

DESIGNING FLEXIBLE LEARNING PATHWAYS THROUGH MICRODEGREE PROGRAMMES: TALLINN UNIVERSITY'S APPROACH TO LIFELONG LEARNING

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ABSTRACT

This short paper explores Tallinn University's experience with the development of microdegree programmes and their potential to help design flexible learning pathways for learners. Microdegrees are extensive continuing education programmes that can be based on the subjects of a degree programme or as a stand-alone continuing education programme. The Tallinn University Open Academy coordinates and develops continuing education and microdegree curricula and conducts networking opportunities for training coordinators of the university's seven institutes. In collaboration with the training coordinators, the Open Academy is developing a tool for the evaluation of microdegree programmes.

INTRODUCTION

In the 21st century, we can witness the growing importance of lifelong learning (LLL) – it has become essential for people to keep up with changing labour market and societal demands. Personalised and flexible learning opportunities are being developed to meet the diverse needs of adult learners. One of the most promising ways of providing these flexible learning pathways is through microdegree programmes, which offer a wide range of continuing education opportunities, either based on university degree programme subjects or through separate continuing training courses. Learner-centred approaches are prioritized in the Estonian education system, and personalized, flexible learning supported by modern technology is an effective method of achieving this goal. The education system should equip learners with knowledge and skills to meet the challenges brought about by industry automation, digital transformation, the introduction of new technologies and the transition to a climate-neutral economy. The new Estonian education development plan for 2021–2035 is focussed on making learning more relevant to labour market needs, providing flexible learning pathways, and offering diverse learning opportunities for all members of society.

In Estonia, Tallinn University is one of the recognised leaders in creating and implementing microdegree programmes that support LLL and focus on learners' needs. In this short paper, we will discuss Estonian education policy, the importance of LLL and individual learning pathways, and Tallinn University's approach to the latter, with the help of microdegrees. We will also present the results of a mini-study conducted to understand learners' experiences

from microdegree programmes. The aim of this study is to develop a universal evaluation and reflection tool that will be used to further improve the programmes. One of the objectives of Tallinn University Open Academy is to connect academia and society through microdegree programmes, which provide more personalised solutions for learners who are not ready to take a big academic step but still want to develop themselves from a LLL perspective. We believe that flexible and personalised learning is based on the learner's own interests, abilities, needs and learning style, and microdegrees can be used to enhance the concept of flexible learning pathways. This paper presents the results of our mini-study conducted earlier this year, which was aimed at exploring how the experience of microdegrees shaped learners' personal learning paths. Interviews were conducted with eleven learners who had completed the microdegree programme. This paper describes the process that led to the development of an instrument that measures the performance of microdegrees and also offers reflection on the participants' experiences.

IMPORTANCE OF LIFELONG LEARNING AND PERSONALISED LEARNING PATHS

Today, the idea that human life is divided into distinctive and identifiable stages – childhood, schooling, working life and retirement – is fading. More than diplomas and degrees, lifelong learning is required to keep knowledge and skills up to date (Varblane, 2023). The Estonian education development plan for 2035 prioritises LLL and opportunities for career change: skills that create greater added value are recognised, and all people in Estonia have the opportunity to acquire the knowledge and skills they need to succeed in the labour market through further education and retraining. Therefore, it is essential to promote more efficient use of the labour market potential of adults, including entrepreneurship, and to enable simultaneous learning and working (Education Strategy 2021–2035). Fewer young people enter the labour market than leave it because of age, as Estonia's natural birth rate has remained negative for decades. In recent years, however, instead of decreasing, Estonia's population has been growing, as positive immigration exceeds negative natural birth rates. Half of the new labour force is needed to meet the demand for workers with higher education, and a third of the new labour force require a level of skills equivalent to that of a vocational education. The role of further training and retraining, including microdegrees, will continue to grow in importance in order to acquire the skills needed for working life (Rosenblad *et al.*, 2023).

One of the objectives of the Estonian Education Strategy is learner-centred learning, which takes into account the individual differences and development needs of learners in order to empower them. Learner-centred education supports the learner's development of reflection skills, agency, learning to learn and other transferable and future competencies, social and emotional well-being and readiness for LLL. Learning pathways that enable individualisation in a seamless learning environment will become necessary. This means reducing the barriers that prevent mobility between formal, non-formal and informal learning, and also between general and vocational education. Learners are free to tailor their learning pathways according to their needs and abilities by learning in smaller modules (e.g., microdegrees) that can be counted as part of the formal curriculum (Education Strategy 2021–2035).

Flexible learning pathways for adults can be tailored to their unique interests, abilities, and needs. These programmes encourage curiosity and take into account the learner's preferred way of learning. They allow learners to have more control over when, how long, how much and how they learn. This gives them the ability to be more independent in the learning process. Adult learners set their own goals and are expected to take responsibility for their learning.

TALLINN UNIVERSITY'S APPROACH TO MICRODEGREES

Universities worldwide play an important role in addressing societal challenges and leading major change. They are often seen as key providers of solutions to global challenges (Varblane, 2023). Tallinn University's mission is to support Estonia's sustainable development through high-level research, teaching and creative activities, social debate, entrepreneurship, cooperation with the public and third sectors and the development of academic partnerships. We need to adapt accordingly to rapidly evolving expectations in the field of higher education. As the importance of LLL grows, the student community is diversifying. It now includes those who were previously regarded as non-traditional learners: those who either postpone entering university, who study while working, or those who do not have a standard upper secondary education.

The concept of microdegrees is strongly linked to the growing need for LLL and can be seen as one manifestation of the personalisation of higher education. Although the concept of is not precisely defined, and its meaning may vary from one country to another, the relevance of microdegrees is recognised. Tallinn University offers microdegree programmes that comprise a thorough curriculum based on the subjects taught in degree programmes (bachelor's or master's level) or a separate curriculum designed for continuing education, or a combination of both. These programmes are a response to the changing needs of society and the rapidly evolving job market. The university collaborates with employers and other partners to develop microdegree programmes while adhering to the highest standards in education. When designing the programmes, it is essential to follow best practices to ensure their quality and that they meet the related requirements of Tallinn University.

The Tallinn University Open Academy coordinates and develops continuing education and microdegree curricula and conducts networking opportunities for training coordinators working in all seven institutes of the university. In 2022, the data, insight and consultancy company Kantar Emor conducted an extensive multi-phase survey among Estonian citizens. Tallinn University was involved in the study and contributed to the methodology. The survey revealed a strong interest in continuing education and self-improvement among the Estonian population, especially among younger, higher educated, and Tallinn residents. The majority want to take part in further education and training to improve their skills in their current job, for self-development, or to pursue a hobby. Popular training areas include personal development, languages, IT and communication and business and administrative skills. Employers support participation in training by allowing time off work to attend training and by organising and covering training costs.

The survey results showed that 22% of respondents had heard of microdegrees, and their first impressions were mostly positive. People see the value of microdegrees mainly in updating professional skills or acquiring new skills. It is also important to note that people aged 50–65 are less interested in training, and their preferences differ from younger age groups. They may need a different approach and course design. The study suggested that some microdegrees could be offered online and targeted to more remote areas regionally in cooperation with local education networks.

MINI-STUDY ON MICRODEGREES – METHOD AND RESULTS

This year, the Tallinn University training coordinators' network is creating a tool for the evaluation, analysis and improvement of their microdegree programmes. As a result of the collaboration between the Open Academy and the training coordinators, a mini-study, "Microdegrees as shapers of flexible learning paths," was conducted. The results provide valuable insights into how microdegrees can shape learners' personal learning paths.

The need for the study arose out of a practical shortcoming. Namely, Tallinn University's microdegree programmes students have similar responsibilities to degree-level students, but do not yet have an adequate digital system to support them. While degree-level students can leave feedback about the entire learning process in the university's information system, feedback from microdegree programme students has not been coordinated, leaving the programme training coordinators free to decide what data to collect and how to analyse it. Therefore, drawing broad and all-encompassing generalisations and conclusions about microdegree programmes as a whole is challenging due to the fragmentation.

The mini-study involved semi-structured online interviews with eleven participants who had enrolled in various microdegree programmes, in which microdegree students were integrated into course groups of degree students – Entrepreneurship Education (1), Smart Parent (2), Introduction to Andragogy (3), Applying Digital Pedagogy (2), and Microdegree for Special Needs Teachers (3). Each interview lasted approximately 20 minutes and was comprised of 10 questions designed to gain a comprehensive understanding of the participants' experiences. The study utilised a convenience sample that featured five different microdegrees, allowing the researcher to conduct the interviews efficiently. Open-ended questions were used that prompted participants to elaborate on their thoughts, experiences, and suggestions for improvement. The challenge was how to collect valuable data in the future without relying solely on the interviews, as this sort of approach is extremely time-consuming.

Interview questions:

1. What led you to enrol in a microdegree programme at Tallinn University?
2. Did you consider other study options before making your decision?
3. How did you manage to combine studies with work and personal life?
4. What were the challenges and obstacles?
5. In terms of your experience in the microdegree programme, to what extent did belonging to a group play a role in your successful studies?
6. To what extent was networking or being part of a professional community important?
7. How has studying in a microdegree programme impacted your career opportunities?
8. Looking back, is there anything you would suggest being done differently in the programme?
9. On a broader scale, what do you believe is the role of microdegrees in education and workforce development?
10. Has your participation in the programme changed your perspective on the importance of lifelong learning?

The interviews were transcribed, and the material was then analysed by the training coordinators at an all-day seminar, a creative lab organised by Tallinn University Open Academy. The interview material was first coded and categorised, working in pairs, and then the findings were brought to bigger groups of training coordinators to find similarities and differences and to map the progress.

During the interviews, it was highlighted that fostering a stronger sense of belonging among learners of the microdegree programme is necessary. However, the degree to which this is achieved relies on the curriculum structure and teaching methods of each programme.

In fact, as a participant in the microdegree programme, I attended without being part of any course group. Although I had encountered other microdegree participants, we weren't actively communicating with each other, so we were working independently most of the time. When we were engaged in group work at certain points, I realized that the tasks were only discussed there, and I had to figure out the rest on my own. However, I didn't always know how to ask questions or understand certain nuances

related to the subject or the lecturer since it was my first experience with Tallinn University. Consequently, I felt a lack of a strong support group, which was a concern for me at times.

We noticed that students participating in a microdegree programme might require additional support or mentorship from the university compared to regular students of degree programmes. Having a dedicated mentor or support system from the university can help these students navigate the course materials, develop essential learning skills, and overcome any obstacles they may face during their educational journey.

The key for Tallinn University is to be more approachable and accessible. When shy adults unfamiliar with this world join the programme, perhaps a mentor could be available to assist them. Sometimes, it's not necessary to actively seek out a mentor; just knowing there's someone they can turn to for help could already relieve the pressure. It's important to have a person they feel comfortable approaching – someone other than a lecturer, as they might be hesitant to ask questions out of fear of appearing incompetent or stupid.

Within the context of LLL, a number of interviewees perceived microdegree programmes as a way for learners with considerable life experience to explore new fields, showcase their abilities, or potentially shift their career paths. These programmes facilitate personal and professional development by equipping participants with relevant skills and knowledge that align with their objectives.

I believe that learning what is currently relevant is our future. Many people in my social circle are aged 40 plus. For instance, my best friend and relative has been a highly respected doctor, but she no longer finds this profession fulfilling. She is now considering microdegree programmes as an alternative. She isn't interested in pursuing a master's degree or dealing with the stress that comes with it. Instead, her goal is to expand her skillset and find new ways for personal growth.

The idea of piecing your education together from microdegree programmes seems like a viable option for people who have already gained life experience and are either working or have been employed in the past. However, I think it might not be the most suitable approach for students fresh out of school. It's crucial for them to first obtain a solid foundation in their chosen field before exploring more specialized, modular learning opportunities.

We found many hints from the results that clearly support the prerequisites for adult learning previously described by Malcolm Knowles. The results demonstrated that adult learners need to understand the purpose behind learning something before they can effectively learn it. Secondly, adults have a strong sense of responsibility for their own decisions, and this is an important part of their concept of self. Thirdly, adults bring with them their own experiences from their past lives, which can shape their approach to learning. Fourthly, adult learning often revolves around tasks or problems, and the assimilation of new knowledge is most effective when it can be applied to real-life situations. Finally, while external motivators like a better job or pay raise can drive adult learning, intrinsic motivation, such as the desire to increase job satisfaction or improve self-esteem, plays a more significant role (Knowles et al., 1998).

The interviewees willingly provided forward-looking feedback on how we could improve and develop the microdegree programmes, but our task was also to clearly formulate the purpose of the feedback questionnaire from both the university's and the participants' points of view. We noticed that in addition to providing feedback, the questionnaire also could act as a reflection tool. For many learners, giving feedback was the first moment in a while

after finishing their studies where they could think back, analyse, reflect on the experience and plan the shape of their flexible learning path accordingly. We decided that our universal feedback questionnaire for microdegree students must be designed and worded intelligently enough to serve as a learner's reflection tool as well. As a result of the creative lab, a smaller working group for the microdegree questionnaire was created, which is currently working on the details of the questionnaire so that the new assessment and reflection tool will be ready by the end of this semester. We would like to link it with the new continuing education information system that is currently being created.

CONCLUSION

In conclusion, LLL and flexible learning pathways are crucial in a dynamic labour market and evolving society. Microdegrees present a promising way to provide adaptable learning opportunities to adult learners. Tallinn University is one of the pioneers in Estonia with its approach to microdegree programmes that address the constantly changing needs of society while upholding high educational standards. The mini-study conducted by Tallinn University's Open Academy and training coordinators offered valuable insights into the experiences of microdegree learners, and a new assessment and reflection tool is being developed based on the study results. Tailored and flexible learning pathways that take into account the unique needs and preferences of individual learners are fundamental for empowering them to reach their full potential and achieving success in their personal and professional lives.

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