

Development and piloting of a micro-credential programme in research ethics and integrity leadership – an example from Estonia

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Abstract

Micro-credentials are an emerging format of lifelong learning supporting competence-development as well as deepening knowledge in the field. Still, there is little research on implementing and sustaining micro-credentials in higher education. The current paper aims to share experiences of development and piloting of a micro-credential programme for a specific target group in Estonia. The criteria for setting up a micro-credential programme as well as initial lessons learned are outlined. Experience indicates that it takes some time and sharing best practices to develop the programmes into a feasible form of education. In case a programme is developed for a very specific target group and no degree programme exists in the field, several tailor-made solutions must be invented. By sharing best practices, developing and testing new formats will make micro-credential programmes more effective.

Keywords: *Micro-credentials; programme development; lifelong learning.*

1. Introduction

Micro-credentials, or micro-degrees, are a new addition in the lifelong learning possibilities and are avidly supported by the European Union (EU) (EU, 2021b). The new European Skill Agenda (EU, 2021a) proposes using short-term training formats to provide swift and flexible ways for people to deepen their knowledge and obtain new skills. A common EU approach to micro-credentials was also established (EU, 2021b) to ensure alignment and transferability among EU higher education (HE) institutions.

Similarly, Estonian Education Strategy 2021–2035 (MER, 2021) establishes that more flexible and integrative options for continuing education should be provided, so all major HE institutions offer various micro-credential programmes. In 2022–2023 academic year three major universities in Estonia offer over 120 micro-credential programmes (Adamson, 2022) (in addition to programmes offered by other HE institutions). Following European Commission recommendations and national education strategies, micro-credentials are accredited in credit points following ECTS (European Credit Transfer and Accumulation System) which can then be used to complete modules in different degree levels and be transferrable into different European universities (that follow the Bologna System) (EU, 2021b; McGreal & Olcott Jr, 2022). Universities state that micro-credentials provide an option to integrate general skills as well as competencies of specific fields, the format is more flexible and provides opportunities for requalification and upscaling (Adamson, 2022). Generally, micro-credentials contribute to a more qualified workforce as well as a more educated society.

Still, as micro-credentials are an emerging format of lifelong learning, there is little research on implementing and sustaining micro-credentials in higher education (Selvaratnam & Sankey, 2021). The current paper aims to share experiences of development and piloting of a micro-credential programme for a specific target group in Estonia. First, the background of the programme is introduced. Then, the description of the development process and the piloting phase are provided. To conclude, lessons learned and recommendations are outlined to support development and implementation of micro-credential programmes in Europe.

2. Need for research ethics and integrity leadership

HE institutions struggle with various issues pertaining to research ethics and integrity (REI), e.g., increased competition, pressure to publish, technological advances that enable plagiarism (Mustajoki & Mustajoki, 2017; Hyytinen & Löfström, 2017). This calls for a systematic approach towards REI and its implementation (Bertram Gallant, 2011). HE institutions have reacted to this need by setting up ethics committees, designating research integrity officers, data management officers and delegating other individuals to create and implement REI infrastructure (Wright & Schneider, 2010; Bertram Gallant, 2011). Usually,

the REI-related tasks are just added to the designated people with no additional training (or receiving a few short training sessions), degrees in REI are not common. The question is: how to prepare REI leaders who would “build the culture of integrity in HE institutions by creating an environment where everyone can and will make ethical decisions”? (Tammeleht, Löffström & Rodríguez-Triana, 2022).

In 2017 a new national code of conduct for research integrity was developed and the document was approved in Estonia by all research institutions. The named document, in addition to outlining the responsibilities of researchers, also stipulates the responsibilities of research institutions in ensuring the REI infrastructure (Hea Teadustava, 2017). The need for a more structured and systematic programme for educating REI leaders became urgent as research institutions had limited levels of readiness for implementing the national code of conduct. As a response, a micro-credential programme was set up by one university with expertise in ethics.

2.1. Development of the micro-credential programme

As there was no degree programme to educate REI leaders, and a very specific target group was kept in mind, a new programme was designed to fulfill the gap. The REI leadership micro-credential programme was named *Academic and Research Integrity: from theory to practice*. The aim of the programme is to prepare experts who could solve various REI issues in their field and institution, and who would be ready to guide others.

The target group for the programme are people who have at least a bachelor's degree and who are already active in research and teaching in a research institution, especially on topics connected with REI. Participants should be ready to apply the acquired knowledge in their own institution by training others, advising on issues pertaining to REI and setting up REI infrastructure.

The volume of the micro-credential programme is 24 ECTS and lasts for two semesters. The university provides micro-credential programmes to learners for a tuition fee. As for the second semester, tailored courses had to be developed for the target group (as there is no existing degree programme about REI leadership), the price became slightly higher than the average credit point price in the department. Still, the overall cost of the entire programme is significantly lower than, for instance, in law, business or media.

Flexible timetables are also recommended by the university guidelines. The participants of micro-credential programmes are expected to attend courses with degree students. Since the participants of micro-credential programmes are usually individuals who work full time and can devote a limited amount of time on travelling and attending lectures, the university advises using session- or web-based learning formats.

2.2. Description of the learning process of the programme

The micro-credentials programme started with a full seminar day where we met the participants face-to-face. At this first meeting, we got to know the learners and their expectations for the programme. There was an introduction of contact persons, lecturers responsible for the courses and learning aids (e.g., library, databases, ethics website, online learning environment). Participants were also given a detailed overview of the autumn semester schedule (see below) and the conditions for completing the courses.

ACADEMIC AND RESEARCH ETHICS: FROM THEORY TO PRACTICE Autumn semester schedule			
SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
05.09 at 11.00–16.00 Micro-credential seminar day	03.10 at 16.15–17.45 CTA 5. lecture	03.11 at 18.15–19.45 BE 4. seminar	15.12 at 14.15–17.45 RI final seminars
05.09 at 16.15–17.45 CTA 1. lecture	10.10 at 16.15–17.45 CTA 1. seminar	07.11 at 16.15–17.45 CTA 6. lecture	ADDITIONAL INFO Critical Thinking and Argumentation Lectures and seminars take place face to face. Participation in lectures and seminars is not mandatory, recordings are in Moodle (from previous years). Basics of Ethics Seminars take place online and are mandatory, it is possible to compensate absences by submitting written work. In addition, video lectures are pre-recorded in Moodle. Research Integrity: Framework Requirements, Values and Principles of Action Seminars take place online and are mandatory, it is possible to compensate two absences by submitting a written work. In addition, video lectures are pre-recorded in Moodle.
08.09 at 14.15–15.00 RI introduction	13.10 at 14.15–17.45 RI 3. seminar	10.11 at 14.15–17.45 RI 5. seminar	
12.09 at 16.15–17.45 CTA 2. lecture	13.10 at 18.15–19.45 BE 2. seminar	10.11 at 18.15–19.45 BE 5. seminar	
15.09 at 14.15–17.45 RI 1. seminar	17.10 at 16.15–17.45 CTA 2. seminar	14.11 at 16.15–17.45 CTA 7. lecture	
19.09 at 16.15–17.45 CTA 3. lecture	24.10 at 16.15–17.45 CTA 3. seminar	21.11 at 16.15–17.45 CTA 8. lecture	
22.09 at 18.15–19.45 BE 1. seminar	27.10 at 14.15–17.45 RI 4. seminar	24.11 at 14.15–17.45 RI 6. seminar	
26.09 at 16.15–17.45 CTA 4. lecture	27.10 at 18.15–19.45 BE 3. seminar	24.11 at 18.15–19.45 BE 6. seminar	
29.09 at 14.15–17.45 RI 2. seminar	31.10 at 16.15–17.45 CTA 4. seminar		

Figure 1. Autumn semester schedule.

In the autumn semester, learners had to complete three courses (12 ECTS in total): “Critical thinking and argumentation”, “Basics of ethics” and “Research integrity: framework, requirements, values and principles of action” (see Figure 1).

All courses were structured in such a way that the final grade was formed continuously during the semester, which means that learners had to constantly keep up with the course topics, read the materials provided, participate in seminars, and solve homework assignments. The final grade for all the courses was differentiated (from “A” to “F”).

In two of those courses (“Basics of ethics” and “Research integrity”) there were pre-recorded video lectures in addition to online seminars that were compulsory to attend. But there was also a possibility to compensate the absence from the seminar by submitting a written task. In the course called “Critical thinking and argumentation” there were face-to-face seminars but the attendance in these was not compulsory, since there were also recorded video seminars from previous years.

Each of the course had a separate webpage where all important information about the course was presented: completion conditions, schedule, instructions, additional materials, links to

join video seminars, communication forums and forums for posting independent works. In addition, we created a separate general webpage for the micro-credentials programme. We added communication forums there, through which we could share information with the learners, and they could ask questions from us. There was also a place for learning diaries where we posted a task for each week, to help the learners keep up with their courses and combine the knowledge that they had gathered in different courses. Once a month, online information sessions were also held. These were designed to convey information, listen to learners' concerns, increase their motivation, and help them in the learning process.

In spring, learners must complete two courses (12 ECTS in total): “Ethics in an organization” and “Workplace applications of practical ethics”. During spring semester, all seminars will take place face-to-face, and for this we have planned one full day of seminars every month (see Figure 2). On each seminar day (except for the last one), we will have three seminars and lunch together, during which it is possible to discuss issues related to the micro-credentials programme as well as to discuss ethical issues in a broader sense.

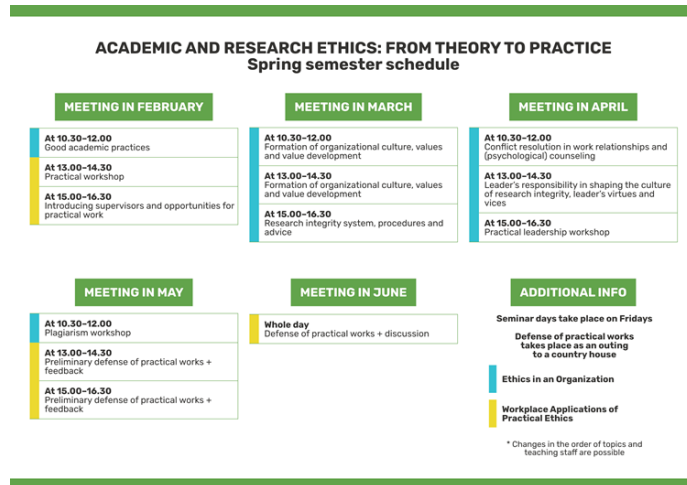


Figure 2. Spring semester schedule.

In the course called "Workplace applications of practical ethics", learners choose a supervisor at the beginning of the semester and during the course every learner will develop one element of the ethics infrastructure with the help of the supervisor.

In the subject "Ethics in an organization", seminars with various experts in the field take place on every seminar day. Between the seminars, learners must independently read the materials and make posts in the self-reflection diary. The final grade for both spring courses is non-differentiating (“pass” or “fail”).

We have planned the very last seminar day of the programme as an outing to a country house in a beautiful place of nature. There, learners are going to defend the last version of their projects and will receive feedback from both supervisors and fellow learners. This will be followed by a discussion round about the study-experience and how to implement and disseminate knowledge obtained from the programme.

3. Initial lessons learned

The initial lessons learned were compiled when the first half of the micro-credential programme had ended. The programme coordinator compiled feedback from learners (N=8), lecturers (N=6), the programme head and other collaborators. The feedback was fed into the development of the second half of the programme.

As the university guidelines encourage micro-credential learners to participate in the courses already provided by degree programmes, this format was indeed followed. It was convenient to incorporate additional learners into existing courses and they adapted relatively smoothly. As the micro-credential learners had already at least graduate degrees (some even professors in their field) and obtained quite significant work experience, they contributed significantly to discussions during seminars and thus helped other learners gain valuable insights to various ethical topics.

Nevertheless, there were also some drawbacks. Firstly, the set timetables were inflexible and thus not convenient for micro-credential learners. They would have preferred fewer fixed meetings but more intensive seminars when the meetings took place. Secondly, some learners did not feel comfortable about learning together with undergraduate students and being treated similarly to them. Namely, teaching undergraduate students need more structuring in their studies, more fixed tasks and deadlines to keep up with their studies; their time-management skills may still be limited. This format of teaching may not be suitable for independent learners like the ones participating in micro-credential programmes. In addition, already existing courses may have many participants and the individual needs of more mature learners may remain unnoticed. Moreover, it may be difficult to adapt to the student's role and unfamiliar disciplines.

To alleviate the emerged issues, the lecturers of the existing courses were approached, and agreements were made to support micro-credential learners. They would still cover the same material but would get more flexibility in submitting their assignments. Organising regular meetings to discuss learning and emotional issues were also perceived well by the learners. Monthly online meetings gave them a chance to voice their concerns, share emotions and support each other. Also, the programme team spent extensive hours in supporting the programme participants. Many toyed with the idea of quitting the programme, the main

reason being the huge workload (studies and work-related responsibilities), but by the end of the meeting everyone decided to continue with their studies.

The programme team saw another potential reason for not quitting – the programme is not for free, and the studies were mostly financed by the participants' employers. Thus, they had taken the responsibility to finalise the programme. In addition to the certificate, the participants would present a practical REI element to their institution/employer.

As a response to the lessons learned the courses for the second semester were designed from the perspective of the micro-credential programme learners. They expressed a need to have fewer meetings but then coming together for a full day. Thus, monthly seminar days were organised. The time in-between the meetings would be devoted to individual reading and compiling the practical final assignment of the programme (with more personal supervision). Still, this kind of tailor-made approach is more time-consuming and expensive for the organising institution. One solution to compensate for the expenses is to make the micro-credential courses available for a wider public (e.g., through the Open Academy).

4. Conclusions and recommendations

All in all, micro-credentials programmes are an excellent addition to the lifelong learning opportunities. They provide possibilities to deepen or enhance knowledge in different fields while still being part of the labour market. Transferability of credit points ensures options to pursue a degree in the field in case there is interest in it. Overall, micro-credentials contribute to a more educated society.

Some recommendations for implementing a micro-credential programme:

- A preliminary information seminar could be organised to introduce the entire programme. This will align participants' expectations to the content offered.
- If possible, separate study groups should be created for learners of the micro-credential programme, this way it is possible to better respond to learners' needs and create a better-suited schedule for them.
- Instead of a tight fixed schedule, fewer but more intensive seminar days should be planned. Also, non-differentiated assessment should be used as this is more suitable for independent/mature learners.
- The programme should have a designated contact person who is committed to regular communication with the learners.
- Although online learning significantly adds flexibility, at least some face-to-face meetings should be organised, because these remarkably increase learners' motivation.
- To make a customized approach affordable for the organising institution, making micro-credentials courses available for a wider public could be considered (so that, for

example, instead of taking part in the entire program, it would be possible to take only one course).

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