?	
How well do you think the learning resources met the needs of participants applying for this micro badge?	
Do you think that the workload was adequate? can you elaborate as	

to why you think the workload was adequate or not?	
What do you think worked well and what do you think can be improved on?	
Comments:	
Milestone Badge – Enabling Action	
3.1 Active Collaborator	
3.2 Action Facilitator	
3.1 Active Collaborator How many participants completed this micro badge?	
What was the reason for the choice of this micro badge?	
1. How well did the participants meet the learning outcomes of this micro badge? 2. Why do you think the learning outcomes worked (or did not work)?	
Did you had any concerns/worries relating to either the objectives or the outcomes of the micro badge?	
How well do you think the learning resources met	

the needs of participants applying for this micro badge?	
Do you think that the workload was adequate? can you elaborate as to why you think the workload was adequate or not?	
What do you think worked well and what do you think can be improved on?	
Comments:	
Milestone Badge – Reflexive Praxis	
4.1 Conscious Change Agent	
4.1 Conscious Change Agent How many participants completed this micro badge?	
What was the reason for the choice of this micro badge?	
1. How well did the participants meet the learning outcomes of this micro badge? 2. Why do you think the learning outcomes worked (or did not work)?	

<p>Did you had any concerns/worries relating to either the objectives or the outcomes of the micro badge?</p>	
<p>How well do you think the learning resources met the needs of participants applying for this micro badge?</p>	
<p>Do you think that the workload was adequate? can you elaborate as to why you think the workload was adequate or not?</p>	
<p>What do you think worked well and what do you think can be improved on?</p>	
<p>Comments:</p>	
<p>SECTION C</p>	
<p>Please feel free to add any ideas or thoughts that you think will help improve the competence badges, or the piloting of badges:</p>	
<p>Please feel free to provide comments about the positives about the pilot as well as comments about the negatives of the pilot:</p>	
<p>Use this space for additional comments:</p>	

APPENDIX 2

Appendix 2. Micro-badge Feedback Form

Feedback of EduSTA badges - Name of The Micro-badge

1

I consent to the use of my answers to EduSTA project research and development purposes.

Yes

No

2

Did you receive this badge, or did you not finish it?

Yes, I received this badge.

No, I did not finish it.

Questions for those you did not apply any badges:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Steps to earn digital badges were too demanding	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Criteria for digital badge(s) were too challenging	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Benefits of digital badges were unclear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Digital badge design was not interesting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Completion of all digital badges should be mandatory	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Earning digital badges is not motivating	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Concern that evidence of competence is not valid	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Is this the first time you are giving feedback on the EduSTA badges?

- Yes it is
- No, I have given feedback on another EduSTA badge earlier

I knew what digital badges were before I began this module / learning process
Choose the option that best matches your experience

- Yes
- No

6

I have earned digital badges before beginning this module / learning process.

Choose the option that best matches your experience

Yes

No

7

Overall experience

Choose the option that best matches your experience

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
The digital badges helped me to understand my progress through the module/learning process.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The digital badges are symbols that I had mastered content.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The digital badges increased my confidence that I could demonstrate the content of my knowledge.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The digital badges have increased my curiosity to further learning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The activities, instructions, and guidance supported me in achieving the badges.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The digital badges helped me structure my work in this module / learning process.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The visual appearance of the badges was appealing.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Micro-badge feedback: Name of the Micro-badge

Choose the option that best matches your experience

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
I wish the badge was more demanding to earn	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I wish the badge was easier to earn	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The learning resources supported the acquisition of competence	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The instructions for the competence demonstration were clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The competence demonstration methods were relevant in demonstrating the described competence goals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please feel free to comment