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INVESTIGATING MICRO-CREDENTIAL STUDENTS' PERCEPTIONS AND  
EXPERIENCES OF FACTORS SUPPORTING THE DEVELOPMENT OF ONLINE  
LEARNING COMMUNITIES: A CASE STUDY

Master's thesis

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**Abstract**

With shifts in the labour market and the rising cost of a tertiary education, more students are looking into alternative routes to gain the skills required by industry. One qualification which has gained significant attention is the micro-credential. Despite the primarily online nature of such courses, an area of design that remains under-researched is the online learning community (OLC). This study employs the use of listening rooms to examine micro-credential students' perceptions and experiences of OLCs. Results suggest that an initial on-site session is integral to the development of an OLC, while authenticity of the professors, employment of the flipped classroom model and intentional use of collaborative projects promote higher levels of interaction.

**Key words:** *online learning community, micro-credential, higher education, course design.*

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## 1. Introduction

### 1.1 Background

The employment landscape is rapidly changing. It is estimated that 27% of jobs are at high risk of automation (OECD, 2023), while recent technological advancement and the widespread adoption of AI will result in the creation of 170 million new jobs globally by 2030 (Pérez, 2025). However, these roles may not currently exist or be in fields that are still in their infancy. Literature shows that Gen Z are aware of this uncertainty and their need to frequently upskill as they progress in their careers (Cruzvergara, 2024). The requirement to acquire skills in a range of fields is not just due to the evolving job market, but equally necessary for a generation that are more likely to juggle multiple jobs than their predecessors (McKinsey & Company, 2022).

As a result, the evolving job market raises questions about whether the duration and cost of traditional degrees are worth the investment (Brown et al., 2021). The lack of affordability in many countries, and concerns over whether their course aligns with labour market demands means that there is an increased interest in alternative educational routes (McDonald, 2025). One qualification which has recently triggered serious discussion in higher education is the micro-credential. Also referred to as alternative credentials, micro-masters, digital badges and online certificates (Brown et al., 2021), these short courses can be taken as independently or stacked together with other courses to qualify for a more substantial qualification, such as a bachelor's or master's degree. With data suggesting that 94% of micro-credentials are either designed as fully online, blended or hybrid format (Carroll et al., 2023), this provides a level of flexibility that better accommodates students balancing work and study.

While the surge in interest has drawn comparisons to the rise of Massive Open Online Courses, or MOOCs, in the early 2010s (Ross, 2021), there are notable differences between the two phenomena. MOOCs, which are typically free at the point of enrolment, are designed to attract large numbers of learners from a range of educational backgrounds. As a result, they rely heavily on asynchronous learning approaches, thus limiting tutor and peer interaction. In contrast, micro-credentials are fee-based short courses that focus on skills-based accreditation (Department of Education, Skills and Employment, 2022). This equates to reduced cohort sizes and increased opportunities for tutor and peer interaction being embedded throughout the course through activities such as synchronous webinars.

As a result, micro-credentials provide a valuable addition to current university portfolios by offering ‘just in time’ learning, while their design supports opportunities to connect with peers and tutors, improving learner outcomes and course retention rates (Producers et al., 2023).

While there are a number of studies which have examined how to develop online learning communities in higher education, there is limited research on online learning communities within the context of micro-credentials. This thesis aims to address the research gap through investigating the pre-conditions and factors needed to sustain an online learning community (OLC) in this context.

## **2. Theoretical Review**

Given the limited research on OLCs within the context of micro-credentials, this chapter reviews literature from related areas of scholarship, notably OLCs in online higher education programmes, to create a theoretical foundation for this study. It begins with an overview of what a micro-credential is and why OLCs are important in this context. The theoretical frameworks which underpin the concept of OLCs are then examined, after which conditions that support the development of OLCs are discussed.

### **2.1 Micro-credentials**

There is significant debate over what constitutes a micro-credential (Brown et al., 2021; Bruguera et al., 2023; Lang, 2023; Orman et al., 2023), however, there are a number of recurrent themes which appear within literature on the subject:

- It is a “smaller volume of learning” (Microbol, 2019). This may be from 1 to 40 credits according to the New Zealand Qualifications and Credentials Framework (n.d.), while the Common Microcredential Framework refine this further, from 4 to 6 credits (Antonaci et al, 2021).
- It responds to labour market needs (Bruguera et al., 2023; Department of Education, Skills and Employment, 2022; Gauthier, 2020; Orman et al., 2023).
- There are assessed learning outcomes (Department of Education, Skills and Employment, 2022; New Zealand Qualification Authority, 2022).

- The certification is portable. This means that in addition to being a standalone qualification, it can be stacked with other credentials to be awarded a larger qualification (European Commission, 2021; Oliver, 2022).

For the purpose of this research, a micro-credential will therefore be defined as the following:

A short course of between 1 and 40 credits, which demonstrates alignment with labour market needs. Upon completion, the certification provides proof of learning outcomes. This can be recognised as an independent course or combined with others as part of a larger qualification.

Since micro-credentials respond to labour market needs, it is important to create opportunities for online learning communities, whereby both students and educators engage in activities which promote knowledge sharing, collaboration, and discussion (Kırkgöz, 2023). This is particularly significant for Gen Z, who have experienced notable challenges in developing the level of interpersonal skills required by employers (Visser & Terblanche, 2025). The varied experiences and educational backgrounds of participants arguably simulate interactions characteristic of a workplace environment, thus creating opportunities for students to enhance their soft skills.

## **2.2 Online Learning Communities: Theoretical Frameworks**

The concept of an OLC is rooted in Vygotsky's social constructivist theory, whereby social interaction plays a crucial role in cognitive development (Berkeley, n.d.). Later frameworks which align with social constructivist theory include Communities of Practice (CoP), which is characterised by the presence of three core elements: a common domain of interest, community and shared practice (Wenger-Trayner & Wenger-Trayner, 2015). Defined as "groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly" (p. 2), the CoP aligns with Vygotsky's work in that it recognises that learning happens through connecting and working with others, but places increased emphasis on enhancing collective knowledge for real-world application. While CoPs can be present in micro-credentials, they typically are peer-driven and complement the curriculum, rather than being part of the course design.

Conversely, Garrison et al.'s Community of Inquiry (CoI), which also builds upon Vygotskian theory, offers a framework specifically designed for online learning environments (1999). While the definition "a group of individuals who collaboratively

engage in purposeful critical discourse and reflection to construct personal meaning and confirm mutual understanding” (The Community of Inquiry, n.d.) closely aligns with principles of the CoP, the frameworks diverge in their need for a formal instructor. In the CoI this constitutes one of the three foundational elements of cognitive presence, social presence and teaching presence. The interdependence of these three elements means that the CoI framework lends itself to formal learning contexts which involve the presence of an instructor who is responsible for course design and facilitation.

To gain a holistic picture of how the online learning community can be developed, elements of both theorist’s work will be examined in the context of a micro-credential course.

## **2.3 Conditions for Online Learning Communities to Thrive**

Similarly to the distinction noted between Communities of Practice and Communities of Inquiry, a recurrent theme in literature is the distinction between an online community being built within the confines of formal settings, such as webinars, and the development of this organically in more informal contexts. As a result, this section first examines the course-based conditions for online learning communities to develop before considering student-driven community building, which Shepherd and Bolliger suggest may result from foundations established during course-based interactions (2019).

### **2.3.1 Initial Set-up**

The hidden curriculum, defined as “the unstated norms, policies, and expectations that students need to know to succeed in higher education but are often not taught explicitly” (Gonin et al., 2023), and is an integral part of course structure. Lack of awareness of such implicit components leads to reduced sense of belonging (Hubbard et al., 2020) and weakened interpersonal relationships (Koutsouris et al., 2021). In higher education, the hidden curriculum includes but is not limited to the tools employed in the learning process, teaching methods, and assessment strategies (Bahru et al., 2023). To address this challenge Heim et al. recommend the use of short videos from former students outlining course expectations, introducing online tools and explaining how to contact staff (2024), while Gurbutt et al. highlight the importance of developing enhanced communication skills in order to be part of a community in an online context (2020).

A successful OLC requires students to be able to access new knowledge, understanding and skills from their peers (Khoo & Cowie, 2011). However, there are some initial barriers to this in online settings. Usher and Barak’s research on innovation in diverse teams notes that

linguistic diversity of team members is a positive indicator of innovation in face-to-face settings, yet a negative indicator for online groups (2020). A reason suggested for this outcome was the reduced visibility of non-verbal cues, such as gestures or facial expressions, which may result in miscommunication. In order to leverage the potential of multicultural and linguistically diverse teams, Meyer recommends that they employ low-context processes, meaning that communication should be clear, important points should be reiterated and if collaborating with individuals from high context cultures, clarifying questions should be employed to improve understanding (2014).

### **2.3.2 Use of On-site Sessions**

Given the predominantly online nature of micro-credential programmes and the potential geographical distribution of students, arguably one of the most surprising findings from the literature was the significant levels of interest in opportunities for face-to-face interaction throughout the course (Ferguson, 2010; Shepherd & Bolliger, 2019). On-campus orientations and intentionally planned events allowed students to feel a sense of connectedness to their institution (Shepherd & Bolliger, 2019), which supports the work of Rovai, who states that members of a community “must have a motivated and responsible sense of belonging” (2002, p. 199).

### **2.3.3 Professor’s Role**

Instructors play a valuable role in setting the tone for the course and how interactions are modelled (Khoo & Cowie, 2011). This translates to lecturers reaching out to learners early and frequently, in the form of introductory emails, class summaries and course updates (Berry, 2019). One notable example in Berry’s study was a lecturer who, in his introductory email, shared his personal experience of postgraduate education, which was a relatable topic for learners and something they could model in introducing themselves to classmates (2019). This highlights the need for authenticity in interaction from the lecturer, which is essential in establishing trust and community (McCullough, 2022).

The importance of trust connects to the importance of psychological safety, which has been proven to support the development of high functioning teams, notably in Edmondson’s study of employees at Google (1999). This emphasis on the social and emotional aspects of online learning is reflected in Chang’s study whereby students became progressively more confident in sharing assignments with classmates as they began to feel a sense of belonging on their course (2012).



However, when organising groups, it is important for the instructor to assign these rather than allowing students to self-select. This approach is supported by Dawson's work which reveals that students tend to form networks with classmates of a similar academic level (2009), thus reducing opportunities for peer learning across the broader student cohort. The same study also highlighted the polarisation of different levels of achiever is further compounded by the fact that educators were "more than twice as likely to participate in the network of a high-performing student as they were a low-performer network" (p. 749). As a result, instructors should also identify opportunities for both themselves and more experienced students to support members of low-level networks to the same extent in order for them to complete more challenging tasks (Chang, 2012).

In the context of the webinar, instructors need to carefully consider how time is allocated rather than replicating a traditional in-person lecture. Instead, the focus should be on promoting student-driven dialogue through discussion, while the instructor takes the role of the facilitator (Berry, 2019; Khoo & Cowie, 2011). Although the instructor may not play the traditional central role in the online class, other issues that may be exacerbated by the online learning environment require their intervention. For example, the lack of organic opportunities for students to interact in a social context, such as an impromptu conversation in a hallway, meeting up at on-campus events, or studying together in the university library. As a result, social interactions, such as introducing polls to trigger discussion or allocating time to check-in with students on a social rather than academic basis, need to be intentionally planned into the webinar (Berry, 2019).

### **2.3.4 Course Design**

To support a dialogic approach to webinars, a number of educators in Berry's study adopted the flipped classroom model (2019). This strategy supports the reframing of the professor's role as a facilitator rather than a lecturer, while the pre-webinar preparation provides scaffolding to students who may be less confident contributing to webinars. By monitoring the chat function, for example, professors offer students an alternative mode to contribute their ideas during discussions, in line with Universal Design for Learning principles (Rose, 2001). The value of the chat function extends beyond the confines of the class discussion and equally acts as an opportunity to enhance peer connection and share their experiences and challenges on the course (Dulfer et al, 2024).

By combining the flipped classroom approach with the use of breakout rooms in webinars, this supports the development of higher order thinking skills while working on collaborative exercises (Veccia, 2024). One compelling strategy which could be used in conjunction with the flipped classroom method is collaborative annotation. Tools such as Perusall allow instructors to upload and assign readings which students annotate, comment on and post questions about, in partnership with their peers (Perusall, 2021). This allows instructors to make more informed choices in their webinars based on the ‘in-process thinking’ data and upvoted questions, while evidence suggests the use of collaborative annotation also bolsters the online learning community through increased on-platform interactions (Adams & Wilson, 2020).

A multimodal approach to incorporating digital tools has the potential to promote a more democratised educational environment (Berry, 2019). Yet Khoo and Cowie’s work cautions that tools should be intentionally integrated into online programmes: “simply making the technology with all its affordances available to online lecturers and students does not necessarily result in quality experiences” (2011, p. 56). As such, professors should prioritise effectiveness rather than the range of digital tools used in a course, ensuring that each clearly aligns with the learning outcomes.

Multiple studies indicate that working collaboratively on problem-based activities supports the development of a learning community (Chang, 2012; Khoo & Cowie, 2011). This aligns with the micro-credential focus on labour market needs when such activities are related to real life scenarios. Craig notes the distinct advantage of online environments for this form of learning, particularly through the use of collaborative documents and instant messaging, through apps such as Facebook, if learners are unable to meet up in real-time (2022).

### **2.3.5 The Student Role**

In contrast to academic staff, who view the online classroom as the central focus of how communities are built remotely, students are more likely to have a holistic view of how it is created (Berry, 2019). As such, this highlights an area where the development of an online community can be student-led. This could be through the use of social media (Berry, 2019) or through forming study groups (Shepherd & Bolliger, 2019). However, students in Shepherd and Bolliger’s study felt that they needed more digital tools in order create these community spaces outside of class, such as an online ‘café’ area to exchange questions and answers

(2019), thus emphasising the need for initial scaffolding and guidance in the formalised course environment.

## **2.4 Research Question**

To leverage the potential of the micro-credential framework and create a learning experience that fosters soft skills in line with industry demands, the following question will be examined:

*What factors support the development of an online learning community in micro-credentials?*

## **3. Methods**

Now that conditions supporting the development of OLCs in higher education contexts have been identified, this chapter outlines the methodology employed to investigate perceptions and experiences of these factors specifically among micro-credential students. The chapter starts by outlining the research design, followed by a description of the participant group and the recruitment process. The chapter then provides details and the reasoning behind using the listening rooms method for data collection and how data was analysed using an abductive coding approach. Finally, ethical considerations for this study are noted.

### **3.1 Research Design**

The qualitative research conducted in this study can be classified within the pragmatic paradigm. While the adoption of the Listening Room method acknowledges the interpretivist principles of “multiple and socially constructed” realities (Kivunja & Kuyini, 2017, p. 34), the emphasis on producing actionable knowledge to address real-world challenges lends itself to pragmatism (Kaushik & Walsh 2019). The study adopts an abductive epistemological approach, whereby qualitative codes are refined through iterative engagement with theory and data (Delve, n.d.).

### **3.2 Participants**

A total of nine students participated in the research, all of whom studied on the same micro-credential course at an Estonian university. The micro-credential equated to 17 ECTS, was taught in English, and lasted just under six months. The credits obtained could be used towards a master’s programme afterwards if the learner wanted to continue their studies. The course employed a blended format, with the first two weeks being an on-campus induction. This was an important element to evaluate since the literature reviewed suggests that

strategically planned face-to-face meetings support the development of an OLC (Shepherd & Bolliger, 2019).

The time when learners studied on the programme was also considered prior to the recruitment process. While there is limited literature regarding the optimal time for the evaluation of teaching (McClain et al. 2018) and other factors that support online learning communities, it was decided that participants should have completed the course in the last year, as this would enable them to provide a more comprehensive reflection, particularly with regards to the prompts relating to Theme 6: Sustaining Participation (Appendix B).

To recruit participants, the research proposal was initially presented to the course director. Upon agreement, the director then emailed students from the cohort, including a description of the research. If participants consented, they were then contacted directly and asked to complete a Doodle poll indicating their availability. Based on this, participants were grouped into pairs, with one group of three, and sent a listening room invitation and consent form. The inclusion of the consent form was not only important for meeting ethical standards but also aligned with Keane and Mac Labhrainn's best practices for collecting course feedback, notably highlighting participant anonymity and purpose of the evaluation (2005).

The initial invitation sent by the course leader received a 90% response rate. The respondents came from three different countries and learnt English as an additional language. Given the diversity of participant educational and linguistic backgrounds this supports the transferability of the study results to different geographical contexts.

### **3.3 Data Collection**

Data was collected using the Listening Rooms method. This approach requires pairs of classmates to engage in a private 60-minute conversation, without the presence of an interviewer, either in person or online. Conversations centre around six themes related to the research topic, each with a duration of ten minutes. Participants are provided with a timer, and a series of prompt cards to guide each of the ten-minute discussion segments. This method was selected to ensure that data elicits the authentic student voice and avoided potential interviewer bias (Parkin & Heron, 2022).

The design of the six Listening Room themes and prompts were informed by the comprehensive literature review conducted at the start of this study. This involved searching

databases such as Scopus, ProQuest and Google Scholar after key terms and synonyms were identified. To support this, searches were conducted using Boolean operators, for example:

(micro-degree **OR** nanodegree **OR** micro-credential) **AND** (interaction **OR** community)

This ensured sufficient breadth of the search. The shortlisted papers were then populated in a spreadsheet, where the date of publication, number of citations and relevance were evaluated. The finalised list was then categorised by key themes (definition of micro-credential, theoretical background online learning communities, conditions for an online learning community to thrive) and literature was analysed using synthesis matrices. Key themes that emerged from the ‘conditions for an online learning community to thrive,’ provided the framework for the listening room themes, which are outlined below. The subsequent prompts are detailed in Appendix B.

- Theme 1: Professor’s Role
- Theme 2: Empowering the Class
- Theme 3: Course Design
- Theme 4: Use of Technology
- Theme 5: Accelerating Online Community Building
- Theme 6: Sustaining Participation

Wording was carefully considered and revised to ensure clarity since there would be no interviewer to intervene if the question was misunderstood. In order to mitigate any risk of this occurring, all participants were sent the list of prompts prior to the meeting so that this could be reviewed in advance and any questions could be addressed prior to the commencement of the conversation. Given the strict time limits, this meant that conversations were not hindered by discussion surrounding the clarification of a question, and participants could focus on the discussion of their micro-credential experiences.

Although presented in list form below, the decision was made to present questions in a non-linear order around the screen based on a conversation with C. Rogers (personal communication, November 13, 2024). This encouraged participants to select their preferred prompt and allocate their time to what they felt was important to discuss during each 10-minute period, again elevating the student voice.

### **3.4 Data Analysis**

Given the limited research on online learning communities in the context of micro-credential courses, abductive coding was selected as the optimal method for data analysis. This enables reframing “empirical findings in contrast to existing theories,” thus contributing to the construction of new theoretical insights (Timmermans & Tavory, p. 174).

After reviewing different abductive methodologies, the abductive process used draws upon the work of Thompson (2022) and Timmermans and Tavory (2012). Vila-Henninger et al.’s framework was also considered, however the reliance on software for the “text reduction through code equations” stage was considered unsuitable for this study (2022). While this may streamline the analysis of large datasets, given that participants studied English as an additional language meant that a larger variety of terms were utilised to explain concepts, thus requiring a more nuanced approach to coding.

The process began with auto transcribed data being reviewed and cleaned after completion of the listening room sessions. During the review of the transcripts, reflective notes were made, and significant quotes were highlighted (Thompson, 2022). The initial coding employed an inductive approach. When unexpected themes emerged, relevant literature was reviewed to identify potential explanations, described by Timmermans and Tavory as “alternative casing” (2012, p. 177). In order to assess the data and codes in a more objective manner, the second round of coding was conducted after three weeks, in line with the University of Tartu guidance. This iterative process of reviewing data and theoretical frameworks ensured that codes were refined and that new insights were documented.

### **3.5 Ethical Considerations**

This study adhered to the ethical guidelines provided by the University of Tartu and received approval from the academic supervisor before commencement. The following paragraphs outline specific ethical considerations addressed in the context of this research.

To ensure GDPR compliance, an intermediary approach was used for participant recruitment. Rather than contacting potential participants directly, the course director of the micro-credential course was approached. The course director then shared the recruitment invitation with former students. If the student was interested in participating, they provided consent to the course director for their email address to be shared. This ensured that personal data was protected since student contact information was only shared with the individual’s consent.

Upon arranging the listening room meeting, students were emailed a consent form (Appendix A), outlining the purpose of the study, what participation would involve and how anonymised data would be used. To ensure ongoing informed consent, agreement to participate was reconfirmed verbally by participants at the beginning of their respective listening room sessions.

## **4. Results**

In accordance with the abductive approach, this chapter presents the results based on themes that emerged through iteratively reviewing both listening room data and theory. As a result, it maintains a similar structure to the literature review, first outlining micro-credential students' perceptions and experiences of course-based conditions that support OLCs, after which views of student-driven initiatives are presented. Finally, challenges that hindered the development of an OLC are presented.

### **4.1 Initial Set-up**

Data collected revealed an overwhelmingly positive impression of the course from all participants. However, some noted the instructional approach differed significantly from educational experiences in their home country. In particular, the emphasis on self-directed learning was a new experience to some, as Student A illustrates:

*“I was kind of surprised because in Georgia usually we do not do that, neither at schools or in universities. Usually, we have very strict guidelines or frameworks we are learning or working within. [...] From the beginning it was strange to organise myself, but then I found it interesting. It was a good feeling that you were responsible for the things you were doing.”*

As a result, participants recognised the importance of familiarising themselves with this new way of learning (Student A). Experimenting with different learning approaches was supported by lecturers, most notably by encouraging learners to try out, or ‘tinker’ with different online education tools (Student C).

### **4.2 On-site session**

All students placed significant emphasis on the importance of the on-site session in their discussions. The change of environment proved beneficial for promoting high levels of motivation among the class (Student A, B, C and F), since students were able to separate the course from the demands of their daily lives (Student F). This resulted in better engagement with activities, including an informal picnic (Student C), which acted as a form of cultural

exchange through sharing traditional songs and dances from their home countries (Student H and I). This was particularly important since all students noted that gaining new perspectives was an important aspect of the learning experience.

Overall, the on-site session allowed students to develop a deeper sense of connection with classmates and professors in a psychologically safe environment (Student F), setting the tone for their interactions throughout the rest of the course. Student D summarises this in the following quote:

*“[The on-site session] was the foundation of an online community. I think that meeting people whom you are going to work online later [with] is absolutely essential and to create a relationship with the professors. It was much easier to get in touch [...] or work on other tasks with the people whom I met in real life.”*

As a result, the ease of which learners felt they could connect with classmates from the on-site session, as opposed to those they had only met online, was significant (Student A, B and H).

### **4.3 Professor’s Role**

The course leader’s communication style played an important role at the start of the course. This was particularly apparent during discussion surrounding the on-site session, where learners noted his approachability (Student H), encouragement of interaction between different members of the cohort (Student F, H) and use of humour to break the ice (Student H, I). Student E further expanded on the course leader’s communication style:

*“[The course leader] was not very formal in terms of communication. He was not acting like a professor, but more like one of us. In that sense, [...] his way of communication was helpful in terms of us getting [to know] each other and knowing him as well.”*

Throughout the course, professors encouraged students to work with different classmates on projects (Student B, D, H I), thus facilitating the exchange of different ideas. In discussion forums, the professors’ prompts encouraged students to reflect further on the topics (Student F). Finally, the way some professors conducted their webinars supported time dedicated to informal check-ins about students’ lives rather than purely academic subjects, as Student D notes:

*“One thing that I liked was that our tutor in another lesson had these weekly discussions with us in which we shared simply our life and things like that.”*



#### 4.4 Course Design

Generally speaking, students viewed the use of the flipped classroom model favourably (Student A, C, D, E, F, G, H, I). Benefits they noted were that it allowed them to feel more prepared for the webinar (Student G), allowed them to come prepared with questions they wanted to ask the professor (Student H) and contribute more to class discussions (Student C, H, I). Student I explains:

*“Sometimes if the topic is unknown and I do not have enough information on this topic, I sometimes think how to enter the discussion, how to answer the questions. It helps when I have the materials before the session.”*

While Students A and B did note some benefits of the flipped classroom model, they also discussed drawbacks, notably the repetition when multiple students express the same ideas (Student B). One way in which this challenge could be addressed in webinars is putting students into smaller groups for discussions (Student D). Student A elaborates on this further by discussing how breakout room sessions could be scaffolded:

*“I think I would have participated a lot more in discussions if we were arranged in smaller groups and teams and we had given like a certain set of questions, for example, [...] and then give feedback to the professor afterwards in a whole group session.”*

In order to keep students engaged with webinars, participants noted that the format needed to be varied (Student B), the duration should be carefully considered (Student C).

Another factor which supported the development of the OLC is the significant emphasis the course placed on collaborative tasks (Student B, C, D, E, G). Such projects enabled students to recognise their peers’ abilities and experience (Student B), reevaluate their approach to a task and improve their interpersonal skills (Student C). In some cases, students expressed how group work projects promoted a sense of accountability which was less apparent in independent assignments (Student C, F), while both Students A and B expressed a preference for problem-based tasks when working within this context.

In order to successfully collaborate remotely, students highlighted the benefits of role assignment (Students D, G, H). However, a notable concern when collaborating was the risk of misunderstanding, as Student C highlights:

*“The interaction was more demanding when we were online. You had to speak a lot, and you had to write a lot because you can't see the person - there was no body language.”*

As a result, a low context communication approach was employed by some groups, agreeing upon the ways they would communicate and through which channels from the outset (Student I). Despite some groups successfully developing methods to liaise with their classmates in online contexts, both students A and F noted the distinct difference in levels of interaction depending on whether they were working on a shared project together or not:

*“I had two online learning community experiences. We were very engaged in the programme, but as soon as we accomplished our tasks, we didn’t really communicate that much afterwards.”* (Student F)

#### **4.5 Student Role and Motivators**

In terms of peer-driven initiatives which supported the OLC, Student A noted the need for regular meetups to maintain communication online. Some students arranged online catch-ups with classmates they formed close bonds with (Student A), however one of the most successful strategies maintaining a class-wide OLC was regular post webinar check-ins (Student G, H):

*“When we switched to the online meetings for the rest of the semester, we had this deal to have these weekly calls or monthly calls with everybody just to keep each other updated about our life and whatever. I remember a lot of people had been joining those calls.”* (Student H)

While gaining new perspectives was a significant motivator for many learners, several also expressed a desire to collaborate with classmates who they could relate to on a personal level. This included similarity in age and stage in life (Student D), a connection between their respective countries or the presence of shared goals and work ethic (Student C). Given the competing priorities of work and family life micro-credential students experienced while studying online, this sometimes resulted in classmates from similar backgrounds working on collaborative projects together to accelerate the process (Student D, I). Student B summarises in the following quote how external commitments reduced their capacity to connect with peers compared to undergraduate students:

*“The majority of us we had jobs, we had families, we had a lot of different tasks and maybe this was one reason that we didn’t meet so often, but I think when you’re a student, when you don’t have other responsibilities, maybe it is easy to be part of an online learning community.”*

## 4.6 Challenges

Similar to the competing priorities noted by some students, one of the most significant challenges was arranging meetings which suited all participants' schedules, which was particularly difficult given the broad range of time zones they were working across (Student A, B, C, D, G, I, F). While availability was the primary challenge for synchronous tasks, one challenge that was noted for asynchronous elements of the course was how students responded to the task, and in turn each other's contributions. This was observed in the use of collaborative documents, where some learners felt it became a performative exercise through solely adding their own comments rather than viewing it as an opportunity to exchange ideas and interact with classmates (Student A).

Despite the challenges outlined, this did not significantly hinder the development of the OLC for the course, which is evidenced by the sustained contact after the course ended (Student C, F, G, I). As Student C summarises:

*"I have this feeling that if there is something I need to know [about a] specific about the country's education [system], I can ask those people, and they will help me."* (Student C)

## 5. Discussion and Recommendations

This chapter starts by interpreting the listening room results in relation to the literature outlined in Chapter 2. Recommendations are then made for future micro-credential courses, addressing the following research question:

*What factors support the development of an online learning community in micro-credentials?*

Student A's experience of transitioning from a different educational background aligns with the challenges of the hidden curriculum outlined by Gonin et al. (2023). As a result, it highlights the importance of establishing a collective understanding of implicit aspects of the course in the induction. Similarly, the successful use of low-context communication strategies in collaborative work is arguably another 'hidden' element of the curriculum that needs to be taught, aligning with Meyer's work in multicultural teams (2014).

The majority of learners identified collaborative activities, which often followed a problem-based format recommended in Chang (2012) as well as Khoo and Cowie's research (2011), as an important component in fostering an online learning community. However, a more surprising result was the shift in communication levels depending on the need to complete

this type of activity. When working towards an assignment, students noted this led to significant peer discussion and higher sense of accountability, compared to the lack of interaction after it had been completed. However, a reason for the lack of communication between group assignments may be the competing demands of the students' everyday lives while studying online, which was noted as a challenge during the listening room discussion.

One of the distinct differences in the listening room data compared to the literature reviewed was the value placed on the on-site session. While mentioned in Ferguson (2010) and Shepherd and Bolliger's work (2019) there is limited research on the value of such interventions. Since students suggested that the on-site session resulted in a notable change in how connected they felt with their peers and professors, compared to those who remained online, it would be beneficial for future research to examine the extent of the impact an initial on-site induction has on building community.

In terms of course design, conversation reflected Veccia's recommendation to utilise the flipped classroom model in conjunction with breakout rooms in webinars to sustain engagement (2024). While breakout rooms weren't used during the micro-credential, the flipped classroom allowed students to feel prepared and more confident in contributing to webinars. In relation to webinar design, the adoption of the "facilitator" role by the lecturers was positively viewed by learners and notably encouraged them to work with different classmates, which supports research conducted by Berry (2019), as well as Khoo and Cowie (2011). While the implementation of informal webinar check-ins by professors was less common, this was still an aspect of the course that learners appreciated. Students also viewed the course leader's informal communication style positively, which may have resulted in more authentic interactions by reducing traditional academic hierarchies.

Two topics which came up in the listening rooms which did not appear in the literature are the challenges of different time zones and availability due to different schedules. The other was the risk of asynchronous interactions becoming performative, such as collaborative documents only being used by learners to add their own answers and complete the task rather than engaging with classmates' work.

Based on the findings from this study, several recommendations can be made for the design of future micro-credential programmes. First, students should be given pre-course information on how the learning will be structured, the assessment methods and what

platforms and tools they will be using in line with Bahru et al.'s definition of the hidden curriculum (2023). One way to translate this information into a relatable and engaging format is by asking former students to record short videos about these different elements of the course (Heim et al., 2024) and for these students to explain notable differences from their previous experiences in higher education. In terms of explaining the platforms and tools, the videos could take a 'walk through' format in order to talk about the key functions that students require. By ensuring that all students have a foundational understanding of the different technologies used, this supports Berry's suggestion that it can have a democratising effect on class participation (2019).

Given the value placed on the on-site by study participants, it should be highly encouraged for students to attend, or even a compulsory element of the micro-credential course. Based on the listening rooms, this helped students to view the professors as authentic and approachable, which in turn led them to feel more confident in contacting them when the course moved online. Regarding their interaction with classmates, the on-site supported the spontaneous conversations and peer-driven activities such as picnics and other informal events outside the classroom, again leading to more regular and organic interactions when online. To support the transition to working on collaborative projects remotely, it would be beneficial to conduct a workshop on strategies for online collaboration during the on-site session. By highlighting the benefits of low-context communication, this mitigates the challenge of interaction being "more demanding" due to lack of body language in online settings (Student C).

To maintain consistent communication among students throughout the micro-credential, problem-based collaborative assignments should be intentionally spaced throughout the online course. One of the key challenges identified during the listening room conversations was arranging meetings with classmates working across different time zones and who had conflicting schedules. To address this, students should share their typical weekly availability at the start of the course. This would allow the professor to group students with others who have similar availability, while still allowing opportunities to work with different classmates on later assignments where schedules are compatible.

Regarding the synchronous component of the online course, the flipped classroom approach should be complimented by the use of breakout rooms in webinar in alignment with Veccia's research (2024). This would allow students to have a foundational understanding of the topic,

thus helping those less confident to participate, yet avoid the challenge of repeated ideas through smaller group discussions. Finally, while professors embraced a facilitator role in this micro-credential for the academic discussion in webinars, they should equally employ this approach to initiate social check-ins with the class, as evidenced by Berry's study (2019).

## **6. Limitations and Future Research**

This final chapter addresses the limitations of the research conducted. It reflects on the scope of the study and provides suggestions for future research to support the generalisability of results.

This research is a case study which examines the experiences of students from one micro-credential course. While the study succeeded in recruiting a high number of participants from this course and generating rich data from the listening rooms, the research would need to be repeated with cohorts from other micro-credential programmes to ensure the transferability of results.

Course information available on the university website suggests that a significant number of students would have been in receipt of scholarships. Giroir's research suggests that there is correlation between students in receipt of academic scholarships and course completion rates (2009), thus meaning that these participants may have been more likely to engage in online learning communities. While this may provide richer information on what makes a successful OLC, it may equally limit the explanations provided for why learners drop out or disengage with programmes. As such, it would be valuable to repeat the study with a group of participants in receipt of scholarships and those without.

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### **Author's declaration**

I hereby declare that I have written this thesis independently and that all contributions of other authors and supporters have been referenced. The thesis has been written in accordance with the requirements for graduation theses of the Institute of Education of the University of Tartu and is in compliance with good academic practices.

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Signature: *Emma Osborne*

Date: 29/05/2025



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## **Appendix A**

Thank you for volunteering to participate in my thesis project. This research aims to explore how micro-credentials can be designed to foster an online learning community. Your insights, based on your experiences with the course last year, will provide a valuable contribution to this study.

The Listening Room discussion is scheduled for:

**Date:**

**Time:**

By participating, you agree to attend an 80-minute session, which includes a 60-minute Listening Room discussion. Additionally, there is a possibility that I may follow up with you via email to clarify any points, if necessary. By confirming your participation, you are also consenting to the use of anonymised data from the Listening Room discussion, for research analysis, inclusion in the thesis, and potential publications. Please note, you will not be identified in any paper or publication.

## **Appendix B**

### **Theme 1: Professor's Role**

- How did the professor help you build connections with classmates?
- What feedback strategies did the professor use which encouraged participation in the online learning community? What else could they have done?
- How did the professor set up the course introduction? What did you like/ dislike about this?

### **Theme 2: Empowering the Class**

- Did you mostly work with the same classmates throughout the course, or different people?
- How did you connect with classmates outside of webinars and formal assignments? How often did you do this?
- What informal learning opportunities did you experience? What led to them?

### **Theme 3: Course Design**

- How did the August on-campus session impact your relationships with classmates and professors?
- How did using (or not using) the flipped classroom model\* impact your engagement with webinars?
- What was your experience with collaborative tasks and problem-based activities?

\*“In the flipped classroom, students complete learning normally covered in the classroom in their own time (by watching videos and/or accessing resources), and classroom time is dedicated to hands-on activities and interactive, personalised learning, leading to deeper understanding.” (UNSW Sydney, n.d.)

### **Theme 4: Use of Technology**

- What tools (e.g., Zoom, Teams, Google Docs) did you use to collaborate and interact with classmates and professors?
- How did studying online affect your interactions compared to face-to-face settings?
- Is there a tool you think should be used more or added to the course?



### **Theme 5: Accelerating Online Community Building**

- How did the groups you worked with manage short-deadline projects? How did this affect relationships within the group?
- Can activities like weekly discussion prompts or quick check-ins contribute to faster online community building? Did you experience these during the course?
- What other approaches could have been used to create an online learning community more quickly?

### **Theme 6: Sustaining Participation**

- Did your participation level change at different times in the course? Why was this?
- Were there times when class motivation felt high or low? What do you think caused the change?
- What strategies can help reengage classmates? Who should take responsibility for this?

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