Lifelong learning at Scania and KTH

A qualitative study on community of practice as a learning method in contract education

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Abstract

This degree project examines the feasibility of implementing a community of practice within the contract education course "Sustainable Transport Systems" offered at KTH Royal Institute of Sweden in collaboration with Scania. This degree project aims to investigate if it would be possible to increase participation in the course by creating study circles led by circle leaders who have completed the course. Four interviews were conducted and analyzed using thematic analysis, leading to the identification of four themes. A beta test was then conducted with 15 Scania employees who had yet to take the course, in which they participated in two condensed modules led by a circle leader. Results suggest a potential for implementing a community of practice, as circle leaders and employees saw value in the format and appreciated the opportunities for discussion and reflection on sustainability. The proposed concept is that the course serves as an introduction to a community of practice focusing on sustainability at Scania, where an attitude towards sustainability is developed and concrete improvement proposals for sustainability work are created through the course's projects.

Keywords

Lifelong learning, sustainability, contract education, community, community of practice, virtual communities.

Abstract

Detta examensarbete undersöker genomförbarheten med att implementera en praxisgemenskap inom uppdragsutbildningskursen "Hållbara transportsystem" som erbjuds vid Kungliga Tekniska Högskolan i samarbete med Scania. Syftet med arbetet är att undersöka om det skulle vara möjligt att öka deltagandet i kursen genom att skapa studiecirklar som leds av cirkelledare som genomfört kursen. Fyra intervjuer genomfördes och analyserades med hjälp av tematisk analys, vilket ledde till att fyra teman identifierades. Därefter genomfördes ett betatest med 15 Scania-anställda som ännu inte hade gått kursen, där de deltog i två kompakta moduler ledda av en cirkelledare. Resultaten tyder på en potential för att implementera en praxisgemenskap, eftersom cirkelledare och medarbetare såg värde i formatet och uppskattade möjligheterna till diskussion och reflektion kring hållbarhet. Det föreslagna konceptet är att kursen fungerar som en introduktion till en praxisgemenskap med fokus på hållbarhet hos Scania, där en attityd till hållbarhet utvecklas och konkreta förbättringsförslag för hållbarhetsarbete skapas genom kursens projekt.

Nyckelord

Livslångt lärande, hållbarhet, uppdragsutbildning, gemenskap, praxisgemenskap, virtuella gemenskaper.

Acknowledgements

Contents

Chapter 1

Introduction

This chapter will introduce the context of this degree project, including the research questions and the research context.

1.1 Background

In 2015, all the member states of the United Nations adopted the 2030 Agenda for Sustainable Development, which includes 17 Sustainable Development Goals (SDGs) and 169 targets to eliminate poverty, combat climate change to enable peace and prosperity for all humans and the planet (Nations, n.d.-a, n.d.-b). Goal number 4 involves education and lifelong learning opportunities and states that: *"Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all"*. As the world is ever changing, it is important with lifelong learning opportunities to stay relevant in the job market and to be able to participate in activities of the society. In 2020, the Swedish government issued funding to the higher education institutions of Sweden to increase the number of students engaging in lifelong learning (Regeringskansliet, 2020). The Swedish government seeks to offer more opportunities for people engaged within the labour market to remain competitive within their respective markets with the help of these institutions (Regeringskansliet, 2022). Arbetsförmedlingen (n.d.) agree that lifelong learning is essential for the employee to stay attractive in the labour market and encourages you to start with your everyday learning instead of relying on the yearly conference.

At KTH Royal Institute of Sweden (KTH), the lifelong learning courses are neither tied

to a specific program nor connected to a prerequisite course aimed at anyone needing further education (Webmaster, n.d.). The field of lifelong learning has previously comprised a small percentage of the total education volume at KTH. However, KTH is now devoted to increasing it to 20 per cent within the coming years (Kari, 2021).

KTH has several strategic partnerships with global companies, and one of the prioritized collaboration areas is lifelong learning. One of these partners is the company Scania (Rosenberg, n.d.). Together, KTH and Scania have collaborated with the course Sustainable Transport Systems as a step towards target 4.7, which states that: *"[...] ensure that all learners acquire the knowledge and skills needed to promote sustainable development [...]"*. The course is held at KTH for employees at Scania, and both KTH and Scania are responsible for parts of the course. In the course, the employees at Scania learn more about sustainability in the broader sense and Scania's context, as well as different tools that are used in sustainability. The course was held for two-course rounds and focused on flipped classrooms and an active student approach. Recently, an order from KTH came to evaluate new learning strategies within the course to see if the course could be more scalable. This degree project examines the introduction of a community of practice in the course Sustainable Transport Systems (STS).

1.2 Purpose

The purpose of this degree project is to examine the introduction of a community of practice in the course STS, specifically, how the meeting could look for a community of practice course round and what requisites course participants would suggest that a community of practice would need to exist.

1.2.1 Research Questions

- RQ1a: What additional value can be created by implementing a community of practice in the course STS?

- RQ1b: What would be the potential success factors with a community of practice course compared to the current course?

- RQ2a: What could an implementation of a community of practice in the course look like?

- RQ2b: What are the experiences of participants and circle leaders in a community of course test round?

1.3 Stakeholders and Benefits

Scania and KTH are both stakeholders in this degree project. Scania has ambitious sustainability goals, and a more scalable approach to the course could allow more employees to be knowledgeable in sustainability and thus help move towards the goals. KTH receives the opportunity to investigate if the concept of community of practice as a service is plausible, which later could be used in other settings and not only at Scania.

The results of this degree project are potentially beneficial for KTH and Scania. The results could provide feedback to KTH that this learning format is implementable in contract education, thus enabling a new business model that supports the increasing number of students. In Scania's case, they receive parts of the course for free, at the expense of their salaried time, but also acquire knowledge on how this learning format works in their organisation. If the community of practice is deemed implementable, both organisations receive a potential tool that could be used in other contexts.

No party is subjected to receive payment for their involvement in this project.

1.4 Research context

This degree project takes place at Scania in collaboration with KTH through the course Sustainable Transport Systems. The course has a limitation on its participants, and new learning methods are being investigated to remove it.

1.4.1 Scania

The company Scania is one of the world-leading providers of transport solutions, including services in trucks, buses and coaches, with over 50,000 employees worldwide. It has a heavy focus on reaching its sustainability goals. Scania drives toward a more sustainable transport system, but to do this, its employees, customers and other stakeholders must see value in the change. Their sustainability focus has three priorities, people sustainability, circular business och decarbonisation

throughout the product's life cycles. Focusing on people sustainability, Scania has found the need to undergo a transformation in which the employees are the most significant success factor and where no one is left behind. (Scania, n.d.)

Scania has focused its efforts on three different scopes, scope one - the direct emissions, scope two - indirect emissions in the generation of energy etc. and the third scope - indirect emissions from the value chain. More than 90% of Scania's total emissions occur from the third scope, which consists mainly of Scania's customers' usage of their transport solutions. (Scania, n.d.)

1.4.2 Sustainable Transport Systems

The course is a collaboration between KTH and Scania in the field of lifelong learning, where KTH, together with Scania, educates employees at Scania in sustainability. The course consists of six modules that blend theoretical knowledge about sustainability, how sustainability can be addressed in an industrial context, and how it can benefit a company and its stakeholders (Dahlin, n.d.). A large part of the course is the final project in which the employee, by themselves or in a group, chooses a case related to their department or product and applies the knowledge given from the course through analysis and suggestions for increased sustainability.

The test for this degree project is called the beta test and consists of parts of the first three modules mixed together to fit a shorter format.

The course had two previous course rounds, the first was called Sustainable Transport Systems - Pilot course and the second was called Sustainable Transport Systems, and each had about 25 participants. A third course round is planned to start in January 2023, and the participants in the beta test had opportunities to sign up for that. For more employees to be able to take the course, to scale it up, something about the course has to change. (Core team, 2022).

Chapter 2

Theoretical Framework

This degree project starts off in the theory that learning in social situations benefits its practitioners. Because of this, the framework called *community of practice* by Lave and Wenger (1991) and Wenger (1998) is at the heart of the study. The framework has roots in the learning theory of situated learning, where the learning situation does not only affect the learning but is part of it (Illeris, 2009).

According to Wenger (1998), a social theory of learning should include the following four components: meaning, practice, community and identity, with learning as its central piece. The sociocultural theory by Vygotskij (2001) also focuses on the learning situation between individuals in social situations and introduces the concept *Zone of Proximal Development*. This concept describes what an individual can do within her knowledge sphere, what she can do with the help of others and what she cannot do. With this, Vygotskij (2001) illustrates that an individual can reach further insights with peers than by themselves, and thus a social context can be beneficial for learning.

Another prominent figure in learning is Illeris *Læring*, who describes different types of learning that are mainly connected to Piaget (2006)'s theory of cognitive development in which knowledge and understanding are sorted in *schemas* which acts as both category of knowledge but also includes the process of obtaining it. These schemas are built up through *assimilation*, in which new knowledge builds upon already obtained knowledge or *accommodation*, where learning changes or create new schemas (Piaget, 2006). Illeris (2009) expands on these and also includes the addition called *transformative learning*.

Sfard (1998) describes two different metaphors for learning, the *acquisition metaphor*

and the *participation metaphor* and the dangers of choosing one of them. With these metaphors, learning can be viewed as something you acquire or achieve through social interactions. Sfard (1998) draws a connection to membership in a community of practice but also highlights the problem in interpreting the community, its expert practitioners and what the practice is.

2.1 Community of practice

A community of practice is a group of people that cares about a shared problem or concern that they improve on through regular interactions (Wenger-Trayner et al., 2022). The centre of this theory is that communities of practice exist everywhere, at work, between friends, and that they transform over time (Wenger, 1998). A consequence of this is that learning situations can exist everywhere. Therefore, the community of practice is not something new but simply an approach to knowing and learning (Wenger, 1998, 2022).

Wenger-Trayner et al. (2022) states that a community of practice consist of people in the process of collective learning and, according to Wenger (1998), three dimensions. These dimensions are *the domain*, *the community* and *the practice*, which distinguishes it from the normal sense of communities, which can, for example, be based on location (Dictionaries, n.d.). In short, these dimensions can be summarised as the domain - what the community is about, the community - who the community members are and the practice - the focus of the community. An aspect of community of practice is the state the participant has before becoming a full member. This state is called *legitimate peripheral participation* by Lave and Wenger (1991) and describes how a newcomer reaches full membership through peripheral activities.

2.1.1 The domain

The identity of a community of practice is defined through a shared domain of interest, where the members commit to the domain. For a community to exist, there need to be activities among its members to discuss and share information. While the members interact, the relationship between the members grows, enabling learning. Members of a community of practice are not merely people bound by interest. They are practitioners of that interest. Together, they create a shared practice through

interactions that include experiences, and tools, among other things. (Wenger, 2022).

2.1.2   The community

The community consists of the people that are committed to the practice and the relationship between them that develops over time. The growth of the community depends on its members and their ability to grow their relationships (Wenger-Trayner et al., 2022). The community interacts with each other through activities, discussions, and information sharing that can enable collective learning and create a platform where the members are encouraged to share ideas and concerns. (ERLC, n.d.)

2.1.3   The practice

The members of the community are not only bound by interest. They are practitioners of it. Together, the community builds resources and ideas that the members can use in their normal profession. (ERLC, n.d.).

The practice is about the shared resources the community organizes around, for short, a shared practice (Wenger-Trayner et al., 2022). The practice is, therefore, the focused topic of the community and contains the core of the developed and collected knowledge, the shared repertoire(ERLC, n.d.; Wenger-Trayner et al., 2022). Wenger (1998) describes three dimensions of practice associated with communities of practice. The first one is called *mutual engagement*, which is about the possibility of interacting with the other members, responding to their actions and creating relationships with them. The second one is called *joint enterprise*, which is about the member's understanding of what the community of practice is about and, therefore, can take responsibility and contribute to it. The last one is called *shared repertoire* and is about understanding the repertoire of the community of practice to engage with it and to achieve this. Time needs to be spent with the community in order to learn the shared repertoire.

2.1.4   The roles of a community of practice

Wenger (1998) initially talked about two different aspects of the process of becoming a member of a community of practice, legitimate peripheral participation. The

two aspects is the peripherally and the legitimacy, where the peripherally is about the terms of which the newcomer can expect to participate in the actual practice through the *mutual engagement*, *joint enterprise* and *shared repertoire* to provide an understanding of how the community operates. An aspect of community of practice is the state the participant has before becoming a full member. This state is called *legitimate peripheral participation* by Lave and Wenger (1991) and describes how a newcomer reaches full membership through peripheral activities. Legitimacy is about how the newcomer is accepted as a potential member of the community. If the newcomer is not treated as a potential member, then learning can be proven difficult.

Looking at the community itself, Wenger-Trayner et al. (2022) describes the key roles as:

- Community leader: running the day-to-day functions of keeping the community going, connecting with members, and making sure they are engaged and receiving value

- Core group member: member dedicated to the development of the community, helping leaders with various tasks

- Chapter leader: acting as a community leader for a local chapter and connecting it to the broader community

- Practice group leader: leading a practice group can take different forms depending on the type of group it is, ranging from lightly facilitating discussions to project management

- Mentor: taking newer members under their wing

- Welcome wagon: welcoming and inducting new members

These describe the different roles that could exist in a community of practice and how these are assigned to members can be different, but usually are explicitly assigned to a person or group (Wenger-Trayner et al., 2022).

Chapter 3

Previous research

This chapter will highlight some of the previous research done in the field of community of practice, especially in the areas of different types of communities, namely virtual communities and classroom communities.

3.1 Virtual community of practices

Johnson (2001) has surveyed the literature on communities of practice and found that there are three aspects that differ between a community of practice and a traditional organisation.

1. Experts of different levels are present in the community of practice

2. Movement towards the center of the community as a symbol for the progression from novice to expert

3. The community has authentic tasks and communication

In Johnson (2001), virtual communities are defined as groups that use networked technology and does not guarantee that communities of practice will arise because a need of task-based learning must exist. Johnson (2001) states that virtual communities of practices are possible, but require adequate scaffolding in terms of support in the technologies and how to use technology for collaboration and communication. Johnson (2001) presents a case study for future research:

1. Design a virtual community

2. Support scaffolding

3. Predict how the emergent community of practice will use the designed elements

4. Monitor how the community develops practices because of and/or in spite of the intended design

5. Implement revisions that make learning more efficient

Schwen and Hara (2003) examined four different cases of community of practice in different settings and identified associated issues with the concept of a community of practice. From these associated issues, they concluded that there are five different problems that need to be considered when developing an online community of practice (CoP). These problems and descriptions follow as described by Schwen and Hara (2003):

1. **Prescriptive versus description distinction:** The foundational social theory is not a warrant for designing or nurturing a CoP.

2. **Ready-Made versus Communities in the making:** Situated learning theory has more to offer than "formed" community. Little is known about the early life cycle of CoPs. The best opportunity for online design is with formed CoPs.

3. **Knowledge of Possession versus Knowing in Practice:** CoPs are rarely centered around declarative knowledge acquisition. Rather, CoPs support knowledge in action.

4. **Mid-Level Social Theory versus Micro Learning Theory:** Situated learning theory is a "middle-level" social theory; mixing learning theory and related pedagogy are either inappropriate or untested mixing levels of theory and methodology.

5. **Motivated Members versus Unwilling Subjects:** The intentions of the community members are often subverted in "designs of" CoP.

To tackle these problems, Schwen and Hara (2003) suggested a four-phase approach to designing online learning environments.

1. **Possible design interventions:** Identify an existing community and evaluate whether design interventions would be possible and useful.

2. **Analysis:** What are the social patterns of learning and identify formation? What are the untapped possibilities for achieving the goals of the population?

3. **Design:** The design process could incorporate iterative strategies such as social technical design, rapid prototyping design or user-centered design.

4. **Evaluation and revision:** The issue of intention is central to goal setting and evaluation. Participatory decision-making is the only ethical stance possible in this social learning context.

In conclusion, Schwen and Hara (2003) concludes that communities of practice are not likely to be forced and that it is essential to be aware of characteristics of already existing communities of practice before designing one, as the early life of communities is relatively uncharted territory.

3.2 Classrooms as communities of practice

Kapucu (2012) explored the classroom in a university setting as a community of practice and activities that help students' collaborative learning in a course in emergency and crisis management. Kapucu (2012) states that *"forming communities of practice provides participants with an environment that combines knowledge and practice and the opportunity to learn through relationships with their peers and practitioners in the community"*. Learning in a community of practice can be seen as a bridge between formal learning and informal practice.

Kapucu (2012) considers a leader to be a vital role to facilitate collaboration in a community of practice to, among others, monitor community activities to achieve the community goals. In this study, the teacher was the facilitator.

The activities that were used during the study by Kapucu (2012) were:

- **Pre-study:** The student read an article before the first class that was about relationship/network building and was provided with the intention to give the students an understanding of the importance of a network and its benefits.

- **Ice-breaker activities:** To enable collaboration, close relationships are important to establish. These were spread out in the course and included memorizing the names of fellow students, and shortly presenting their own motivations for taking the course.

- **Course graded activities:** The students were encouraged to participate in the class activities as the main learning opportunities. A long-term service-learning project was also included in the course, where the students focused on providing an implementable solution in a real-world case.

- **Guest lectures:** The course made use of real-world examples and invited practitioners from the associated field to talk to the student in an informal setting and create a bridge between the formal education and the informal setting of the practitioner.

- **Emergency Operations Center Visits:** The students were able to visit these centres as part of the course as they relate to the course contents. These visits acted as a support to bridge formal education with a practical setting and these experiences could be discussed in class.

- **Online activities and Webcourses:** The course mixed both face-to-face interaction with web-based interaction.

- **Class-End Review Questions:** At the end of each module in the course, a review session was provided and hosted by the instructor to summarise the module and to provide an additional opportunity for the students to critically adopt the teachings of the module.

The activities used in the study were designed to increase peer interaction and a balance between theory and practice. The results showed that environments that blend practice and classroom knowledge had positive outcomes. The author concludes that activities that had the biggest positive effect on the students' learning were position papers, guest speakers and field visits. The term projects seemed to be the least enjoyable activity for the students, as it was filled with challenges such as group dynamics and managing tasks.

Chapter 4

Methodology

This chapter describes the methods used for data collection and analysis and the different steps of this degree project. Additionally, the study population is described as well as the ethical considerations. Furthermore, the course that was created for the beta test is described.

4.1 Overview

The goal of this degree project was to investigate if a community of practice could be implemented in the course Sustainable Transport Systems as a new learning method. A two-phase study was conducted to explore the context in which this implementation would exist. The first phase is connected to RQ1a, *What additional value can be created by implementing a community of practice in the course STS?* and RQ1b, *What would be the potential success factors with a community of practice course compared to the current course, and how could those be monitored?* and is called the pre-study, including interviews to see how previous course participants viewed the course they took, how they would view a community of practice course round and the role of a circle leader. The data from the interviews were analysed deductively using thematic analysis with community of practice as the framework (Braun & Clarke, 2006). The second phase of the degree project, called the beta test, is connected to RQ2a, *What could an implementation of a community of practice in the course look like?* and RQ2b, *What are the experiences of participants and circle leaders in a community of course test round?* and included two rounds of community of practice workshops with a circle leader that has taken the course before and employees that are taking the course

for the first time. After each workshop, the participants and circle leaders answered a separate survey. These surveys were then analysed using content analysis.
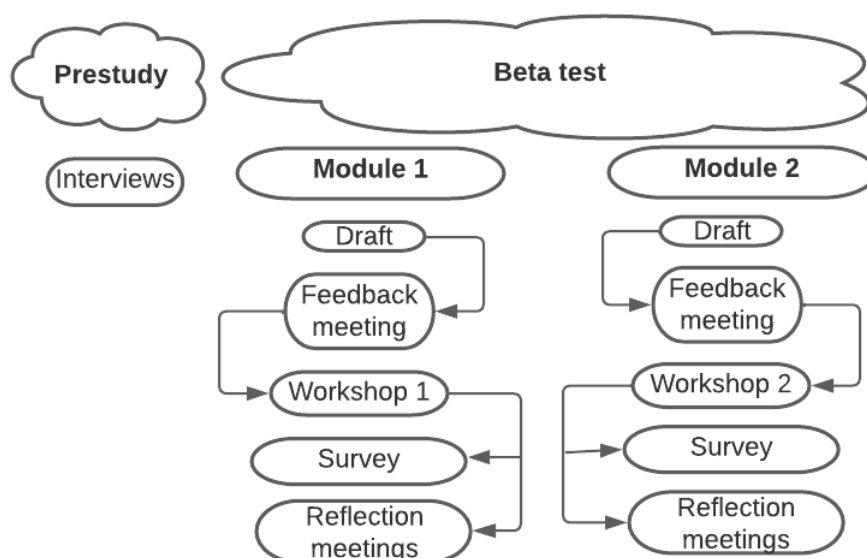
Figure 4.1.1: Workflow chart of the different phases of the degree project

Throughout this degree project, meetings with different parties were conducted to investigate the concept of community of practice. One of these parties was called the core team and consisted of people from Scania and KTH. A sub-group of the core team was actively involved in the design of the beta test. These meetings were not used as data, instead, they helped guide the project.

4.2 Core team

The core team was initialised by orders from KTH, with the directive that the course should explore new learning methods to deal with scalability (Core team, 2022). The core team as a whole was primarily active during the start of the project, and a subgroup of the core team was actively involved in the design of the study's second phase, called the beta test.

The participants in this team consisted of learning specialists at Scania, researchers at KTH working with lifelong learning, a course instructor of Sustainable Transport Systems, the author of this degree project and three employees at Scania who previously took the course Sustainable Transport Systems. The employees who participated reported their interest in joining the core team during a survey sent out to all participants of the previous course rounds. This survey was sent out to gather

feedback from the course participants on a new potential learning format, and the core team was formed to discuss the learning format, community of practice.

4.3 Pre-study

Before any work was done to change the course Sustainable Transport Systems for the beta test, three previous course attendees and a course instructor were interviewed to share their own experiences of the course, their views on a future course round including community of practice and their opinions on the role as facilitator in the beta test rounds and for the future.

4.3.1 Interviews

Interview method was chosen for both the interviewer's and interviewees' sake as they also had questions about their future role as circle leaders in the community of practice beta test. Denscombe (2018) states that interviews are a worthwhile investment if the purpose is to explore the opinions and perceptions of the interviewee.

Four interviews were performed and recorded through Zoom, three with previous course participants and one with a course instructor from the previous course round. These interviews varied from 45 minutes and 1.5 hours. Three of the interviews were conducted in Swedish and one in English. The interviews were transcribed in the same language as the interview was conducted due to time constraints and to minimise translation errors.

The interviews followed the four principles of research ethics, as described by Denscombe (2018). The interviewee was informed that the materials produced in the interview would be used in this degree project, that it would be anonymised and that the recording would be only kept until the interview was transcribed if they consented to it. The interviewee was given information about how the data would be used and how they could withdraw their consent. After the start of the recording, the information was repeated, and the interviewee again gave their consent. Lastly, the interviewee was informed at the end of the interview that their consent to be part of the degree project could be withdrawn at any time.

The interviews focused on two essential topics: the interviewees' course round experiences and thoughts about a community of practice course round. Semi-

structured interviews were chosen as it allows the interviewer a flexible approach to the interviews, allowing the interviewee to deepen their thoughts and develop their ideas (Denscombe, 2018). These topics were chosen beforehand as the first step of the interview process is to figure out the studies *why* and *what* (Kvale et al., 2009). The interview guide can be viewed in section A.1.

Overarching topics of the interviews

The interview topics were closely related to the research questions. The nature of the course STS is a course in which the participants learn more about the context in which Scania operates and explore tools they can use in their profession. Read more about the course in section 1.4.2. Therefore, it was central to explore what the circle leaders remember from their course round and any ideas they had during it, as those are possible things they would be comfortable discussing during their workshops for the beta test.

Transcription

Kvale et al. (2009) describe the process of transcribing as transforming the medium from one form to another, as the transcription acts as a translation of the interview to a written language. The transcriptions aim to represent the contents of the interviews; thus, sounds such as uhm and similar were not included. Kvale et al. (2009) states that the physical interaction during an interview is lost in the transcription, and thus, the transcription should be seen as a decontextualized enactment of the interviews.

The first phase of transcribing the interviews was to use the transcribe function in Microsoft Word (Microsoft, n.d.), in which an audio file is uploaded and transcribed automatically. The audio recordings were then listened through to improve the transcription, anonymize mentioned names and clarify specific contexts. The transcriptions were then coded using Microsoft Excel. After the thematic analysis, some quotes were translated into English and used in the result chapter.

4.3.2   Thematic analysis

The analysis method used to code the transcriptions and the surveys is called *thematic analysis* by Braun and Clarke (2006). This method provides a robust and systematic approach to identifying, analyzing and finding themes within data. This method was

chosen as it aims to describe patterns within the data and is not as grounded in theoretical knowledge as, for example, grounded theory. Instead, it provides a more accessible way to analyze qualitative data. The strength of the thematic analysis is that it can be used with different frameworks and thus can be used in different contexts. The approach used in this part of the degree project was the *deductive thematic analysis*, which means that the themes are influenced by a framework (Braun & Clarke, 2006), in this case, community of practice. The three initial themes that the coding are based on the three dimensions of community of practice, *Community*, *Domain* and *Practice* and underlying themes were deduced from the data to support these themes (refresh your memory on what the themes are about in section 2.1). However, during the coding of the interviews, it was realized that the approach could have been more mature since the interviewer and interviewees needed a clear image of the community of practice. Thus, the focus shifted from a deductive approach with the dimensions of the community of practice to an inductive approach using the interview topics. The topics for the thematic analysis were then based on the relevance towards the research questions.

Braun and Clarke (2019) states that there are different ways to conceptualize the themes, either as a domain summary or as patterns of shared meaning. The domain summary is described by Braun and Clarke (2019) as a theme shared by the domain and not shared meaning, while the patterns of shared meaning are themes united by a core concept, also called a central organizing concept. This degree project makes use of the latter concept. It is also worth noting that the themes are creative interpretations of the story about the data and not something that passively emerges from it (Braun & Clarke, 2019).

4.3.3 Selection of participants

The participants of the interviews were contacted from a previous survey conducted by Scania during the spring of 2022 as a follow-up to the previous course round that occurred during the Autumn semester of 2021. The survey included feedback for a potential new learning activity format, and the three employees expressed an interest in developing a community of practice within the Sustainable Transport Systems course during the survey. Two out of three interviewees participated in the study as circle leaders, and a third circle leader was recruited before the first module after the

interview phase. The relationship between the interviewees and circle leaders can be visualised using the following figure.
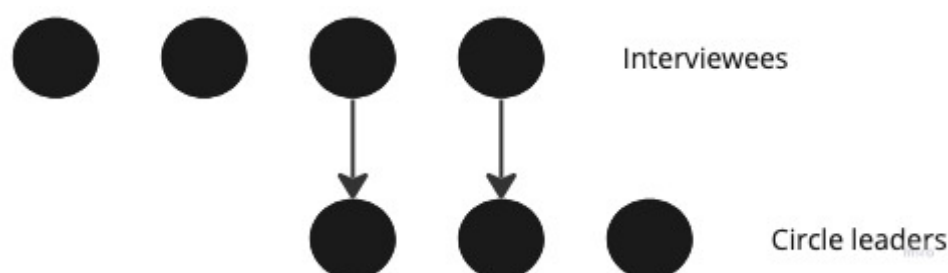
Figure 4.3.1: Overview of interviewees and circle leaders

4.4 Beta test

The beta test consisted of two workshops between three different groups that tested one module each, created from the materials of the last course round of the course Sustainable Transport Systems. These modules were not identical to those given in an entire course round. Instead, the contents of the beta test consisted of a mashup of the contents of the original module one and two. The circle leaders significantly influenced the contents of the beta test during the continuous work with the beta test.

After each workshop, the participants and circle leaders answered separate surveys that explored their experience of the workshop and the concept in general. Four surveys were conducted, two directed towards the circle leaders and two for the participants.

4.4.1 Choice of surveys

Surveys were used at this stage due to their ability to gather a large amount of data at a relatively low cost in terms of time and effort in the collection and analysis of the data (Bjørndal, 2018; Denscombe, 2018). Denscombe (2018) describe four different aspects of when surveys are most productive compared to other data-gathering methods.

- Uncomplicated information - When the data is relatively short and uncontroversial.

- Standardised data - When the questions are of identical fashion as well as no need for personal interaction.

- State of the respondent - That the respondent can participate.

- Social Climate - When the climate is of such nature, the respondent can answer honestly and completely.

Similar aspects are raised by Haraldsen (1999)(cited in Bjørndal, 2018) as criteria for the respondent to give reasonable answers to the survey. These main points to take into consideration are:

- All respondents should be able to understand and perceive the questions the same way.

- All respondents should be given enough information to answer the questions.

- The respondents should be well aware of how to answer the questions.

Bjørndal (2018) present three different ways to design surveys on and *open questions* was the chosen option. This was chosen as it allows the respondent to answer in her own words. Thus, the answer could represent the richness and complexity of their point of view (Denscombe, 2018).

The first survey for both parties was shorter than the second in an attempt to combat what Denscombe (2018) calls *mental effort*, which would mean that the respondent does not finalize the survey. Thus, potentially valuable data is lost. Therefore, the first survey only aimed to understand the experience from the first module to see if anything needed to change for the second module drastically. The second survey had two parts: one that explored the module's experience and how the circle leaders and participants felt about the concept of community of practice after taking two such modules. This was implemented in the surveys because the questions aim to be as straightforward as possible to minimize the room for interpretation.

4.4.2 Selection of participants

The participants in the beta test were Scania employees recruited through internal communication channels. They volunteered to participate in the beta test and were initially informed that the course was limited in content and that an entire course round would take place in early 2023.

4.5 Ethical considerations

In this degree project, every participant, circle leader and participant voluntarily signed up to participate in the beta test connected to this degree project. Data were collected in two separate rounds. The first round consisted of interviews in which the interviewees gave their consent for the interviews to be analysed. They could withdraw this consent at any point throughout the degree project. The second round consisted of surveys, which were voluntary for both circle leaders and students. In the survey, it was stated that by sending in their answers, they provided their consent that this data could be used in the degree project. The consent they gave could be withdrawn at any time by contacting the author of this degree project.

4.6 Influence

The methodology was influenced by the process of Design-Based Research, mainly because it follows a majority of the same steps. Scott et al. (2020) describes four steps *design*, *test*, *evaluate*, *reflects*. In this degree project, all of the steps were included in the study but did not follow the structure generally associated with the method.

Chapter 5

Result and analysis

This chapter will present how the beta test was constructed and conducted, as well as the results and analysis of the interviews and surveys. These results will be presented separately and the result of the interviews is a thematic map of the themes with four main themes. Each theme has sub-themes, which provide additional insights into the theme. Note that some quotations were translated from Swedish to English and summarised in the text. The interviewees are mentioned as persons A, B, C or D with no further mention of their roles. The circle leaders are mentioned as circle A, B and C with no further mention of their roles. Note that circle leader A, B or C could be different between survey one and survey two.

5.1   Educational design

The material for the beta test was uploaded on Canvas, which every participant and circle leader had access to. The pre-study material for each module was uploaded a week before the workshop for the participants to have time to prepare. The material, as previously stated, was selected from the material of the last round of the course STS. The pre-study material was published on Canvas and organised in a flipped classroom format where each module had corresponding pre-study questions that the participants were to answer and bring to the workshop to discuss with each other. The purpose of this was to bring forth the reflection during the workshop as the participants had different perspectives but also to minimize the risk of complete silence, as these pre-study questions related to the topics that the circle leaders brought up.

The purpose of module one was to create a broader perspective on sustainability and focused on the SDGs, the three aspects of sustainability, the nine planetary boundaries as well as how Scania works with science-based targets. The exercise in module one was to perform a Cross-Impact analysis of the SDGs together, which involves determining the relationship between the SDGs, and how they interact or counteract each other. The second module focused more on science-based targets and learning more about complex systems. The second module also included a homework exercise along with the pre-study questions. The homework that they received was to apply the method of the Green Performance Map to their own work and then bring it to the workshop to present or discuss it, as the exercise in the second module was to use this tool. Green Performance Map is a method to visualise the environmental impact of a system.

Ahead of each workshop, the circle leaders received a draft of the workshop instructions that would guide them. They also met with the author of this degree project to discuss the draft to clear up any misunderstandings and provide feedback on it, as well as discuss the contents of the module. A final instruction was then produced and sent out to them, the instruction for both modules can be seen in appendix B.1. The purpose of the instruction was to create a structure for the circle leader to follow and make the role less taxing.

The digital tools used for the workshops were Microsoft Teams for the digital meeting and Mural for a digital whiteboard. Each circle leader had access to their own Mural that was prepared beforehand with an agenda and materials regarding the module. The reason to use these digital platforms was to make it as easy for the circle leaders to facilitate their own meetings.

5.2 Themes from the interviews

The following themes were created from the interview data. They do not follow the initial themes described in the method 4.3.2. Instead, these themes were selected as they best tell the story of the data, as described by Braun and Clarke (2019). Four main themes were identified, each with one to three different sub-themes. The themes *The course* and *The community of practice* are both connected to the theme *The project*, as the project is a vital part of the course STS and in a community of practice course round, that fact would not change. These themes can also be considered in the sense that *The course* regards the past course round, *Considerations for the beta test* regards

the current test, and *The community of practice* regards a possible future course round.
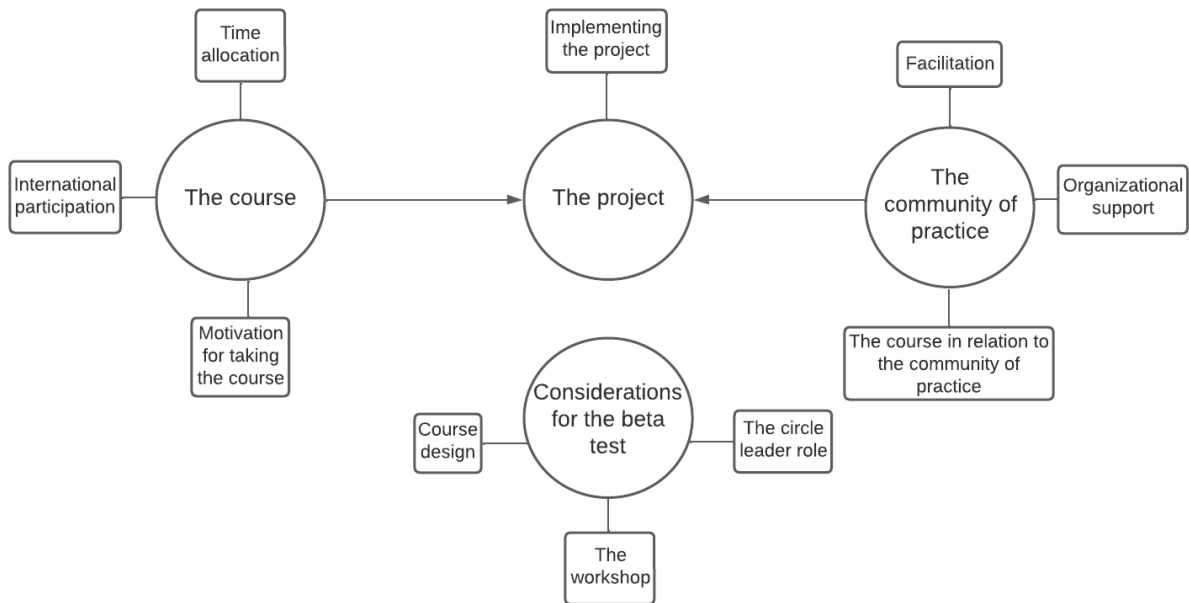
Figure 5.2.1: Themes (circles) and sub-themes [squares] from the interviews.

5.3 The course

The theme refers to the course STS that all interviewees were connected to in some way and includes everything from the interviews related to it. The sub-themes were selected as the most relevant among the numerous topics that were mentioned. These sub-themes are essential aspects to consider for continuous work in this area. The course consisted of six modules and a Q&A session and was well received by the employees at Scania. One interviewee, person A, describes the course as:

> "[...] I think in terms of the course itself, I think it set the baseline in terms of closing the loop in terms of the sustainable transport, [...]"

Another interviewee, person C, stated that:

> "[...] balance between self-study and the opportunity to always think, and then you thought about how to apply it. [...]"

Statements like these indicate that the course had a good balance in the preparation of material and meetings and the format of it gave room for the opportunity to think about things learned and how to implement them.

Furthermore, person A talked about the different parts of the course and how the project influenced the course. Person A summarised the course material as the UN SDG's goal as well as Scania's own context in industrial production and transport system. Especially industrial production has a clear focus from Scania. Person C, stated:

> "[...] after I took this course, Scania released an e-learning course in sustainability for the whole company that was almost entirely focused on production. [...]"

Person C does not work with production and spoke of the release of an internal course, shortly after the STS course round, which was almost wholly focused on the production but was disappointed with the level of which the internal course was on. Person C raised a problem with courses aimed at the entire company. Suppose the whole company is the target group. In that case, it will be hard to put it on a level suitable for everyone, especially if the employee recently took a comprehensive course in sustainability. With this in mind, it is essential to orient where and for whom a potential course could make the most impact and how that affects the target group. If the target group is every employee or if it is a selected group working with production, for example.

5.3.1 Motivation for taking the course

The expectations for what would be learnt or gained from the course were different. Person B was not sure about the goals of the course and summarised it as:

> "[...], the goals, when we did it, I'm not entirely sure, but I can only assume that it was to spread the knowledge within Scania about how to create a more sustainable transport system. [...]"

Person C, who had some previous knowledge of sustainability believed that through the course, the employee would graduate as an ambassador of change at Scania, which created motivation and drive to learn as much as possible.

> "[...] It wasn't just a course for me, but I was really meant to benefit the whole section."

Through the course, the employee would become an ambassador for change that thus benefits not only themselves but their whole department. Two interviewees mentioned

that sharing knowledge is one of the goals of the course and did not explicitly mention that learning more about sustainability was a motivational factor. None of the interviewees mentioned higher education credit as a motivational factor.

Person D talked about how sustainability is something that everyone has heard of, has an idea of and thinks that they know what it is about and states that:

> "But then, when you start to lift the stones and become more and more aware of what sustainability is really about."

So when you learn more about it, you realize that it might not have been what you initially thought. That means that there is always a point in continuous learning about sustainability. Person C did not expect to learn anything new from the course. Still, the person became more mature in the subject throughout the course.

Another motivational factor was that KTH was responsible for the course and that key persons from Scania were also involved. Person C stated that:

> "That the course was held by KTH gave it some weight. Experts from Scania showed that Scania also thinks this is important and adds credibility."

That the course is backed by the organisation was an additional reason to bring back what the things learnt. If the course is a stand-alone course by Scania, it might feel like any other course available for the employees. Still, the collaboration between the organisation is valuable not only for Scania and KTH but also for the employee.

5.3.2 International participation

An interesting aspect of the previous course round of STS was that the participants were from different parts of the world and as one of the interviewees described the group:

> "[...] It was pretty much to use the Swedish word a bit of a smorgasbord."

Since Scania is a company that operates worldwide, a diverse group can give more context to initiatives at Scania. It can provide insights into what others are working with compared to what you work with. Different departments or offices could face similar problems, and discussing them with each other are beneficial for either insights or inspiration. There are mainly two perspectives, the local and the global and person B stated that:

> "I would say that a local group is more practical and a larger mixed group
> would be more theoretical or more inspirational."

The local refers to the department where the daily work happens. The global could
be anywhere between a different office located in another city in Sweden or another
country. These perspectives are worth noting, as it can make a difference if the topic is
local problems to solve, and person B continues with:

> "Solving local problems in a global group could be possible, but there is the
> potentiality that people will suggest things that might not be possible. "

It can be problematic for a global group to try and come up with local solutions.
Solutions might be found, but there are risks in going off rails with solutions that are not
possible. Instead, the global group can act as inspiration. This makes a diverse group
more valuable from an inspirational point of view, where it is possible to learn from
others and broaden the perspectives compared to trying to solve local problems.

5.3.3   Time allocation

One crucial factor in everyday learning is time.   In this case, the interaction
and prioritization between learning activities and work-related commitments.
Furthermore, one of the problems that came up in the interviews was the time needed
for the course. The time required for the workshop attached to each module was about
half a day, and each module had mandatory readings, videos and assignments. Person
B stated that their allocated time for the course was about one day of the week. In
reality, time was spent where time could be found, and it is hard to track how much
time was spent on the course, as person B described as:

> "It's also the case that when you study a course in parallel with your job,
> you are not entirely focused on the course, but it's more like an extra thing
> that you spend time on."

Person B acknowledged that the course could mean that hours were added to the
workday instead of replacing other work commitments. The space given for the course
appears not to have meant a lesser workload. Person A is not based in Sweden and
taking the course meant spending time off office hours to attend the workshops and
stated that:

> "Because at the end of the day, and I know some people battled with the

time, I was participating from 10:00 o'clock to 2:00 o'clock in the morning".

Planning the course with only a specific time zone in mind is a problem when people from around the world can attend a course, where the problem is that it requires an inevitable sacrifice to attend it with the rest of the participants.

5.4 Considerations for the beta test

This theme refers to the considerations for the beta test that occurred during this degree project. A new group of employees tested out the concept of doing the course in smaller groups, and a circle leader who previously had taken the course STS. The plan behind the beta test was to test how a workshop in the format using a circle leader could look like and what kind of support was needed for it. For the interviewees, it was important that the content related to the daily work somehow, as person A stated:

> "[...] Just remember, is not about us as an individual. This must relate to when you go back to your daily work. [...]"

That perspective influenced the beta test by adding reflection questions to get the participants to reflect on sustainability and how that interacts with their product or department. Person C was not sure how the test would look before signing up to do it but assumed that it would look much like how the course STS was made. Person C stated that:

> "I imagine what the course (beta test) would look like when we had the course, you read up on some subjects in advance, during the circle you discuss it and the exercises that we did were really fun and a good place to get started."

The quote illustrates how the workshops would turn out, which involved reading up on material ahead of the workshop. During the workshop, the focus was to discuss and reflect on the material and participate in an exercise.

Furthermore, Person B talked about the size of the groups and that virtual groups should be smaller. That resulted in that the groups were six people in each group, including the circle leader. Person A suggested that a mock trial should be run ahead of the first workshop to prevent any apparent situations from occurring. A mock trial was not done, instead, there was a meeting before every workshop to discuss the material

with the circle leaders.

5.4.1 Course design

The contents of the beta test were something that was debated for some time by the core team. The debate was primarily related to the choice of contents from STS and, in the end, from person D's recommendations, that the first two modules should be the base for the beta test.

> "Yes, I think so and I think that as a pilot it doesn't really matter what we test, you could say because it's more to test the course structure. But we should really run the basic parts, as those were still the most important later."

These modules involve sustainability from a broader perspective. Thus, the beta test focused on learning about sustainability from a broader perspective in connection with Scania's goals and how they work with sustainability. The beta test did not contain all material from the corresponding modules of STS. Instead, the material was cherry-picked out of the first three modules to create shorter and more focused modules with a broader sense of sustainability and how Scania works with it. To ensure that the workshop can be run in a shorter time frame than STS, person A stated that:

> "OK, so for me would be obviously you got one to five, in the meeting. Before the meeting starts the proofreading must be done. So that you don't go in there still trying to, but it's all in the interest of time, you don't go there still trying to sell the product, everyone understands where it's coming from, so you just move on with what you want to get across at the end of that particular workshop."

To be as time efficient as possible, it is important for the participants to read up on the material ahead of time so that the workshop could be spent on the specific focus of the workshop.

5.4.2 The workshop

This degree project mainly tested how the meeting could look with a circle leader facilitating a workshop. Person D described one of the extreme points of how the course and workshop could be done and how the circle leaders' role is affected as:

> "There are two extreme points and one that is a lighter workload for the facilitator is that the participants prepare beforehand by reading material and discussions and exercises are prepared in a script."

Person D described how it came to be in the end. The circle leaders received a script for each workshop with an agenda they could follow. This format was chosen to make the role of circle leader easier but puts higher demands on that the participants prepare ahead of time otherwise it will not be rewarding. Person A, C and D all stated that it would be essential for the circle leaders to have clear instructions. A "cheat sheet" would help them organise the workshop and to know what the focus of the discussions should be. Person B stated that it would be good to switch things up during the meeting because otherwise, it would be hard to keep the discussion alive if the participants had not read up on the material. For the workshops, the session was split into two parts, the first part focused on reflections and discussion on the source material and the second part had an exercise done in Mural. To ensure that each participant had the chance to speak, a short activity that the circle leaders could use, was to let everyone take turns speaking and then allow everyone to comment on what the others had said.

The core team discussed early in the planning phase if the degree project should consider the group composition. Person C thought that it did not matter, and from that person's point of view, it would be nice to have a group where no own knew each other. Ultimately, the groups were designed to be neither heterogeneous nor homogeneous but a mix. They were put together by a core team member who knew the participants' different working departments.

5.4.3 The circle leader role

Following the other sub-theme, the circle leader's role is essential to the workshop. Person B stated that:

> "We have certainly finished the course and such, but it would be an exaggeration to call us professionals in sustainable production systems. People should not expect us to be experts, that should be made clear during the course."

Just because the circle leaders have taken the course, they should not be considered experts in the field of sustainability. That should be made clear to the participants so

that they are not expecting Scania experts. Person B was not sure what the format would look like and asked how the workshop would work. Are the participants to discuss with the circle leader in some interview format, or should they talk to each other? Person B continued to suggest that the circle leader's role in the workshop is to light the fire in the discussion to let the participants discuss, make sure that everyone gets to speak and make sure that they stay on topic, and organize and lead the meeting following the sheet cheat.

5.5 The community of practice

At this point, let's consider what the community of practice could be. As previously stated, the fact that KTH were responsible for the course held great value for the participants. For the new course or concept to keep that value, KTH must continue to be responsible for the course as a whole instead of that viewing it as taking a study circle at Scania as person C stated:

> "I'm a little afraid that it will be taken more seriously when KTH has it, that one was that one, but we'll see that then, that you might have more people preparing when you're going to take a KTH course than when you will go to a study circle at Scania."

Person D talked about the two different views of what the community of practice could be as:

> "Yes, and it again depends on how you talk about community, belonging to a community. But if you don´t talk about it like it's the workshop group itself that is the community and instead the community is everyone who goes through the workshops or has gone through the workshops and you build a community there, which eventually gets hundreds of members."

Either the workshop group is considered the community, or the people who have gone through the course are considered the community. Person D also presented a view that the activities that the employee is participating in are not course activities, but instead community activities. Person D elaborates that the community does not have a course instructor but takes care of feedback on potential assignments by itself. Conversely, the circle group has taken a series of workshops together during the course. Person C saw this as an opportunity to change the goal of the course, that the purpose could

instead be to train ambassadors in sustainability and stated:

> "I almost think that you would have to see the course as training ambassadors and then after the course, you also have to take care of the ambassador, just like we do with health inspirers at Scania."

The health inspirers at Scania are employees that spread well-being and have received training in the subject. However, they are also part of a network with communication channels and yearly meetings to continue learning and sharing ideas. Some organisations facilitate this within Scania, and a similar construct must be in place for the community of practice to sustain itself. Person B agrees that the community should maintain itself in a long-term perspective but needs some structure to help keep it alive. Furthermore, person C, stated that many courses encourage, after the end of the course, the participants to keep their contacts to share their experience, but the contact can´t be maintained by themselves and therefore tends to die on its own.

5.5.1   Facilitation

For the community of practice to work, there needs to be facilitation for the course, the workshops and the community of practice that the participants join after a course round. Suppose the course would shift to use circle leaders to facilitate the meetings. In that case, person D thought that KTH should focus on modularising the course contents further and improving the course material. To have circle leaders, who have taken the course previously, come in and take care of a circle group has both strengths and weaknesses. A strength, according to person A, is that the Scania context is even more relevant and that they can jump a few steps in one way, but that can also be considered a weakness. Would there be any loss of information if a few steps were jumped, if multiple generations for workshops are considered?

Person D stated that:

> "And so, regardless of whether we have a course like this that we had or if we have a workshop series like this in the new format, it will be a way to really be whipped to really go through the self-paced online course part so as to say that yes, but before this workshop, you must have done the following otherwise there is no point in coming. In that case, then you go

> through those pieces, so there is a lot through knowledge building, then
> what I mean is mindset building, this with insights into systems thinking
> and competence for sustainability in general."

In the beta test, the participants must be prepared ahead of the workshop so that the workshop can be spent on building a mindset, as opposed to the preparation material, which can be focused on knowledge building. Person C thought that with the guidance of the circle leader, the circle group can then focus on support and dialogue, work with understanding the material and the employee's role in the work with sustainability.

There are a few different options for the facilitation of the community itself. An opinion that person C suggested is joint activities for the whole community one or a few times a year. Person C stated that:

> "I just think that you had like a meeting sometime a year where you got
> a boost lecture in sustainability so that you meet each other and you have
> some kind of channel on Teams or some mentorship"

This boost lecture could be organized by KTH, to invite knowledgeable people to communicate with the community and have a workshop in connection. A collaboration between KTH and Scania could also be done for these joint activities, for example, is another suggestion from person C. During these joint activities, person D thought that the workshop groups of the community should be mixed to create even more cross-connections between its members. An exciting opinion from person D of the circle leader's role as a facilitator is that just because they have taken the course once does not mean they can not retake the course as a participant. Allowing the community members to retake the course could lead to more knowledge, projects, and work in the sustainability field.

5.5.2 Organizational support

For the community of practice to sustain itself, there needs to be support from both Scania and KTH, with an emphasis on Scanias' part. Person D think that this can be shown in the following:

> "There must also be a valuation from the organization that there is a win,
> and that can look in different ways. It does not have to be a course or

> training, it could be that, but it could also be just the fact that when ideas pop up, there is actually a recipient for them, that the organization provides you with 20% of your time to work with this for three months."

If the opportunity to spend work time is not there, then there is a risk of that engagement from the employee fading. To ensure that the organisation supports the community, it needs to pick up the products produced by the community. Otherwise, the employees will experience that they have ideas, but nothing happens. Person C had an example of this and said:

> "Had a meeting with the management team with a suggestion for improvement and they said yes, that "this is very good how to we ensure that this is not only talk but we actually do the work?" They really seem to want us to do something about this. But then it was kind of completely quiet and then we learned that it was not possible, and I was completely discouraged. But in the end, it got implemented anyway."

Person C described how the suggestion was first received as something positive and something that the management team supported. But then, when the implementation of the suggestion came to a stop, the person was deeply discouraged at the moment.

Furthermore, person C suggest that key personnel should be involved in the community. The course is now holding a mandate because of KTH running it and the fact that critical personnel from Scania are being involved in it. This mandate can be kept in the community if the key personnel are engaged with it or if the mission is made more official. The key personnel could either support the circle leaders or be part of the community as ordinary members. Still, the fact of their being part of it provides a mandate that change could be implemented, according to person C.

5.5.3   The course in relation to the community of practice

The course for a community of practice should focus on creating a structure on which the community can stand. Person D considered that KTH provides the course material, but the community, in the sense of circle leaders, handles the actual education part. Person D also thought it could be of interest to involve third parties, for example, researchers, who could come in to analyze or support the groups. This could interest

the academy, the company and the groups as external experts from which there are additional learning opportunities. The course could be expanded even further with more modules than it has today and the circle group could choose a couple of these modules for their course round. Person D thought that:

> "But I think it is important to have the first two modules as a prerequisite. It is precisely these projects that really bring about real changes and I think it would be super exciting to build just as part of a community that you don't have a teacher who comes from outside and gives feedback on it."

The first two modules were considered by person D as the most important modules that everyone should take, as those involve sustainability from a broader perspective and where a mindset for sustainability is created for the participants. After taking the first two modules, a group could choose a few modules in which they learn practical tools that can be used in their workday. Overall, having more modules than required could create motivation for community members to take the course multiple times, either as a circle leader or as a participant.

One crucial factor to consider is the time required for the course. Currently, the course has a start and end date decided by KTH and Scania, and the employees sign up to participate during that time. However, if the beginning and end dates are not decided by KTH nor Scania but by the community and new willing participants, then it is vital to make sure that the course is not too short nor too long. To ensure the length of the course, there should be some facilitation that provides the answer for how long a course round is and makes sure that it is kept so that it is possible to plan for it.

5.6   The project

The project is the final assignment that the employees' do in the course STS and connects the whole course to their department/organisation. Person B thought that group work is better because you can reach insights that you might not have received otherwise. One of the hardships of the project is to come up with a case that is relevant to the work and aligns with the scope of the course. Person C stated:

> "I got, because I hadn't thought about it, so before the course I also tried to come up with a project and it was very difficult. But as we did things during the course, it got like this, then finally something started to crystallize and

> then at the end of the course I had a great idea of what we should do and
> it's like this, it was probably not one thing that broke it, but it was all these
> different perspectives that finally became something, a good whole."

The idea for the project came as the course went on, but it also created stress for person C. One of the stressful things about the project is that the purpose of it is to have a meaningful impact on the organisation, and person C thought that it can be hard to achieve in a short time. One of the issues with the project that person A and person C talked about was the fact that the course participants wanted to start with the project as soon as possible so that it could be finished before the end of the course. But at the same time, it is relevant to go through the whole course to have the best groundwork for the project. Person A thought that the project was something that needed to be worked on continuously and that it is hard to pick up at the end of the course.

5.6.1 Implementing the project

The projects were good at generating ideas, but what would happen if the implementation was supported through the course or a community? Person D stated that:

> "Yes, at least that's what I thought and I think it was quite a lot, most
> of them had something that was very connected to their work, their roles
> and some had things that they had almost already done before they came
> and shared things that have connected to projects that they were as in
> progress. But maybe they hadn't specified it yet, where some came up with
> completely new stuff like that. It must be a little, I think individually, maybe
> that follow-up, but I still think there could be one, you could get a much
> bigger development on the course if you could coach the participants to
> also implement them, because I have no idea how much of those ideas were
> implemented in the end."

Person C was unsure if any other participants had implemented their suggested changes, as there was no follow-up after the end of the course. However, person C thought it would be exciting if a follow-up were included and stated that:

> "Maybe it was really lacking like this, we made these great reports with
> suggestions of what we could do but I don't think there were that many

people who had implemented the changes when the report was ready where it was great fun with right now, a follow-up that was very focused around implementing our projects where you got like coaching and support, in just, how to go about making it a reality."

Person D stated that the projects were suggestions that can bring real change to the organization and if the projects were connected to the community, then the community could provide feedback on the projects instead of a course instructor. Even external actors such as researchers could come in and analyze the results, which person D thought that benefit both the academy and the company. If a community facilitated the project's implementation, many changes could be made, but exactly how this would work is uncertain. Person C suggested that the circle group would go into the course with their respective projects and then let the project grow after each meeting. Projects would continue throughout the course, and some may be discontinued. However, instead of having deliverables in the course, continuous work with the project could be the focus of the course.

5.7   The beta test

A total of four surveys were conducted during the beta test, two for each workshop, two for the circle leaders (CL) and two for the participants (Part). The participants were encouraged to answer the survey and received no reward. A total of 15 participants were invited and participated in the beta test, 13 that works from Sweden and two from Brazil. All questions were non-mandatory to answer, which resulted in some survey answers being incomplete. The following table presents the number of answers for the surveys.

Table 5.7.1: Number of answers for the surveys

Survey	1 - CL	1 - Part	2 - CL	2 - Part
Number of participants	3	14	3	14
Number of responses	3	11[1]	3	10
Percentage	100%	85.7%	100%	66%

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[1]One participant sent an email with the survey answers, as they considered it to be too long for the survey.

5.8 Module one

The overall result of the first workshop was positive for both the participants and the circle leaders. The discussions during the workshop were something that both groups considered a success and, at the same time, hard to initialize.

The survey was available for the participants right after the end of the first meeting and consisted of 9 questions for the circle leaders and six for the participants.

5.8.1 Circle Leaders

The circle leaders thought that the workshop went well. The participants were active and engaged in the discussion, but it took much work to know how much they, as circle leaders, would interact and join in on the discussion. However, it was natural for the circle leader to join in, as circle leader A described:

> "Basically, I was more involved in the discussions than I thought, but it felt more natural and was appreciated by the others. They asked for my input as well"

As the circle leaders also had reflections on the topics they discussed during the workshops. One thing that circle leader C noted, that came up during the meeting, was: what do we do with questions that can not be answered right there during the workshop? What are the circle leaders supposed to do with those questions?

The preparation work that the circle leaders did was similar. They looked through the same material as the participants and the cheat sheet they received. The cheat sheet was confusing according to circle leader a, and they suggested that the cheat sheet should be made to be more similar to a one-pager. Circle leader B thought it was hard to get all participants involved in the discussion, and suggested that the focus for the next module would be to get every participant to speak during the presentation round.

5.8.2 Participants

The participants felt that the overall preparation material was good, and they learned more about how the SDGs could reflect on them. They also thought that the meeting in general went well and that the circle leaders managed the time and ensured that

everyone could explain their thoughts, as participant 1 stated:

> "The meeting went very well, with very good time management, where everybody could explain their thoughts equally."

Additional feedback on the session was that there was a good amount of people in the meeting, there might even be possible for more, and Mural was an excellent platform for the exercise.

Participant 2 thought that the mix of colleagues made for exciting reflections and another participant thought that concept of using smaller sustainability workshops is an excellent way to achieve Scanias sustainability targets.

5.9   Module two

The second module followed the same formula as module one, combining reflection on the pre-study material and an exercise. The significant difference was that the participants also had an assignment connected to the exercise to do before the workshop. Overall, the circle leaders and participants enjoyed the second workshop as well.

The second survey was longer than the first, with 12 questions for the circle leaders and 13 for the participants. The survey was divided into two parts, the first regarded the workshop and the beta test, and the second was about the community of practice.

5.9.1   Circle Leaders

The circle leaders were asked if they preferred the cheat sheet for the first or second module, and their opinions were split. Circle leader B thought it was easier to guide the first meeting, as the exercise used during the second module was more challenging than the previous exercise. For the second module, the participants applied Green Performance Map (GPM) to their product or department for the exercise. This exercise was not easily done by everyone, as the GPM is used to visualize the environmental aspects of a system. Circle leader B stated that the tool needed some modification or guidance to apply to any area, which the participants could get during the meeting but did not help them in the preparation for the workshop.

The second module also ran well for the circle leaders. Circle leader A thought the

group was slightly more comfortable than in module 1, as they had gotten to know each other better. A contributing factor could have been that the group could discuss in Swedish during the second module. As this test was entirely voluntary by the circle leaders and participants, some work-related stuff affected the test. Furthermore, for circle leader B, the role was at times regarded as a burden, as the circle leader role and the beta test could be considered an additional workload besides the ordinary work day. Circle leader A stated that:

> "Good - a well-prepared plan has meant that the effort has not been so great, while at the same time it feels meaningful and it's fun to hear the participants' reflections."

They thought that the effort required was not that big, and it felt meaningful to hear the participant's reflections.

When comparing the beta test to other courses they had taken, one comparison was with the main course, STS. Circle leader A thought that this course was fun due to the many reflections and that it was pretty easy to organize the whole thing but they also missed the connection with experts that STS provided them with, especially when the participants asked wise questions. Circle leader B thought that it was great with the focus on discussion in smaller groups, as other courses usually have larger groups or a more significant focus on presentations. When asked about suggestions for other activities in the course, both circle leaders A and B thought about how the groups should interact with the larger community and that this needs to be considered. As this is where the groups might find inspiration and answers regarding sustainability. The circle leaders also thought that the platforms needed for the course communication should be considered, as they can allow different groups to interact with each other. However, it should be kept in Scania's own digital environment to minimize the risk of low activity.

5.9.2 Participants

The participants also thought that the second module was slightly more challenging than the first, both in the preparation material and GPM exercise. To make it easier to digest, the participants suggested that the material could be broken down even further:

> "The modules are a good idea. But it's a lot of material. I think it can be broken down even more. It's good to discuss or have questions for every film and text you are supposed to read and look at. What is the purpose of every module, also is a good thing to describe for the participants.

Making the material easier to digest, would also make it more accessible for an even larger target audience, as a participant said:

> "It depends a little on which target group you want to do this course. Some of the text can probably feel a bit heavy and difficult to take in. If you want to reach a larger target group, you should probably simplify the text a bit."

Another suggestion was to have *in the middle discussions*, which is an even smaller group of participants that meet and discuss the material, even more. That smaller group could work to summarize the material together and make the main takeaways from the reading material even more conclusive and clear out any possible misunderstandings that might occur between the members.

For participants that seemed to know about sustainability, the beta test seemed to focus a lot on reflection instead of learning when compared to other courses:

> "Yes, it differs a lot. Many courses are fully web-based, which is often a bit boring (videos + quizzes) so it was better with the interaction, but on the other hand no strong push to LEARN, more reflect a little bit. "

The participants agreed that diversity can bring learning opportunities. However, sometimes it might be from an additional point of view, as one participant stated:

> "It's always interesting to hear about other areas in Scania and how they work, the cross-functional aspect was good, but didn't help my learning. However still probably good not to get stuck in one's own mindset with similar people in the team."

One participant wanted a concrete idea of how they could contribute more, and the GPM exercise for the module provided the possibility to try it out in their organizations. The GPM was considered complex to use in most of the participants' cases, and one participant suggested that:

> "GPM should might be used for a specific described case in the workshop, which can be analysed by the group together and the group can then place

out statements from the case in the GPM in Mural. "

The exercise and discussion during the meeting could then have been to combine the participant's different maps and discuss them.

Overall, the participants enjoyed the format with modules and smaller discussion groups meeting in short workshops to focus on reaching deeper learning through discussion and reflections with others, as stated by a participant when comparing to self-study courses:

> "I think that you get deeper learning if you discuss/reflect with others. You get other perspectives compared to if you only do self-studies. Both exercises on Mural made me understand the subjects better."

The exercises done in Mural contributed to the understanding of the modules and were an excellent way to lead the discussions according to the participants.

When asked about essential considerations for the potential implementation of this type of course, one participant had two suggestions:

> "One communication channel about the course could be by managers top-down.
>
> I think some of the material and modules could be accessable and ""rolled out"" to every group to be made by the groups themselves. And some of the material that needs more support by a sustainability coach, might need to be done in a "digital course format"."

One participant suggested that a potential communication channel for the course could be from managers in a top-down perspective and that groups could arrange some modules without a circle leader and then reach out to the other modules where they need one.

Finally, the message from the participants is clear. They want change to take action, and as for one participant who reflected on the concept and purpose of the change in course:

> "I see it as you start to reflect with colleages in this course. That could continue, lika a book circle, where you discuss films and articles that you find. But its important to also talk about what changes that can be made and also is made in reality. That is what we want: change to take action!"

For some participants, they have already started to try and bring change to their organisation based on the beta test, as they take what they have learnt and spread it to their colleagues:

> ”I want to discuss more about sustainability with my own colleagues. Share what I have learnt”

And a final quote from a participant that wants to see sustainability take a bigger role in Scania's continuous day-to-day:

> ”We should have focus on sustainability more often than the yearly event ””Climate day””. Maybe every month? We need to discuss this weekly, as a natural thing. We don't do that today I think. ”

Chapter 6

Discussion

This chapter will discuss the results of the degree project and will be compared to the theoretical framework and previous research.

6.1   Motivation for learning opportunities

Schwen and Hara (2003) described one of the problems associated with a virtual community of practice as *Motivated Members versus Unwilling Subjects*. This can describe the employees' take on education in their work. As seen in the previous chapter, the circle leaders were driven by their interest when signing up for the beta test, but what would happen if someone was forced to be a circle leader? What would be the result of that? The same could be said about the participants of the beta test, who also signed up on their own, but there were uncertainties if not some of them expected a complete course and viewed the beta as such. From most of the participants in the beta test, the intention of their participation was clear. They wanted ways to impact their daily work life with sustainability in mind. Scania has ambitious sustainability goals, but some participants felt that they were not directly impacted by these goals and were looking for ways to make changes that would work towards these goals—in a sense, moving from a top-down approach to a bottom-up instead. Making sure that the community of practice has the mandate to deliver such possibilities to the employee would be fruitful for the organisation as the motivated colleagues find ways to implement change.

Is this possible from the start? No, it is not. As seen in the previous chapter, courses are

usually a way for the employee to earn credentials. Schwen and Hara (2003) regards this as the problem *Knowledge of Possession versus Knowing in Practice*, where a community of practice is seldom centred around declarative knowledge and instead focuses on how to implement that knowledge, which would be the case. There are still possibilities for declarative knowledge in how the employee finalizes a course, but the work after in the community would not be regarded as such. For that to be possible, Scania must mandate the community to pursue community activities, such as implementing a project or allowing employees to become circle leaders. Another potential dilemma can be found here. The community of practice might not generate revenue. Instead, it could end up being quite costly as employees might find opportunities that are not strictly related to their work, and for them to pursue those opportunities, time would need to be invested. As well as potential solutions that could be costly even if the purpose is of value.

6.2 The community of practice and the connection to the course

The whole image of the community of practice and how the course would work has yet to be made clear, but the community of practice can be seen as something that consists of Scania employees. The course would serve as a way to enter the community and educate the newcomer employee in the broader sense of sustainability and Scania's context within it and specific tools that can be used to measure or analyze sustainability. To put it in Lave and Wenger (1991) words, a newcomer employee would act as a peripheral participant and learn about the practice as well as meet people from the community of practice. When they finish the course and start working on the implementation of the project, then they start the transition from a peripheral participant towards full membership in the community. The circle leader's role in a community of practice course round would be the *Practice group leader* but could be flexible throughout the workshop series. However, before the circle leader becomes a *Practice group leader*, they would need to be an active community member, and the transition from a peripheral member to full membership could be debated. One way to see it would be that after the implementation is done, the person becomes a member. Another would be that the course has been finalized, a project plan is created, and then the person becomes a member. Regardless of which would be the case, the

person has learned new things and could have a new way of thinking regarding the original work and how sustainability interacts with it. However, what happens at the core of the community of practice? This was not investigated in this degree project. Still, one could imagine that people taking on a more active role in supporting other community members in their endeavours would take on a more core position. The core of the community leaders would probably be the core of sustainability at Scania, but depending on how the community develops, any other member might join that core. At the same time, as members might move towards the centre of the community, some might move towards the outskirts and potentially end up in the position of peripheral members again. As previously stated, there is a potential that community members could go through the workshop series again, either as circle leaders or as participants, to learn more or refresh their knowledge.

The course is already educating employees in sustainability and Scanias's context, but what the community could provide, which the course in its current form can not, is continuous support in any sustainability endeavour. The course would function similarly to now, but KTH would focus on keeping the material accessible and up to date and train the circle leaders in their roles so they could take over the workshops in the course. This means that KTH would still be involved with the community and the facilitation of the course, but exactly how the interaction would look like, only the future can tell. The project had an essential role in the course STS and should continue to have the same purpose in the new course format. One of the purposes of the community could be to actively support the implementation of the projects from the course, as the project in the course involves finding possible implementable solutions, similar to what Kapucu (2012) did in her study. The projects, in her case, were less well-received than other activities, such as guest lectures, but the circle leaders had a different opinion. The circle leaders thought that the project had a clear purpose and was needed for the course to be as good as it is, but also that the guest lectures and meeting spaces with experts from Scania and KTH were essential.

As shown in the beta test, the participants thought the shorter format of the workshops was valuable as they did not take up as much time in their everyday life, especially when the participation was voluntary. The participants also enjoyed that the groups were the same during both modules, as the social context did not change, and the members were more comfortable with each other. Therefore, the groups could focus more on the workshop topic and their reflections. Smaller groups with workshops or meetings

focused on discussion and reflections are the way to move forward with the course. The participants in the beta test wanted more space to discuss the course material before meeting the circle leader and the exercise for the workshop.

As the circle leaders and the participants of the beta test stated, the course STS and the beta test often were seen as something that is done besides work, therefore adding to the workload. If the group were smaller and self-organized, it would be easier to plan the course tempo per the members, as a community of practice format would not need a simultaneous start and end date between all groups. This could change the view to something that does not negatively impact their workload, as everyone involved could significantly impact the scheduling of the workshops.

6.3 Reflections of the beta test

Johnson (2001) presented a case study that the beta test casually follows. A virtual community was designed in the beta test, but the three groups never met with each other. It would have been interesting to see what would happen if the groups had met with each other, although that would not have been beneficial for the short test. The beta test made use of different digital tools. Canvas was where all the course material existed, and the circle leaders led their workshops through Teams, which Scania uses. The employees were well-versed in this platform. Mural was chosen as the digital board tool for the same reasons as Teams, Scania has a license for it, but during the planning phase, it was realized that not everyone had used it and had to take a course to unlock it. That became an extra unplanned learning activity for the employees.

6.4 Limitations

The limitations of this degree project are related to the scope of the testing done and the interview population due to time constraints.

6.4.1 Method

One identified problem with interviews at the early stage of the degree project was that neither the interviewer nor the interviewees' had a clear image of what the community of practice could be. If, instead, the interviews had been done in two steps, one before

the beta test and one after. The first would explore the participants' experience of STS and considerations for the beta test, and the other would explore the potential of the format and a future community of practice. That could have been rewarding, as the image might have been more apparent, and a potential critical view of the concept would have been present.

The method section states that the survey length was adjusted to prevent survey fatigue. To prevent fatigue even further, multiple choice questions or rating scales could have been used instead of open-ended questions, making them easier to do and making some results more explicit.

6.5 Future Work

This degree project can be seen to view the community of practice from the perspective of a newcomer looking to enter a community of practice in sustainability. Therefore, the focus was on the facilitation meeting between a circle leader and participants in a short test that can be viewed as the path to entering a community of practice of sustainability. It is vital to explore if a community of practice would be of interest to the previous graduates of the STS course. It would be interesting to gather the graduates for a guest lecture with a workshop and see if anything has changed for them in their current or previous roles as a consequence of taking the course. To have a follow-up was something that many participants of the beta test would want the course to provide to see if there were possible actions to improve the sustainability work being implemented.

Therefore, it would be interesting to view the community of practice from the graduates' point of view with a more extensive data set, as the persons that joined as circle leaders were driven to spread sustainability.

Schwen and Hara (2003) stated that it could be easier to try and find an existing community of practice instead of creating one from scratch, as little is known about the early phases of the community. Therefore, it could be essential first to explore if a community of practice already exist within sustainability at Scania and evaluate if it would be possible to design the course in a way that interacts with the existing community. If the community exist, the design could be more straightforward according to Schwen and Hara (2003). If such a community exists, it would be of great

value to analyze it and try to understand what defines that community and see if there are possibilities to improve it together with the course.

It would also be interesting to study the development of a community of practice over time to create a deeper understanding of how sustainable a community is in itself and how the facilitation of it would work. It could be of interest to KTH and other institutes of education to see if a similar implementation could be helpful in other educational contexts that blend academia and industry.

6.6 Conclusion

This degree project aimed to examine the introduction of community of practice through facilitated meetings. These meetings were led by a circle leader that had taken the course STS. The study gathered the experiences of the circle leaders and the participants to evaluate if this concept would be a potential solution for a scalable course. The results show that a community of practice would be possible to implement. It would be valuable for the participants and organization to increase the employees' opportunity to affect their work with a sustainability mindset. The partnership between Scania and KTH would still exist, with a change in how the course is managed. The primary focus of KTH would be to facilitate the course, and course contents and Scania would facilitate the community of practice with the help of KTH, in terms of, for example, guest lectures. The correct mandate is required for the community to have the most significant possible impact on the organization. That mandate is mainly given if key personnel is part of the community, which also would show that Scania is backing the initiatives driven by the community. The goal of this change would be to drive change for sustainability at Scania.

This study contributes to the research field of the community of practice as a connection between a formal education setting, which is the contract education by KTH, to a more informal learning activity done by peers from Scania in a community of practice course round. This degree project can be used for future research as the inspiration for implementing a community of practice in this context and how lifelong learning opportunities also exist in contract education.

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Appendix - Contents

Appendix A

Interviews

A.1 Interview questions

Pre-record:

- Permission to record, the recording will be used for transcription purposes - Permission to use the material produced in the interview in my degree project

- The interview will be anonymous

- The recording will be stored until transcription is finished

- The interview follows the four concepts of

- You may withdraw or request the recording

Record

Introductory questions

- Would you like to share your overall experience with the course Sustainable Transport Systems?

Section 1 – Experience from Sustainable Transport Systems

- Can you describe your experiences from the course?

- Did the course provide you with tools that you can use in your work?

- Do you think that it was meaningful? Describe them please.

- Would you have exchanges with someone from the course? For example when facing a challenge that is in line with what the course provided, what would you do?

Section 2 - Information about the pilot

- The plan is to use module 1 and 3, do you remember the contents of those?

- What do you think the purpose of this change to the course is?

- What kind of material would you need for the role as leader?

- How do you think an ideal workshop/meeting would look like?

Closing

- Reminder of how the data will be used and if you still think its okay to save the recording

Appendix B

Beta test

B.1   Module 1 - Circle leader instruction

Cirkelledare

Hej! Här kommer en härledning för den första modulen i rollen som cirkelledare. Mötet kommer att ha **engelska** som språk, men en del av materialet som du får ta del av är på svenska.

Förberedelser inför modul 1

- Kolla igenom kursmaterialet för modul 1
    - Återbekanta dig med materialet som du känner dig osäker kring
    - Kolla på instuderingfrågorna och fundera kring dem utifrån ditt egna perspektiv (insikter som du fick under kursens gång är väldigt relevant)
- Läs på om Cross-Impact Analysis
- Kommer att använda Mural som verktyg för denna övning.
    - Gör denna utbildning för Mural: Mural qualification (scania.csod.com)
    - Jag skapade denna Mural som man borde kunna utgå ifrån,

Agenda during the meeting (2h)

You will find additional information regarding each point further down.

First part (45 min)

- Introduction to the beta test
- Check-in
    - Name
    - Their role
    - Their main takeaway from the pre-study material
    - A question from either https://motescheckin.se/# or https://thedigitalworkplace.com/checkin/
- Rules for the meetings
    - Camera on/off?
- Show the agenda for the meeting (see example below)
- Reflections of the study material

10.00 - 15 min break

Second part (45 min)

- Agenda 2030- SDG Cross-Analysis
- Science Based Targets for the next meeting

Introduction to the beta test

Welcome to the beta test of community of practice! This test is built on the previous course round that we circle leaders participated in last year and in this beta test, you will try out a new learning format where learning is administered in the group and through each other. This beta best is a collaboration between Scania and KTH that will result in a master thesis exploring this format. After this meeting, you are encouraged to answer an anonymous survey sharing your experience of the format. If you have any questions regarding this, email Felix at falin@kth.se!

Check-in

Here is the place to do a bit of teambuilding exercise. We suggest using one of the two suggested tools unless you want to make your own questions!

Rules for the meetings

This is where you set your common rules for the meetings. The purpose is to create a meeting where everyone knows what to do.

Agenda

A short breakdown of what's gonna happen during the meeting. Can also be seen in Mural.

The first part (45 min)
- Introduction
- Check-in
- Rules
- Reflections on the study material

10.00 - 15 min break

The second part (45 min)
- Agenda 2030- SDG Cross-Analysis
- Science Based Targets for the next meeting

## Reflections on the study material

Here we will go back to the pre-study materials and explore what the participants have gathered themselves. Two tips for this part: 1) take notes of what the participants say 2) Do one round of presenting followed by one or two rounds of commenting on what others has said.
An example of how this section could be run is:

- Let each participant present their main takeaway from the study material (connected with the first question)
    - Then after everyone has presented, let everyone comment on what they heard. Do this once or twice.
- If you feel that the previous topic is exhausted, ask if they are working with sustainability and if that's the case, how.
- Or you could ask:
    - How would you want to work with sustainability?
    - How does sustainability interact with your work/area?
    - Where do you see Scania in 2030?

Paus 15 min

SDG Cross-Impact Analysis

Science Based Targets for the next meeting

For module 1, you have read about how Scania's goals in regard to Science Based Targets and for the next module, we will read more about how that is progressing.

Discussion points if you have time
- In which scope is your work mostly represented? (in regards to Science Based Targets)
- Have you noticed this shift in your work/area?
- Can you in your role do more to work towards these goals?

Lastly - Survey

Give the link to the participants in the chat and tell them to fill it in.

B.2   Module 2 - Circle leader instruction

Cirkelledare

Hej! Här kommer en härledning för den första modulen i rollen som cirkelledare. Mötet kommer att ha **engelska** som språk, men en del av materialet som du får ta del av är på svenska.

Förberedelser inför modul 2

- Kolla igenom kursmaterialet för modul 2
  - Återbekanta dig med materialet som du känner dig osäker kring
  - Kolla på instuderingfrågorna och fundera kring dem utifrån ditt egna perspektiv (insikter som du fick under kursens gång är väldigt relevant)
- Läs på om [Green Performance Map](#) (länkar till Canvas)
  - Lite längre genomgång av [Green Performance Map](#) (vinnova.se)
- Kommer att använda samma Mural som förra gången med tillägg av innehåll

Tips!
Låt varje deltagare först presentera sina tankar. Gå sedan en runda där de får kommentera varandras tankar.

Agenda during the meeting (2h)

You will find additional information regarding each point further down. This meeting will have three possible topics that you can cover.

First part (45 min)

- Check-in
  - Name
  - Their role
  - Their main takeaway from the pre-study material
  - Maybe - main reflection from last meeting
- A reminder of the rules for the meetings
  - Camera on/off?
  - Muted or not?
- Show the agenda for the meeting (will be in the Mural)
- Reflections on Science Based Targets
  - How does your department/product interact with the scopes?
  - How do Science Based Targets affect your work?
  - Are every part of the world equally affected by Science Based Targets?

10.00 - 15 min break

Second part (45 min)

- Green Performance Map exercise in Mural
    - Every participants has gotten homework to identify one input and output related to their work. Let each present their map, follow the above tip to let everyone present and comment.
    - Choose one of the presented maps to dive deeper in or choose/prepare another one to do.
    - Either you try to fill out the Green Performance Map to the full extent, or you do as much as you feel is relevant. The important bit is to discuss and motivate, perhaps to figure out why it looks like it does and if/how you could potentially change it
- Reflection on general thoughts that the participants might have gotten throughout the beta test
    - If there is anything that they feel that they haven´t talked about and want to bring it up
    - What will you take with you after the beta test?
- Closing
    - Thank everyone for their participation and encourage them to answer the final survey that is up on Canvas and also linked in the Mural

Appendix C

Surveys

C.1 Survey module 1 - Circle leader instruction

Enkät - Modul 1 för cirkelledare

1. Hur var dina förväntingar till modul 1?

2. Gick mötet som du förväntade dig?

3. Vad tyckte du var svårt i mötet?

C.2   Survey module 1 - Circle leader instruction

4.   Kände du dig välförberedd inför mötet? I så fall, vad var det som du gjorde för
      att uppnå det?

5.   Om du inte kände dig förberedd, vad hade du gjort annorlunda eller hade du
      velat få informationen på annat sätt?

6.   Var det någon situation som uppstod som du inte var förberedd på/förväntade
      dig? Beskriv den gärna.

7.   Här kan du lyfta två saker som gick bra, och en sak som gick mindre bra under
      mötet.

C.3 Survey module 1 - Circle leader instruction

8. Är det något du vill ändra till möte nummer två? Ge gärna förslag.

_____

9. Övriga kommentarer

_____
_____
_____
_____

Det här innehållet har varken skapats eller godkänts av Google.

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C.4 Survey module 1 - participants

Survey - Module 1

This survey is completely anonymous and will be used in my, Felix's master thesis for analyzing the learning format of the beta test. The data will be analyzed with the learning format as the focus.

By handing in the form, you give your consent for your answers to take part in the master thesis. If you wish to retrieve your answers, reach out to me at falin@kth.se.

Thank you for your participation!

*Obligatorisk

1. What did you learn in module 1? *

2. What were your expectations for the meeting?

3. What did you think of the preparation material?

C.5   Survey module 1 - participants

4.   How did the meeting go?

_____

_____

_____

_____

_____

5.   Do you have any other feedback on the session?

_____

_____

_____

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_____

6.   Here you write down any comment that did not fit any of the above questions.

_____

_____

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Det här innehållet har varken skapats eller godkänts av Google.

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C.6   Survey module 2 - Circle leaders

Enkät 2 - Cirkelledare

This survey is completely anonymous and will be
used in my, Felix's master thesis for analyzing the learning format of
the beta test. The data will be analyzed with the learning format as the
 focus.

This survey is based in two parts, one regarding module two and one regarding the
concept as a whole.

By
 handing in the form, you give your consent for your answers to take
part in the master thesis. If you wish to retrieve your answers, reach
out to me at falin@kth.se.

Thank you for your participation!

1.   Föredrog du handledningen för modul 1 eller modul 2? Motivera gärna.

2.   Hur kändes modul 2 i jämförelse med modul 1 inom gruppen?

3.   Gick mötet som förväntat?

C.7   Survey module 2 - Circle leaders

4.   Här kan du lyfta två saker som gick bra, och en sak som gick mindre bra under
     mötet.

_____

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_____

Om beta testet i dess helhet	Detta avsnitt ämnar att utforska era upplevelser som cirkelledare inom detta test av konceptet av community of practice. Jag vill ännu en gång uttrycka min tacksamhet av att ni ville vara med som cirkelledare, ni har varit grymma!

5.   Har du hört några intressanta reflektioner som du vill lyfta från deltagarna?
     Gäller båda tillfällena.

_____

_____

_____

_____

_____

6.   Hur tycker du att rollen som cirkelledare har fungerat?

_____

_____

_____

_____

_____

C.8 Survey module 2 - Circle leaders

Enkät 2 - Cirkelledare   https://docs.google.com/forms/u/0/d/1lSDY34IukdQZ7N24Hyp2ydh...

7. Vad tycker du om storleken av varje modul?
Fanns det för mycket innehåll? För lite?

_____

_____

_____

_____

_____

8. Hur har denna beta test kurs skiljt sig ifrån andra kurser/utbildningar som du gått
på Scania?

_____

_____

_____

_____

_____

9. Hur tror ni att mötena borde anordnas i framtiden?
Ska varje cirkelledare ansvara för det eller bör det vara någon annan som planerar in
dem?

_____

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_____

C.9   Survey module 2 - Circle leaders

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10. Vad tror du skulle vara väsentliga överväganden vid genomförandet av den här kursen?

11. Har du några förslag på vad för andra aktiviteter som man borde ha med i kursen?
     Bortsett från workshops. Jämföra gärna med din egna kursomgång som du gick förra året!

12. Avslutande kommentarer

Det här innehållet har varken skapats eller godkänts av Google.

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C.10   Survey module 2 - participants

Survey - Module 2

This survey is completely anonymous and will be used in my, Felix's master thesis for analyzing the learning format of the beta test. The data will be analyzed with the learning format as the focus.

This survey is based in two parts, one regarding module two and one regarding the concept as a whole.

By handing in the form, you give your consent for your answers to take part in the master thesis. If you wish to retrieve your answers, reach out to me at falin@kth.se.

Thank you for your participation!

First section - exploring your experience from module 2
This section includes three questions about module 2.

1.   What were your main takeaways from the module?

2.   How did your expectations for module 2 differ from module 1?

C.11 Survey module 2 - participants

Survey - Module 2   https://docs.google.com/forms/u/0/d/1yxIc6XNKju9ajUAWnd_NzRl5...

3. Do you have any other feedback on the workshop for module 2?

_____

_____

_____

_____

_____

| Community of practice as a concept | This section will explore your experience from the whole test course of Sustainable Transport Systems and your thoughts on the concept of community of practice (if you don't remember what community of practice is, don't worry! You don´t need to remember what it is to answer the questions.).

This section includes eight questions regarding the whole test course, called the beta test.

Your participation will help me greatly! |

4. What do you think of the tools used in the beta test?
   Mural, Canvas etc.

_____

_____

_____

_____

_____

C.12 Survey module 2 - participants

Survey - Module 2   https://docs.google.com/forms/u/0/d/1yxIc6XNKju9ajUAWnd_NzRl5...

5. What is your opinion on the structure of the modules?

The structure of the modules included pre-study material and a workshop with discussion, reflection and an exercise.

6. Did the set-up of the workshop contribute to your learning? If so, how. If not, why not?

7. How do internal courses interact with your work situation?

For example, do you take a percentage from your work week and spend that on the learning situation?

C.13   Survey module 2 - participants

8. Did the beta test differ from any other learning courses/situations you took part in at Scania?
    What did that situation look like and which of the two did you prefer?

    _____

    _____

    _____

    _____

    _____

9. What do you think would be essential considerations in the implementation of this type of course?

    _____

    _____

    _____

    _____

    _____

10. Do you feel like you learned something more from the interaction with the other participants? If so, describe it, please.
     In contrast, you taking a self-study course.

    _____

    _____

    _____

    _____

    _____

C.14   Survey module 2 - participants

11.   Would you want to change something about the beta test? If so, what and how?

_____
_____
_____
_____
_____

12.   What would you like to happen after the course has ended?

_____
_____
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_____
_____

13.   Do you have any last comments?

_____
_____
_____
_____
_____

Det här innehållet har varken skapats eller godkänts av Google.

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