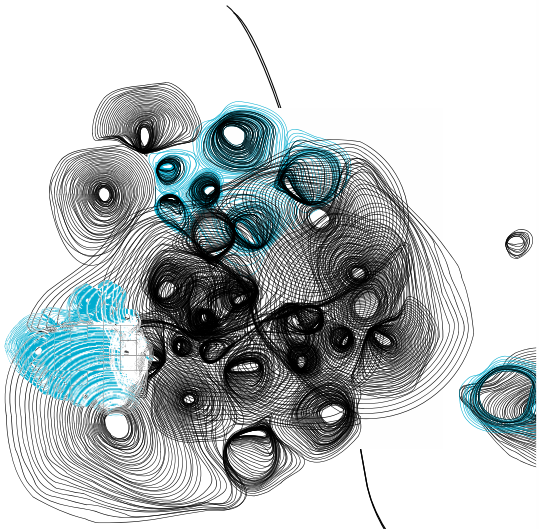

Master thesis

STIMULATING AND FACILITATING INDIVIDUAL LEARNING AND DEVELOPMENT IN SELF-MANAGING TEAMS

An exploratory case study in the context of software development

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SUMMARY

INTRODUCTION. A growing number of organisations has implemented self-managing teams to cope with their complex and rapidly changing environment. Especially in the context of software development, employees are confronted with short development and learning times and continuous changes in customer needs and technologies. In self-managing teams, employees are expected to take on greater responsibility for their own learning and development. At the same time, HR(D) professionals are challenged to build environments in which the learning potential of self-managing teams can be fully utilised. While self-managing teams are becoming increasingly implemented in organisations, the implications of self-management for individual learning and development have only received little attention in current research.

OBJECTIVES. Therefore, this study addressed the research gap by investigating the learning activities employees of self-managing teams engage in, and the factors that enable and hinder learning in the context of software development.

METHOD. An exploratory case study was performed in which semi-structured interviews were conducted with 20 members of five multidisciplinary self-managing teams in an IT company. Participants differed in their craftsmanship: backend developers, frontend developers, user experience designers, graphic designers, and product owners participated in this study.

RESULTS. In addition to many studies describing (inter-)team learning, the results of this study show that individuals also engage in different learning activities to develop themselves. First, individuals regularly took on new roles or tasks, implemented new technologies, helped others in their learning and learned further at home through hobby projects. Less often individuals participated in formal training or conferences, organised feedback sessions, consulted colleagues from other teams, or worked temporarily at or together with another team. Furthermore, this study reveals that multiple factors were found to enable or hinder learning in self-managing teams, each in its own way. This study shows that a self-managing team may be a stimulating work environment for employees that can self-direct their learning, but may be a pitfall for employees that find doing so more difficult. Moreover, employees of self-managing teams experience some lack of clarity about the distribution of responsibilities when it comes to learning and development.

CONCLUSION. This study complements previous research by aligning research and practice through revealing the everyday challenges that self-managing teams face regarding learning and development. Furthermore, practical implications are discussed on how to further benefit the stimulating conditions, or adjust the hindering conditions for learning. Through for example providing time for experimenting, supporting and coaching teams in feedback giving and receiving, or starting the conversation about responsibility, learning and development can be further stimulated and facilitated in the case study company. While this study attempted to understand the implications of self-management for learning, future research should study teams for what they are as in practice teams cannot be compared. Future research would benefit from a ‘complexity’ or ‘systems theory’ approach to create more understanding of individual learning and development in contemporary organisations.

Keywords: self-managing teams • learning and development • software development • HR(D)

CONTENTS

CHAPTER 1 PROBLEM STATEMENT

An organisation's ability to serve customer needs, respond to market dynamics, and come up with technological innovations determines both its survival and success (Grant & Parker, 2009; Pikkarainen, Haikara, Salo, Abrahamsson, & Still, 2008). This is especially true for organisations in software development as they "are often confronted with short development and learning times as well as unpredictable and continuous changes in both technologies and customer needs" (Chau & Maurer, 2004, p. 98). To meet these demands, organisations increasingly implement agile work philosophies and rely upon work teams to tackle the challenges in the rapidly changing and complex environment in which they operate (Hiller, Day, & Vance, 2006; Pikkarainen et al., 2008). Teams have always been an important aspect of organisational life as they have great abilities to fulfil an organisation's most urging and difficult needs (Tannenbaum, Mathieu, & Cohen, 2012). However, the nature of teams has been changing; as teams take on more self-management they also take greater responsibility for the development of the team and its members (Tannenbaum et al., 2012). As learning is an important source of competitive advantage for individuals and organisations, it is of significant importance that learners develop a sense of self-directedness in their learning, and organisations create environments that stimulate learning and development of employees (Ellinger, 2005).

A growing number of organisations has implemented self-managing teams with the notion to increase organisational and individual learning (Tjepkema, 2003). For organisations, it is important to stimulate individual learning because it will not only be beneficial for the team performance, but also results in an attractive environment for talented employees (Tjepkema, 2011). It is a way to attract potential employees and at the same time remain an attractive employer where employees can exploit the available learning opportunities and thereby fully develop themselves (Tjepkema, 2011). Kengen and Jagtman (2010) explain that implementing self-management has consequences for learning and development of employees as the teams and its members take an active role in recognising their own learning needs. As a consequence, the Human Resource (HR) and HR Development (HRD) professional take on another rather facilitating role as HR(D) tasks are increasingly distributed to teams itself.

Currently, little research has investigated the implications of self-management for individual learning and development (e.g. Tjepkema, 2003) or attempted to capture the experiences and challenges that come along with it in practice (e.g. Kengen & Jagtman, 2010). Especially for new organisational structures, such as self-managing teams, research is needed that adequately captures what teams and its members are really experiencing and challenged with today as research and practice are not evolving fast enough (Tannenbaum et al., 2012). Furthermore, current research in the context of software development is not adequate enough as the majority focused either on team learning (e.g., Moe, 2013) or inter-team learning (e.g., Chau & Maurer, 2004; Santos, Goldman, & De Souza, 2015), instead of individual learning.

In addition, while self-managing teams are in principle rich learning environments for the development of team members, learning does not always occur naturally (Tjepkema, 2011). Research has shown that specific factors can cause that the 'learning potential' of the workplace of self-managing teams is not always fully utilised (Tjepkema, 2011). Various factors in the workplace can either impede or foster learning (Koopmans, Doornbos, & van Eekelen, 2006). This brings a challenge for HR(D) professionals to create learning environments that promote

both formal and informal learning (Ellinger, 2005; Tjepkema, 2011). To understand what teams need to fully use their learning potential, it is important to explore these conditions affecting learning. The organisational context is commonly acknowledged as important facilitator or inhibitor of learning. However, little research has been conducted that explores how and which factors impact learning in the workplace (Ellinger, 2005), especially not in the new organisational context of self-managing teams (e.g., Tjepkema, 2003) or software development (e.g., Babb, Hoda, & Nørbjerg, 2013). This study therefore aims to increase understanding of how learning takes place in self-managing software development teams and which conditions influence employees' learning. By doing so this study will provide insight into the everyday experiences and challenges that employees of self-managing teams encounter when it comes to their own learning and development, and that of their and team members.

To sum up, self-management has implications for individual learning and development. Self-managing teams are rich environments for learning in which certain factors can inhibit or stimulate learning. Overall, the theoretical aim of this study is to gain greater understanding of how individual learning takes place in self-managing teams and what the implications of self-management are for individual learning and development. Furthermore, the practical aim of this study is to provide HR(D) professionals with starting points on how to support and encourage individual learning and development in self-managing software development teams. To conclude, this study aims to answer the following research questions: 1) What learning activities do individuals (or in the context of the team) engage in? and 2) What are enabling and hindering conditions for learning in self-managing teams?

CHAPTER 2 THEORETICAL FRAMEWORK

2.1 Self-managing teams: defining the concept

Self-managing teams have been increasingly implemented in all types of organisations (Kengen & Jagtman, 2010). Because the term self-managing ('zelfsturend' in Dutch) is so widespread, it makes it difficult to define. What one understands as self-managing, another might not (Tjepkema, 2011). A thorough literature review of Tjepkema (2003) resulted in the following definition (Tjepkema, 2003):

> A self-managing team is a permanent group of employees who work together on a daily basis, who, as a team, share the responsibility for all interdependent activities necessary to deliver a well-defined product or service to an internal or external customer. The team is, to a certain degree, responsible for managing itself and the tasks it performs, on the basis of a clear common purpose. In order to do so, the team has access to relevant information, possesses relevant competences and other resources, and has the authority to independently make decisions with regard to the work process (e.g., solving problems). (p. 6–7)

This does not mean that self-managing teams are leaderless teams, they are able to meet the challenges they face by organising themselves over and over in various ways (Cockburn & Highsmith, 2001). Leadership is shared within these teams, members are regarded at an equal level, and a team hierarchy is absent (Hoda, Noble, & Marshall, 2011). However, from practice we know that is almost impossible to have a team in which there is no hierarchy at all (De Sitter, 1994, as cited in Tjepkema, 2003). Self-managing teams have a team leader or coordinator, who is not a manager or a boss, but who is a 'primus inter pares' (Tjepkema, 2003). This person is equal to others in the team but has a representative function and usually has more influence than others (ANW, n.d.). As responsibilities for team leadership are shared within the team, people who have an affinity for certain topics such as team members well-being or team atmosphere can engage in those tasks (Emans et al., 1996, as cited in Tjepkema, 2003). Overall, in this study the definition of Tjepkema (2003) is used because it accurately distinguishes self-managing teams from more traditional teams.

In the context of software development, Takeuchi and Nonaka (1986) have described that a team is self-managing when it displays three conditions: *autonomy*, *cross-fertilisation*, and *self-transcendence*. A team displays *autonomy* when it is provided with the freedom to manage and be responsible for their its tasks, and there is minimum interference in the day-to-day team activities by the management. Second, it displays *cross-fertilisation* when the team consists of members who vary in their functional specialisation but which are interdependent in the development process. Furthermore, members interact with each other to increase understanding of each other's perspectives. Lastly, the team displays *self-transcendence* when the team sets its own goals and keeps on evaluating themselves to achieve those goals, also enabling the team to develop better and newer ways to achieve these goals.

2.2 Employee learning and development in self-managing teams

The implementation of working with self-managing teams has consequences for learning and development (Kengen & Jagtman, 2010). In contrast to departments or teams in more bureaucratic organisations, self-managing teams are regarded as upcoming organisational structures in which learning and working are closely intertwined. Such teams are not only responsible for fulfilling operational tasks, but also for improving the qualities of the product and work processes (Tjepkema, 2003). As self-managing teams are responsible for their own learning, it is of great importance that its members become skilled in learning from their experiences, through for example retrospectives (Tannenbaum et al., 2012). Furthermore, due to this high level of autonomy in self-managing teams, member performance is not evaluated by the leader or management as in a traditional or more hierarchical team. As a consequence, teams with shared leadership have to establish their own process through which members can gather input and feedback from colleagues (Tannenbaum et al., 2012).

2.2.1. Implications of self-management for employees

Multiple researchers highlight that individuals are increasingly assuming greater responsibility for their own learning and development, which is especially true for members of self-managing teams (Ellinger, 2004; Tannenbaum et al., 2012). Organisations find themselves in an increasingly rapidly changing environment, meaning that employees will have to change along and continuously learn in order to make and keep organisations effective (Vos, Corporaal, Dartel, Peters, & Morssink, 2017). This requires quite a bit of competencies of employees, as they are expected to become proactive and self-directed learners (Tjepkema, 2003; Vos et al., 2017). Being self-directed in your learning means that you "take the initiative, with or without the help of others, in diagnosing [your] learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes" (Knowles, 1975, p. 18). However, learners differ in the degree to which they are willing and capable of taking on this responsibility and be self-directed in their learning (Brockett & Hiemstra, 1991, in Ellinger, 2004).

2.2.2. Implications of self-management for HR(D) professionals

While research highlights the importance of employees taking greater responsibility for learning, both employees and employer share the responsibility for learners to continuously develop themselves. Vos et al. (2017) describe that there is an ongoing shift of responsibility for the development of employees and teams towards the team leaders (or the team itself) which asks for a different role of HR(D) professionals. Kengen and Jagtman (2010) explain that this part of their job is something HR(D) professionals will have to let go, in contrast, they have to manage on a higher level; employees and team leaders should be facilitated in shaping their learning and development activities. The role of management and HR(D) professionals is not so much to direct and control, but rather to act as a coach or facilitator and create learning opportunities and favourable learning conditions (Kengen & Jagtman, 2010; Tjepkema, 2003). Furthermore, HR(D) professionals should recognise the differences between learners' abilities and readiness of being self-directed in their learning, and coach learners in the development of these skills (Confessore & Kops, 1998). Overall, organisations will benefit from promoting

individual learning and self-directedness in the workplace (Ellinger, 2004). From the organisation's perspective, it is important that individuals continuously develop themselves as professional since skilled and talented employees are a company's major competitive advantage (Govaerts, Kyndt, Dochy, & Baert, 2011). Also for individuals it is important to continuously invest in their own personal development, since individuals no longer are employed a life-time but increasingly make transitions in and between organisations (Arthur & Rousseau, 1996).

2.3 Learning opportunities in the workplace: learning activities

Multiple researchers have tried to conceptualise workplace learning through using a variety of labels (Bolhuis & Simons, 2011; Tynjälä, 2008). For instance, Tynjälä (2008) explains that learning can take different forms depending on the place of the employee at work and the influence of the workplace environment. In her article she describes three models of workplace learning: first, learning can be incidental and informal, whereby learning is a by-product of work (Marsick & Watkins, 1990); second, learning can be intentional and non-formal such as practicing a certain skill or mentorship; third, formal learning which can be on or off-the-job training. By means of grounded research, other researchers have come to a more specific classification of the ways in which individuals learn. For example, following a qualitative research amongst Dutch nurses we can distinguish the following learning activities (Berings & Doornbos, 2011; Berings, Poell, & Gelissen, 2008):

1. *Learning by doing one's regular job:* carrying out daily (technical) tasks, learning from success and mistakes, through contact with customers, through observing colleagues or helping others learn, people learn how to perform their work increasingly better.
2. *Learning by applying something new in the job:* new situations at work, taking on new tasks, or taking over work from colleagues.
3. *Learning by social interaction with colleagues:* asking for and obtaining feedback from colleagues and exchanging knowledge and experience with each other. Bolhuis and Simons (2011) explain that this type of learning happens through working together and getting responses from your social environment.
4. *Learning by reflection:* reflection can happen before, during, or after the action, can be together or alone, unconscious and conscious. Reflecting is a way through which you process experiences and information into a personal competence.
5. *Learning by theory and supervision:* this type of learning mostly takes place intentionally and includes consulting media, being coached or guided by a colleague, visiting meetings and conferences and following trainings.

Bolhuis and Simons (2011) justly denote that in an organisation, these ways of learning coincide and complement each other. Though an important difference between these categories is that learning through experience and social interaction occurs naturally, it happens whether you want it or not. In contrast, learning by theory or reflection happens when the goal is explicitly to learn and only happens when you make conscious effort to learn from it (Bolhuis & Simons, 2011).

In this study the first aim is to acquire knowledge about the learning activities that employees in self-managing teams undertake to learn. While several authors have defined learning activities on an individual level as a way to develop and learn, individuals also develop

themselves through learning activities in the context of the team. As the learning on the team level includes the construction of new knowledge and having the capacity for collaborative action as a team, (Marsick & Watkins, 2001), individuals also make meaning of these learning experiences for themselves. Therefore, we define learning activities as *"the concrete activities that individuals (or in the context of the team) undertake to acquire and develop knowledge and skills, happening either incidentally or intentionally"* (Based on Berings & Doornbos, 2011; Marsick & Watkins, 2001; Tjepkema, 2003).

2.4 The workplace as learning environment: conditions for learning

Implementing self-managing teams is a way for companies to stimulate individual and organisational learning (Tjepkema, 2003). However, implementing such teams does not necessarily mean that it automatically becomes a success (Moe, Dingsoyr, & Tore, 2009). Hoda et al. (2011, p. 73) have studied self-managing teams in the context of software development and underline the team's need for a "supportive environment to emerge and flourish". What is required for a team, and the individuals within it, to successfully manage questions regarding learning and personal development? To understand what a team needs, it is important to understand the conditions affecting the team.

This was also highlighted by Ellinger (2004) who stresses the need for research into the contextual factors that influence or impede individual learning and self-directedness (Ellinger, 2004). Multiple researchers have tried to capture influencing conditions for learning (Confessore & Kops, 1998; Ellinger, 2005), however little research has investigated these conditions in the context of self-managing teams (e.g., Tjepkema, 2003) or software development (e.g., Babb, Hoda, & Nørbjerg, 2013). Therefore, this study will provide insight into the enabling and hindering conditions for individual learning and development in self-managing software development teams. In this study, a condition is defined as a *"characteristic of the individual, team, or organisation, that enables or hinders learning from each other"* (adapted from Tjepkema, 2003, p. 111). Once insight is gained in these conditions they can be influenced by HR(D) professionals to further stimulate and facilitate individual learning and development in self-managing teams in software development. In her research, Tjepkema (2003) distinguishes between conditions for learning on the individual, team, job and organisational level. These influential conditions will be discussed in the following paragraphs.

Firstly, as discussed in section 2.2.1. individuals differ in their ability and motivation to be self-directed in their learning; it is not that easy for everyone to shape and steer his or her own development. With regard to team level conditions, leadership is an important factor in stimulating employees self-directed learning behaviour (Smith, Sadler-Smith, Robertson, & Wakefield, 2007). Tjepkema (2003) explains that the team lead of a self-managing team can provide support for learning, such as coaching or discussing learning needs, and safeguard conditions for workplace learning. In addition, by creating an atmosphere for learning and demonstrating the importance of learning by showing it in their own behaviour (e.g., handling feedback). Also factors related to team composition such as team size, stability, and structure have shown to have an impact on learning and performance (Bunderson & Boumgarden, 2010; Edmondson, Winslow, Bohmer, & Pisano, 2003; Tjepkema, 2003). Furthermore, team mix is an important factor as the different backgrounds of team members can be a source of

individual's learning (Tjepkema, 2003). Also informally or formally rewarding employees by their performance and competence, rather than hierarchy or years of experience can stimulate employees to learn (Tjepkema, 2003). Lastly, the team must be small enough to feel like a group and be large enough to do the work and allow for flexibility and room for learning (Tjepkema, 2003).

Third, certain characteristics of the job such as nature of work, autonomy, cooperation with team members, work pressure, and growth potential (Tjepkema, 2003; Verscheijden, 2017) can stimulate or inhibit individual learning. To begin with, high job variety implies that there are various work activities that create learning opportunities, which will likely increase individuals' self-directedness to learn (Raemdonck, van der Leeden, Valcke, Segers, & Thijssen, 2012). However, in the specific context of software development employees have to balance between working on a variety of projects or systems to diversify their experience and between specialising their experience in one system (Fong Boh, Slaughter, & Espinosa, 2007). Furthermore, autonomy in one's job will likely stimulate individuals' motivation to engage in learning behaviour as people feel they can control their own work and their learning (Straka, 2000). Also, opportunities for collaboration will positively impact individual learning behaviour (Rana, Ardichvili, & Polesello, 2016). Besides, workload is another important condition for learning, since high work pressure can cause it to be more difficult for employees to find the time for learning during work (Tjepkema, 2003). Lastly, if the employee perceives the job to provide opportunities for learning and mobility (growth potential) he or she will be more likely to undertake learning activities (Confessore & Bonner, 1997, as cited in Raemdonck, van der Leeden, Valcke, Segers, & Thijssen, 2012).

Lastly, on an organisational level factors such as management vision and behaviour and the culture are important for learning (Tjepkema, 2003). First, according to Tjepkema (2003) when management clearly communicates their view on self-management and learning and why it is important for the organisation, and set an example by acting in accordance with it, this will likely enhance employee motivation to engage in learning. Lastly, the organisational culture or learning environment has also been shown to be connected to individual learning (Confessore & Kops, 1998). A culture in which 1) an emphasis is placed on creativity and innovation and in which errors are tolerated; 2) responsibility is delegated to organisational members; 3) learning initiatives are supported; 4) open communication is encouraged; 5) and individual learning opportunities are provided, will likely stimulate individual self-directedness to learn (Confessore & Kops, 1998).

Overall, as self-managing teams cooperate on projects over which teams have the autonomy over the entire, or part of the, production process this generates multiple learning opportunities, making such teams favourable environments for learning (Onstenk, 1997). However, as learning does not always occur naturally, HR(D) professionals are challenged with supporting such teams in becoming the rich learning environment they can be (Tjepkema, 2011). Therefore, this qualitative study aims to increase our understanding of what conditions, and how they, impact individual learning in the specific context of self-managing software development teams.

CHAPTER 3 METHOD

3.1 Research design

This study aims to gain better understanding into the underexposed topic of individual learning and development in an upcoming organisational structure: self-managing teams. Therefore, an exploratory case study design was used in which data was gathered through semi-structured interviews. The request to conduct this study came from the case study company. A case study design fits the exploratory nature of this study as it enables the researcher to examine data within a specific context and to learn about contemporary challenges that exist in companies working with self-managing teams (Zainal, 2007). As such, the aim of a case study is to generate theory, or add to and compare findings with current theory on the topic, rather than to arrive at statistical generalisation (Rowley, 2002). Semi-structured interviews are a common method in case study research and are suitable because of its flexible nature (Runeson & Höst, 2009). Often, participants have information that was not thought of by the researcher beforehand. When a participant brings up such information, the researcher using a semi-structured interview approach can allow the interview conversation to develop and thus explore new and relevant topics (Hesse-Biber & Leavy, 2011).

3.2 Research context

Data gathering took place at an internet agency in the Netherlands, referred to as the pseudonym 'Company X' or 'the case study company' throughout this thesis. Around 80 employees and 30 students work at the company. There are five innovation teams and four supportive teams. In the innovation teams, team members work together to realise new digital solutions and products for the specific customers the team serves. The 'supportive' teams, are in support of Company X (e.g., Human Resources or administration) or customers (e.g., application maintenance or customer service). Since three years all teams are self-managing of nature and the innovation teams are also multidisciplinary. In the past, the innovation teams were formed based on a speciality (e.g., software development or project management) but now teams consist of around 12 employees that vary in their specialisation, also referred to as 'craftsmanship' at Company X. In the teams there is no place anymore for managers but rather team leads represent the teams. Within the team there are no official functions, but employees rather have a certain speciality or take on a certain role, such as financial or HR responsible. Also, performance appraisals have been abolished. The innovation teams at Company X have the autonomy to decide how they work on their projects. The following section is a more detailed description of how teams structure their work (according to agile methodologies or not).

3.2.1. The way of working at the case study company

At Company X the self-managing teams are agile teams. Working via agile methodology means that teams develop software solutions in an iterative and incremental style, which enables the self-managing team to adjust to changes in the customer requirements (Dybå & Dingsøyr, 2008; Hoda, Noble, & Marshall, 2010). Agile teams are self-managing of nature (Cockburn & Highsmith, 2001) thus teams at Company X can decide themselves on their way of working. The Scum methodology can be seen as the most popular agile software development

methodology. When a team works according to the Scrum methodology all work is done in sprints, which are 30-day periods in which a working part of the system is delivered. Each sprint starts with a *planning session* in which the team decides what work will be done in the next sprint. Teams engage in the *daily stand-up*, a 15-minute meeting with the purpose to synchronise the work for all team members. At the end of a sprint, results are delivered and reflected upon in a *retrospective* (Schwaber, 2004). Sutherland (2014), co-creator of Scrum explains that there are only three roles in a Scrum team:

1. **Scrum master:** some teams at Company X have a Scrum master, who is responsible for *how* work is done and how work can be done better. The Scrum master is guiding the team in their continuous improvement and makes sure that the process is effective. His or her role is to ask the critical questions to figure out what is getting a team in their way and to coach the team through the Scrum framework.
2. **Product owner (PO):** at Company X, each team has one (or two) PO's who is responsible for *what* work should be done. The PO represents the interests of all stakeholders in the project (Schwaber, 2004), has the vision of what the team should make for the customer, and is responsible for the outcomes. Half of their time PO's are busy communicating with the customer and understanding its needs, the other half is spent showing the team what the customer valued and what work must be done in the following sprint.
3. **Development team:** these are the other members of the team that are "doing the work". The team needs to have the skills to produce what the PO envisions for the customer. At Company X, the development teams consist of backend developers, frontend developers, user experience designers, and graphic designers.

Working Scrum has been proven to be a successful method. However in practice, and thus also at Company X, it depends upon the type and size of the project which agile practices and methods are chosen (e.g., Kanban, Scrum, Waterfall, etc.) (Eijgelshoven, 2017; Moe, 2013). Therefore, several agile methods and practices are often combined in a project or in a team, or when the team works on several projects simultaneously (Moe, 2013). As a result, the five innovation teams differ in the way they work and work according to different (agile) methodologies. Some teams always aim to work Scrum, also if they have multiple smaller projects, others only work Scrum when the project is big enough to work on with the entire team and when the customer also supports this method. It is through adapting methodologies to customer needs, that teams can be as effective as possible (Hoda, Kruchten, Noble, & Marshall, 2010). You could wonder: are such teams still agile or not? Hoda et al. (2010, p. 86) pose the following answer to this question: "To what extent should a team that does not adapt its practices appropriately […] really be regarded as an agile team?"

3.3 Role of the researcher

It is important to reflect upon the role of the researcher because it has implications for the credibility of this study (Unluer, 2012). In this study, I was graduating at the case study company, and thus part of the studied group. On the other hand, I was not a complete 'insider' because I was part of the HR team which was not one of the studied innovation teams. Overall, my position was both a help and hindrance in collecting the data. The major advantage was that

I understood the culture being studied because I experienced it myself. Furthermore, I already had established a connection with the employees which allowed the participants to tell the truth when it comes to their opinions and experiences (Bonner & Tolhurst, 2002, as cited in Unluer, 2012). However, being an insider also has disadvantages. For instance, to some degree, I experienced that participants might have assumed that I already know what they know (Unluer, 2012) (e.g., the informal culture at Company X). Furthermore, it might be that some participants did not feel entirely comfortable to share their true experiences as I was a 'pupil' of de HR manager. To conduct credible research from within, it was important for me to be aware of being biased as a researcher during data collection and analysis, as well as well as issues related to the anonymity of the participants (Smyth & Holian, 2008). Therefore, at the start of the interview, I told participants that they would remain anonymous and emphasised that they could talk freely about their own experiences. Furthermore, I kept a research diary in which I shortly reflected on the interviews (e.g., "Person was very honest about his or her own personal development" or "conversation was somewhat difficult, I had to try hard to keep it going").

3.4 Participants

Twenty employees working at Company X participated in this study. Participants were purposively selected based on four criteria. First, participants had to be from one of the innovation teams of the company as the initial focus of this study was on self-managing teams working via agile software development methodology. Therefore, employees from the service teams (e.g., marketing, application maintenance, and HR) were excluded from this study. However, this focus changed after four interviews (see also 3.5) but for practical reasons it was decided to maintain the selected sample. Second, participants had to have at least six months of work experience at the company. This was assumed to be a sufficient period in order for employees to establish meaningful work experience to talk about learning in their company. Also, student employees were excluded from participation. Third, in terms of diversity (craftsmanship and seniority), participants were selected to form a realistic reflection of the company's project teams. Fourth, participants were selected from two different career age groups: early (25–35 years of age) and middle (36–45 years of age) (Kram & Isabella, 1985). In the project teams, members aging 46 years or older (late career age) were absent. Career age and seniority are different concepts because seniority is not necessarily a derivative of work experience; at the case study company you can also be a senior in your craftsmanship at the age of 28. Lastly, I did not strive for a balance in men and female participants as this would not be realistic in the context of software development in which the majority of employees is male. However, all three female project team members were asked to participate in this study. In collaboration with the HR manager, a final list was put together that reflected the demographics of Company X. The selected participants were asked to participate in person or via mail, all agreed to participate.

The participants (17 male, 3 female) were aged between 26 and 45 (M = 33.8). Four members from each of the five multidisciplinary project teams participated. A total of 8 backend developers, 5 frontend developers, 3 PO's, 2 graphic designers, and 2 user experience designers participated in this study. I interviewed 13 participants from the early career age (two women) and 7 participants (one woman) from the middle career age. Participants varied in seniority, the majority was medior (N = 10) and minority was junior (N = 3). Overall, the average

organisational tenure was 6.2 years which ranged from 1 to 20 years. Lastly, the average work experience was 9 years, ranging from 1 to 22 years.

3.5 Procedure and research instrument

Semi-structured interviews were conducted in separate meeting rooms at the company to minimise the possibility of being disturbed. At the start of the interview, the goal of the research was explained to the participant. Then the participant was informed that he or she always had the possibility to quit the interview and that the participant remained anonymous. After the participant had given permission to audio record the interview the interview started. Interviews lasted from 44 minutes to 1 hour and 13 minutes, with an average length of 58 minutes.

The topic list used for the interviews was based upon the topic list of Tjepkema (2003). The interview started by asking the participant to describe his or her job and role in the team. Then the participant was asked for how long he or she has been working at the company. The following topics were then discussed:

- **Individual learning activities**
  The participant was asked in which ways he or she kept learning and developing him- or herself. Also, the participant was asked when he or she looked back over the period he or she had been working at the company, what the important things were someone had learned.

- **Learning at the team level**
  Secondly, the participant was asked how the team was important for his or her personal development. The participant was also asked if and how the team reflected upon projects that were done, and if feedback was directed on work content or also at a personal level. Next, the participant was asked if and how he or she was important in the professional and/or personal development of team members.

- **Learning at the inter-team level**
  Regarding inter-team communication and learning the participant was asked if he or she had contact outside of their team with colleagues from their own craftsmanship. Follow-up questions were asked to reveal what the contact what about and if it was mostly formal or informal.

- **Learning by social interaction**
  To elicit stories and concrete examples of personal learning experiences and support from colleagues, a graphic interview method was used inspired by Janssen, Van Vuuren, and De Jong (2013). Participants were asked to write down the names of current and previous colleagues from the company who had been important in their professional development. Then the participant was asked to arrange the cards on a relational map consisting of an inner, middle and outer circle after which he or she was asked for an explanation regarding the cards. While this method resulted in more fragments about what was learned rather than how something was learned, the useful fragments were coded and used in further analysis.

- **Additions**
  Lastly, the participant was asked to what extent he or she had thought of opportunities or things that go rather well at the team level regarding the attention for learning and personal development, and at the organisational level. Then the participant was asked if there were any other issues he or she liked to be discussed. Closing off, the participant was thanked for participating.

The described topic list was the version that was used to interview the majority of the participants (also see Appendix A). After four interviews some changes were made in the topic list. Initially an open question was also posed to uncover what aspects in the way of working at Company X facilitated or inhibited learning. However, for participants this questions seemed rather difficult and ambiguous to answer. Also, to get participants talking about their experiences they were first asked how they worked as a team (agile or not) and then follow-up questions were asked to address their personal learning experiences. However, it was difficult for me to ask adequate follow-up questions to shift the conversation from a factual discussion about ways of working (e.g., agile methodology, self-management, multidisciplinary, etc.) to a conversation about actual individual experiences and opinions on learning. For this reason, it was decided after four interviews that I would not initiate the topic of the way of working (and facilitators and inhibitors) anymore but when the participant raised this topic, I would ask follow-up questions. By deviating from the topic list and allowing the research design to emerge naturally it allowed me to find interesting things I did not expect or had not thought of beforehand to ask questions about (Jacob & Furgerson, 2012).

3.6 Data analysis procedure

Interviews were transcribed and analysed by means of ATLAS.ti software. A multistep content analysis procedure was followed to analyse the data. As a beginning I read all the interview transcripts and added comments to fragments of text which reflected the way in which individuals learned (e.g., "observing colleagues" or "guiding new colleagues") or which factors enabled or hindered their learning (e.g., "colleagues are approachable for questions" or "little information about training budget"). The coding procedure and validation will be discussed in the following paragraphs.

3.6.1. Coding the learning activities

The fragments about the learning activities were categorised by means of constant comparison. However, it was difficult to arrive at clear categories. As a result, the classification of Berings et al. (2008) on learning activities was used as a starting guide in the second coding. Fragments were coded deductively, using theory as a starting point for the analysis (van Staa & Evers, 2010). This categorisation of Berings et al. (2008) was based upon nurses and was insufficiently clear for the context of this study. A discussion was held with a colleague researcher and some extra literature study was done. This resulted in an adjusted clearly defined categorisation of learning activities. While there are almost no differences between the labels used in this study to describe learning activities and the one's of Berings et al. (2008), the content in some cases differs. The first category, *learning by doing one's regular job*, is about learning by gaining

experience yourself, which is not in relation to others in contrast to the definition of Berings et al. (2008). Secondly, this study showed that *learning by taking over something new* is also concerned with acting creatively and producing something new for which someone must acquire new information to develop these fresh ideas (Collin, 2002). In the context of this study, taking over something new is not just about taking a different role or task, it is much more concerned with being innovative and exploring new ideas. Third, to arrive at a clear understanding of *learning by social interaction*, categories of Eraut, Alderton, Cole, and Senker (2002) (as cited in, Koopmans et al., 2006) were used in this study: learning support, collaboration, and consulting someone within the team and from outside the team. While Berings et al. (2008) see observing and helping others in their learning as learning by doing one's regular job, in this study it is inextricably linked with social interaction and therefore included in this category. Fourth, the category *learning by reflection* was similar. Lastly, in this study *off-the-job learning* refers to learning from training (both off- and online) and hobbies. This interest in technical matters or even enjoying designing or developing as a hobby at home can be seen as typical for the context of study (e.g., Collin, 2002). Berings et al. (2008) category of *learning from theory and supervision* was inadequate as it showed overlap with learning by taking over something new as you will need theory to implement new ideas, and overlap with social interaction as supervision is inevitably a social activity. All in all, this categorisation was believed to be the best fit for the context and has the best possible distinctness.

3.6.2. Coding the conditions

Furthermore, axial coding was used to arrive at a categorisation for the learning conditions enabling or hindering the occurrence of the learning activities. Firstly, fragments of texts were labelled as hindering, enabling, or neutral after which they were merged into themes. In contrast to the coding process of the learning activities, no literature framework was used for the coding of the learning conditions. Several iterations were done in which data was coded inductively meaning that themes emerged from the data (van Staa & Evers, 2010). After this coding round, another discussion was held with a colleague researcher about the categorisation of the conditions. Next, the two or three most important conditions per learning activity were selected. Furthermore, conditions regarding organisational learning (e.g., knowledge sharing between teams) were left out of account, since this study focused on individual learning and development. Once the final codebook was established, all interviews were coded once more.

3.6.3. Validation

In this study the codebook was validated through discussions with two colleague researchers. Furthermore, a session was held at the case study company as a way to validate the data. In this session, I presented eight statements about learning which were based upon the outcomes of the research (see Appendix B). Employees, from both the innovation and service teams, stood around the tables with a flip-chart and were invited engage in a conversation with each other about the statements. The employees were encouraged to write down their thoughts and ideas on post-its. During this session I walked around to listen to the conversations and afterwards read the comments that were written on the flip-charts. Overall, these comments showed great overlap with the results found in this study indicating that the results are a good outline of the current situation at the case study company.

CHAPTER 4 RESULTS

The aim of this study was to identify learning activities in self-managing teams and the factors enabling and hindering learning. In section 4.1 we will elaborate on the occurrence of the five types of learning activities that were found in this study. In section 4.2 the conditions that enabled or hindered the occurrence of these learning activities will be discussed.

4.1 Learning activities

Five learning activities that members of the self-managing teams at the case study company engaged in were distinguished from the data, namely learning by: doing one's regular job; by applying something new in the job; social interaction; reflection; and off-the-job learning. We will discuss the occurrence of these types of learning activities in the following sections.

4.1.1. Learning by doing one's regular job

The first way through which participants learned was by doing their regular job. First, five participants explained that learning is making hours and that through practice you will gain experience. Experience was regarded as something which will come with time. Second, five participants described to learn by just doing it, solving problems, and learning from successes and mistakes encountered along the way: *"P06: But programming is also really doing it, and really just trying and just making mistakes and then you see why and how something works. Just trying actually."* Lastly, three more junior participants mentioned that you also learn from getting responsibility over a project.

Table 1

Results of the content analysis for learning by doing one's regular job

Category	Definition	Sample comments
Making hours *7 comments*	Learning takes time, experience comes with the years and with the projects that you work on.	"P12: When you leave school, you know how to read code and about how to program a bit. It is the same when you are going to get a driving licence. Driving a car, that you only learn when you've covered 200.000 kilometres. Researcher: Experience. P12: Yes, that's just experience, that just takes time."
Trial and error *7 comments*	Learning happens through just doing it, solving problems, practicing, and learning from successes and mistakes.	"P07: Yes, if you are developing then you will run into something at a certain point and then you will have to find a solution for that problem. And that is learning of course because the next time you run into that problem, you have solved it faster."
Getting responsibility *4 comments*	Learning through getting responsibility over a project or tasks.	"P19: What I found very pleasant is that I was responsible for a number of projects […] Researcher: What is something that you've learned? P19: Taking responsibility and recognising when you really have to do it […] You also learn that at school, but there it only happens in a kind of playground."

4.1.2. Learning by applying something new in the job

The second way participants reported to be learning was through applying something new in the job. In this study learning by applying something new in the job is defined as the actual implementation and development of innovative ideas or taking on new tasks, as well as obtaining the information to realise such action.

Table 2

Results of the content analysis for learning by applying something new in the job

Category	Definition	Sample comments
Job enlargement *21 comments*	Taking on a new task outside the scope of your job or (official) role such as SCRUM master, team lead, PO, etc.	"P08: Well for me it mainly is a new challenge. [...] I do see it as a kind of next step. Yes, I really like developing now, but I certainly don't have to keep developing full-time my entire life. So, it is also just a bit of exploring another role how that suits me."
New cooperation *4 comments*	The person has done projects in or together with another team.	"P14: Well I have worked at [another team] every Wednesday for three weeks to help with a project. And that was the first time I found out that another team than our team also does something with [programming language]."
Implementing new technologies *15 comments*	Bringing new technologies into the team and/or applying these in projects.	"P04: I have just researched a bit of new technology and I have demonstrated that already. And we must make sure that everyone will master that a bit. I'll take that on me."
Keep up with trends via media *14 comments*	Reading books, blogs, watching YouTube movies, searching on Internet, etc.	"P20: By trying out new things. For example, for me that is reading, and talking with [colleagues from same craftsmanship]. If there is the possibility. And see what fellow professionals in the world are doing and to nose about a bit. I look at frankwatching and smashing magazine. See what's going on a bit. Try to do that every week. Oh yeah, that's something new, this is fun, oh we can try this one time."
Team day for innovation *7 comments*	Having team days for research & development (or not).	"P09: But we have had a work on the team day a long time ago. In itself, I think that is positive in terms of improving your knowledge. Just get started with something, pick something yourself and invent something for that."

First, job enlargement was a topic that was most discussed by participants with regard to learning by applying something new to the job. Ten participants mentioned to have taken on a new role or taken on tasks outside the scope of their own job. As teams are self-managing, several tasks or responsibilities are assigned to the team itself. Participants had taken on roles such as team lead, SCRUM master, or tasks related to HR or finance to make a next step in their own development: *"P06: And I always thought it was a nice thing [a new role], or interesting at least. And I wanted to take on a slightly more leading role, also for my own personal development. Because the leader's role is not really a role that perhaps is not really meant for me, but that is something I would like to grow in. And I think when I have the commitment of the team, they stand behind it and they also know that I am still learning. So then I think well that it something that can flourish right here."* Besides taking on a new role, new project cooperation's was also a way to learn. Two participants mentioned to have been recently working at another team temporarily or that their team joined forces with another team to work together on a project.

Second, the categories implementing new technologies and keeping up with trends are linked to another. Ten participants mentioned to keep up with trends by reading blogs, watching YouTube movies, and reading books with the goal to use the knowledge or implement the technologies in their job: *"P16: I think the main thing now is that I keep reading about the discipline. I have of course acquired various information channels over the years, which are a bit part of your regular routine like reading the newspaper. That's about it, and that's where*

some new experiments are and new web standards are being announced. Then you will find out what it is about, is it interesting for us or not. That is actually something […] you constantly do, and occasionally you take the time to engage in an experiment and to see if this could be something for our team."

Lastly, five participants also mentioned as a team they (had) organised a day on which time is exclusively spent on developing new ideas. These team days were seen as rich source of learning, from which some ideas also had been used in later projects. However, participants also mentioned that they had not organised such a day for a long time which could be an idea for the near future.

4.1.3. Learning by social interaction with colleagues

We distinguished three ways of learning by social interaction with colleagues: learning support, collaboration and consultation.

Learning support. This category can be understood as supporting others in their learning which was commonly discussed by participants. Answering questions and coaching others is in this category seen from the perspective of the one providing the support. In one team, they worked with formally assigned coaches to the junior members of the team. Coaching was arranged according to the preference of the junior and was meant to support him or her in all kind of job-related questions. In other teams, support was provided more incidental during the day or when a colleague asked for help. Secondly, two of participants mentioned to have organised a workshop for their colleagues to stimulate learning from each other and practise with a new technology: *"P16: We have now started giving workshops instead of giving presentations. And the last [workshop] we did was about creating a mobile app from scratch, in a front-end technology. And that has been received very well. And all [attendees] managed to write their own app in one evening and get it working on their own phone, from scratch. That is quite nice so they can take that knowledge back to their teams."*

Collaboration. First, observing colleagues doing their job with whom you collaborate is a useful learning activity. Learning can take place on the level of knowledge and skills acquisition, for instance watching a colleague designing something, or on a behavioural level, seeing how a colleague acts and taking your own lesson from that (e.g., how to communicate with the customer). Second, learning also naturally occurs as you work together with colleagues on projects in which you have shared responsibilities and interdependent tasks. Lastly, code reviews were seen as a useful way to learn which was mentioned to be done by six participants. By discussing the mistakes found in the code both more junior and more senior members of the team can learn from each other: *"P03: Yes, I mainly look at the code of a teammate, a bit of code review. More in the form of, he is not as experienced as me yet, so then it is more about is what I have made correct according to the standards and how would you do that? Is it right like this? Can it get even better? In that way teammates also continue to learn, and I for sure also learn something from that."*

Consultation. First, participants learn by asking and receiving feedback from colleagues within their own team, which was done mostly incidentally during work. Second, a way to learn from others is by seeking help or relevant information from colleagues in parallel positions in other teams when needed. Three participants mentioned that they actively or recently had consulted colleagues from other teams when they were in need for some help. On the other

hand, eight participants explained that they seldom consulted members outside the team. Some of these participants gave examples of contact with colleagues outside the team, but in most cases it was the other colleague that came to them for a question.

Table 3

Results of the content analysis for learning by social interaction with colleagues

Category	Subcategory	Definition	Sample comments
Learning support	Coaching and answering questions *34 comments*	Helping others to learn by asking and answering questions, coaching or providing feedback.	"P12: Yes, it like it, and it's interesting to see how he grows. Maybe I am turning it around, because I am part of it to see him grow. And yes, I like that because I also learn from how others grow."
	Internal learning activities *3 comments*	Organising workshops or presentations to learn colleagues about his or her expertise, or participated in one.	"P15: When there are new colleagues and they come in a team that works with [technology], then I try again to arrange a workshop within [the company]. And then send an email of who wants to participate in the workshop, to learn something new or to refresh the knowledge. And then I just schedule a workshop for half a day. To improve the knowledge within [the company] as well."
Collaboration	Observing colleagues *13 comments*	Observing and to watch along how a colleague behaves or performs his tasks.	"P01: I think when I see how someone does it, that also teaches me things for how I could do it. So that's pleasant."
	Collaborating in projects *12 comments*	Collaborating with colleagues in projects (both inside and outside the team).	"P02: But from the team it is mainly giving feedback, working together, of course you also learn a lot from that. To work together by going through problems, just running projects together."
	Code review *14 comments*	The person/team does code reviews (or not): giving feedback on each other's code.	"P07: In the first instance, often something comes up with the code review, because we do code reviews in our team. So, everyone who makes something is checked by another. And if there is something strange about it, then you go and discuss that and then it often turns out, usually it with one of the [students] that something strange happens, and then you explain that. And sometimes it takes quite some time but that is in itself also fun to do."
Consultation	Feedback from team members *25 comments*	Asking for and receiving help and feedback from team members.	"P19: In our team they work with a kind of coaching system. Actually, the younger colleagues are assigned to an older colleague to whom they can turn to with things, that can be technical things but also very personal things, like how do you deal with that and that, you know."
	Consulting people from outside the team *16 comments*	Seeking help or information from members outside the team (or not).	"P17: And for the rest, it's just a lot of walking between teams… How should I call that? I don't want to call it a second opinion... but ask questions on why and how would you do that?"

4.1.4. Learning by reflection

The fourth way through which participants explained to be learning was through learning by reflection. In contrast to learning by social interaction, which is more informal, learning in this theme was seen as more structured and intentional (the aim is to learn). Firstly, participants learned from reflection through meetings with colleagues from the same craftsmanship. At Company X, some craftsmanships (had) organised meetings to share experiences of current and previous projects and to share new developments relevant for their discipline. However, not all craftsmanships did this anymore or not very frequently. Some participants mentioned that they would like to have such meetings again with colleagues from the same craftsmanship.

Within the team, participants mentioned to have team meetings in which the previous year was evaluated, plans for the coming year were made, and also personal ambitions could be talked about. Furthermore, in two teams there recently had been an initiative to organise feedback sessions within the team. Also, some participants mentioned that they had, or could, organise themselves an individual feedback round by asking their colleagues (via mail or in person) for personal feedback instead of an organised session. Other participants mentioned that they had not organised such a session in a time but that it was a good idea to do so: *"P03: The personal and stuff, we have to look at that with the team of how we want to give shape to that. Because in other teams, I think they are already busy with those 360-degree feedback sessions […] that we haven't got on track yet."* Overall, participant differed in their attitude towards feedback meetings with the team. Commonly discussed problems were that people did not feel the need to and that it is sometimes difficult to come up with concrete actions and as a result, the feedback sessions and team meetings loose part of their value. This can be because for instance employees continue to get the same feedback, or it is forgotten as people are swayed by the issues of the day.

A third way of learning by reflection was through the evaluation of projects. Participants explained that after a sprint period, or when the project was finished, they held a retrospective which is a meeting for project evaluation and reflection. This was an important way for teams to make sure to learn from mistakes and become increasingly better. Sometimes a retrospective was held together with the client to evaluate the project with both parties. However, it differed per team if they took part in retrospectives. Participants from one team mentioned that they had retrospectives as team, while participants from two other teams mentioned to plan it occasionally or that it had happened in the past. Participants from the other two teams did not mention it or told that it did not happen anymore. In addition, the same was true for the daily team meetings (stand-ups). One team had decided to stop doing stand-ups, two teams did team stand-ups, and the other teams decided alternate between project and team stand-ups.

While not all teams had organised moments for reflection (or feedback) during projects, six participants mentioned that evaluation and thus giving feedback also happened during the day. One participant explains: *"P02: At the moment when something does not go well, usually the feedback is yes something is not going well and that is actually done immediately when it occurs. In our team that is well arranged. Only the positive feedback yes that you usually hear after the completion of a project."* In this regard reflection and social interaction are intertwined.

Table 4

Results of the content analysis for learning by reflection

Category	Definition	Sample comments
Craftsmanship meeting *12 comments*	Taking part in craftsmanship meetings (or not).	"P05: And we happened to do it for the second time two months ago. So that needs to be picked up more efficiently, but then you just sit together and discuss, what did you do in the past six months, what are you doing now, where do you want to go, what are developments that you follow? [...] Are there things we can merge [Company X] broadly, can we share knowledge about what we have made, so you don't have to reinvent the wheel every time."
Team meetings *6 comments*	The person/team takes part in team meetings (or not).	"P17: Then you also have the personal ambitions of people that we ask about every year 'what are your learning goals, and how are we going to help you as a team in that?'. Is on the agenda and is discussed. I do notice that in the issues of the day it sometimes fades away."
Team feedback meetings *15 comments*	The person/team takes part in feedback meetings (or not).	"P13: We do a kind of feedback meeting once a year with everyone, yes, we did that in the past two years. Everyone then has to say something about someone else, also because that has to be done from HR. Not that the team is in so much need for that, but it is a bit obligatory because we no longer have any functioning and assessment interviews."
Project evaluation *21 comments*	Taking part in retrospectives or reflection (or not) during and after projects.	"P06: So basically, we look back every two weeks what went well, what didn't go well, and then we try to do what we didn't do well, want to improve what we want to improve next time, then we take it into account. That actually means that you have an iteration, so that you get better every time."
Stand-up *12 comments*	Taking part in daily team meeting to start the day (or not).	"P11: Yes, we have stand-ups every morning. There we reflect on what happened the day before and you still have the opportunity to make some remarks about certain work of someone."
Unorganised reflection (and feedback) *7 comments*	Reflection and giving feedback happens during work.	"P19: In our team it is very much possible at any time. Yes, everyone knows each other so well that you can say 'well [teammate] what you did then just sucked or something. You can safely say that if you have a good reason. [...] But no, there are no fixed moments, you can actually always do that."

4.1.5. Learning off-the-job

The last way through which participants learned was by learning off-the-job. This category covers learning situations that are located outside the actual workplace which are considered also necessary and complementary to on-the-job learning (Tjepkema, 2003). Firstly, four participants (explicitly) mentioned to have made use, or planned to make use, of the personal budget available at Company X to do a training. Three participants reported to go to conferences, meetups, or other relevant activities outside of the company.

Besides learning from (training) activities outside Company X, learning from hobby projects was a frequently mentioned learning activity. This was mostly the case for developers and designers, as it is not possible for everyone to practise their job as a hobby (e.g., project management). Seven participants mentioned their hobby projects as rich source of learning, which seemed to be typical for people working in this context: *"P06: But I think that especially a lot of developers, at least that I know from my team, when I look at [my colleagues] and myself. They are learning the most in their own spare time. I can almost guarantee that every*

developer who works here, has once made his own side project or whatever. And then you are busy with all aspects, and from that you also learn a lot."

Table 5
Results of the content analysis for learning off-the-job

Category	Definition	Sample comments
External activities/training *13 comments*	Participating in an on- or offline training, meetings, conferences, having contacts with colleagues or experts outside the company.	"P18: I recently followed a course. So, we just have training budget. I recently did some kind of refresher course for [...] my profession."
Hobby/side projects *11 comments*	Programming/designing at home as a hobby or for side projects.	"P14: I am working on a hobby project at home, with the idea that you can try new things and learn from that."

4.2 Learning conditions

In this study the following conditions were found to either enable or hinder learning: nature of work; way of working; workload; latitude; team composition; social culture; communication about the training budget; and questions about responsibility. Table 6 depicts how these conditions affected the occurrence of the five types of learning activities or learning in general.

4.2.1. Nature of work

The nature of work was an important factor with regard to **learning by doing one's regular job**. Nature of work can be understood as the type of the tasks or projects people work on. Participants explained that the nature of work generated opportunities to learn from. At Company X, teams work for different customers and thus experience a high variation in the projects, causing employees to come up with new solutions to meet the various customer demands. A participant explains how he or she appreciates the variety of work: *"P18: Because you just see that people are also developing because of the projects they do. [...] I have already done a lot of projects of some quite big names, so in that way you are also developing yourself. Much more than that you would do at another company. [...] It is not the same project every day, the moment you do the same project every day, you don't learn anything anymore."*

In addition, participants mentioned that it is less challenging to work on an existing project than new ones: *"P03: If there are existing projects that need to be tinkered with, then the challenge is gone pretty quickly. Because there is already something, then I already dived in that, that is already there, it has been running for a while, it is building extra, not really building something new. Yes, sometimes, but you build on existing stuff that is already there. So, for me it's more challenging to have a new project with yet another very different view of how I'm going to tackle it this time."*

Overall, variation in projects seemed a stimulant for learning. However, it is sometimes also beneficial to work on the same type of projects more often as it allows you to master a technology and become more efficient in the work you do. In this way, less variation can also increase learning (also see 4.2.4.).

Table 6

Conditions for learning at the case study company

Condition	Affecting learning by...	Enabling aspects of the condition (+)	Hindering aspects of the condition (–) *(* not exclusively enabling or hindering)*
Nature of work	doing your regular job	+ You learn from variation in projects. + You learn to do something faster when working with the same technology/solution more often.	– Working on and maintaining existing projects is less challenging.
Way of working	social interaction	+ When tasks are interdependent/a team is working on a big project with a shared goal this automatically generates opportunities for learning and feedback. + Working on a common goal and giving feedback enhances a sense of ownership and responsibility for learning. + When the project is done by the whole team it enables you to work with new technologies and you will arrive at results you could not have imagined.	– When team members are divided over smaller projects it is more difficult to share knowledge and learning experiences with the entire team. – Working on separate projects makes it more difficult to give each other feedback on your work.
	reflection	+ Despite of working on several projects, stand-ups are still useful because you can still help team members by asking critical questions and giving suggestions to tackle and also prevent problems. + Project stand-ups (with sub teams) increases the quality of interaction.	– When a team has multiple projects with less task interdependency then stand-ups and other reflective practices are not relevant enough or cost too much money to do with the entire team. This could affect learning if no alternatives are thought off.
Workload	applying something new in the job	+ Low workload means there is time for working with new technologies.	– High workload means that persons do not have (or take) enough time to get round to investigating new technologies themselves/or with the team. – Focus on being profitable enhances the feeling that doing new things should be a success otherwise it is a waste of money and time.
	reflection		– Culture is somewhat action oriented, focus is on delivering and working, rather than reflection. – Little time for reflection as the work pressure is high and employees feel the pressure to continue working for customers or a new project is already next in line once the other is finished.

Latitude	applying something new in the job	+ The constantly changing landscape forces you to gain knowledge about technical developments because you need it to perform your job well/otherwise you fall behind. + Having the autonomy to decide yourself in what technologies you invest your time. + Directly applying a new technology in a project enhances learning. + Giving workshops on new technologies helps people to also implement new ideas into projects as they have learned the basics.	– No clear vision on the path that Company X choses when it comes to new technologies. – Implementing new technologies is not always possible for practical reasons, such as support from the browser or implications for maintenance. – Implementing new technologies to a project that you do not master yet is not always possible as it costs Company X and the customer time and money to do so. * Sometimes it is also beneficial for learning not to engage in a new technology, but to take time to master what you have learned in a previous project in order to become more efficient.
Team composition	social interaction	+ Having a more experienced other or colleague from the same craftsmanship to learn from in the team. + In a multidisciplinary team you learn to do your own job better through learning about the craftsmanship of your team mates.	– Absence of a more experienced other or colleague from the same craftsmanship to learn from or debate with during projects.
Social culture	reflection & social interaction	+ A team atmosphere in which you can say what you think and still like each other equally the same. + A team atmosphere which has a good fit with yourself and with personalities you like will enable you to ask questions and feedback. + Colleagues that dare to give feedback help you in your own development.	– Fun and friendship is what characterised Company X, however this sometimes makes it more difficult to dare to say what you really think/give honest feedback/address someone on his/her functioning. – Talking about own functioning, realising own shortcomings, is sometimes experienced as difficult. – At Company X everyone is really kind to each other, which is good but makes that not everyone is that open to feedback, are sensitive for it, or show resistance to feedback.
Communication about training budget	off-the-job learning	+ The availability of a personal budget for training and education.	– Lack of clarity in the communication about the use of the training budget.
Questions about responsibility	learning in general	+ Employees that have developed self-directedness in their learning are able to manage their own development. * Employees differ in their motivation to learn.	– For employees that have less sense of self-directedness it is more difficult to manage their own learning when you have responsibility yourself. – There are questions about who should take what responsibility with regard to learning (the individual, the team, the team lead/HR responsible, the HR manager). As a result, sometimes nothing happens at all.

4.2.2. Way of working

The way of working was an import factor with regard to learning by **social interaction with colleagues** and **reflection.** First, with regard to learning by **social interaction** the way of working greatly determined the degree to which team members learn from each other. In the past teams mostly worked for one client or had large projects on which teams could work with all members. However, times have changed and at Company X and project teams mostly have multiple projects or clients to work for. First, this has implications for the extent to which knowledge and experiences are shared within the team: *"P07: And especially if you have smaller projects than that [knowledge and experience] is never shared. [...] But this is also not a desirable way to work like this, not as a team. Well it is just as if I am working as a freelancer on that project, then I think yes, I can do just that at home. So that is not really fun."* Several participants from two different teams mentioned that they have been thinking about this problem and how to foster the learning from each other in projects that are too small to be carried out by the whole team. A participant explains that they want to move one member out of the sub-project team to another sub-project team, and have another one enter the sub-team: *"P04: So, we slowly try to rotate together again. [...] And that in this way you can coach each other a little bit and tell how it all works and that you also have more knowledge of other customers, its projects, that's the idea."*

The second implication of the way of working is that it becomes more difficult to give each other feedback when working on different projects: *"P16: It is quite complicated if you work on something yourself and nobody has watched with you to say at a glance 'Oh you have solved this well, or you have not solved this properly'. Then you will first have to read into the matter again, and yes then I don't know if we will be productive enough."* Providing each other with feedback continuously is not only a way to foster learning, but also to enhance the feeling of motivation and ownership of the project amongst team members: *"P12: The thing is that if you are always making things on your own then you will also close yourself off for comments from others. If you continuously work together with other people and you continuously deliver things and you also continuously show it to each other and also give continuous feedback on each other then you are also a unity. Then you also stand together for the product you deliver."*

Second, the way of working influenced learning by **reflection.** Teams have multiple projects to work on which has implications for how and whether reflective practices are done. Two of the five teams do daily stand-ups with the whole team, while two teams have decided to do project stand-ups and once in the week a team stand-up, and one team has decided to stop doing stand-ups. Most participants describe that members were less interested in each other's work as their tasks showed no to little interdependencies: *"P09: At a certain point it became really a rut of okay I'm going to do this and this, I'm going to do this, but not like what went wrong or whatever. It's better to do that per team or per project."* However, participants have different opinions about the worth of doing stand-ups. One of the major advantages of doing stand-ups is that it is creates a stage for people to ask feedback and offer help to one another: *"P06: We try to keep the stand-up reasonably global, so everyone knows what everyone is doing. I do hear some people say, yes, but I'm working on that project so I don't have to stand at the stand-up of that project. But I don't agree with that, because maybe the techniques we use are all the same but the project is different. The stand-up is meant to signal when someone has a problem such that someone else can say 'I guess I know roughly where to look for that'.*

That can be project transcending and you have someone in your team who helps you with a problem you are stuck with." The same is true for retrospectives or other moments of evaluation. When the teams are smaller or there is no sprint planning, retrospectives are not held after each iteration, but instead mostly only happen at the end of a project.

4.2.3. Workload

The workload was an important theme that came up in the interviews which had impact on learning by **applying something new in the job** and **reflection.** First, we discuss the impact of workload as enabling and hindering factor for learning **by applying something new**. Overall, trying out new techniques or doing some research for yourself about new technological developments is stimulated when there is a quiet period at work: *"P08: Well, that is also a bit staying informed yourself about new developments. Yes, for example, that can be done if it is quieter within [Company X]. We have had that last summer, that we had less work and that gives some time to just have a look at what's going on, to read, to watch webinars, you name it all, to stay up to date."* However, most of the time participants experience a high workload which means that taking time for learning about new things is just not coming off because working for the customer always has priority. Two participants explain that the new ideas they bring to Company X, were developed in their spare time which according to them should also be possible during working hours. One participant comes with a cautious explanation of how he or she experiences workload, being profitable, to be hindering learning: *"P07: You have to be able to take that time, but here you have to know in advance that it will be a success, otherwise it is a waste of time. You know. At least that feeling prevails, I don't know if that is actually the case."* In addition, some participants say that they as a team have to take the time for some research and development: *"P06: We have to take the time now and to not be involved in a project but just do some really crazy things for yourself. [...] And such things again inspire to look for new things. And maybe at the end of the day it had no value at all, but you might learn new concepts, new techniques, and if you later have a project and think we might be able to use it, and it turns out to be very good."*

Second, the workload had impact on if teams took part in learning by **reflection**. The organisational culture at Company X is more oriented on action, actually delivering and working, rather than reflection. Two participants said that there is little time between a finished project and a new project to evaluate the process. While participants experienced the value of reflection, the pressure to continue working for customers seems to be a hindering factor: *"P03: Because we are reasonably busy you often see that such things are often postponed and it is very important though. Because if you run into a lot of problems where the problem, its cause is not solved and then you go to a new project and the chances are that you will run into the same things again. [...] So it is really necessary to learn from your mistakes and to see what you can do better."*

4.2.4. Latitude

Latitude was an important factor with regard to learning by **applying something new in the job.** Latitude can be understood as having the autonomy to act the way you want to or as having room to 'play' or experiment without far-reaching consequences. At Company X employees and teams have autonomy to make their own decisions, which means that employees have the

latitude to decide themselves what technologies they want to invest their time in. This enables people to work with the technologies they are interested in and motivated for to work with. However, one participant also said to miss some vision from the management about what technologies to invest in and which not, the path Company X will take as a company. Participants also mentioned that you learn quickest when you can actually use your newly gained knowledge and skills about a new technology by applying it to a project for a customer. *"P09: I am free in technology choice, that is true. I can use the latest [technology] for example like I said I did some things with that at home maybe we can do something with that. And then you can become better at it of course. So you may do so, you are free to do that. So, in terms of knowledge development that's good in itself. Because from that you learn most. Researcher: What do you mean with by that you learn the most? P09: If you actually work on it, really with an assignment, you will be forced to become good at it."*

However, participants differ in what they view to be the best way to learn about a new technology. Learning about new technologies for instance also has consequences for the quality of the work you deliver for the customer. When you use a technology you do not master, you will probably encounter unexpected problems that can become very costly. Also, when you have mastered something new it also takes time to learn other colleagues how to work with the technology and how to maintain it. One participant thinks this is a matter of age, as more junior people are enthusiastic about new technologies and prefer to directly apply it to a project, the more senior colleagues see the consequences and become more holding back. This participant explains his perspective: *"P02: In itself, I think if you give people the time for it that they also become inspired and that they, yes, because within two hours you cannot do a lot, that after those two hours they are so full of energy that they may continue at home a little longer. Just because you are fully occupied by it and you hopefully like what you are doing. So yes, that also gives me extra motivation I think."* Furthermore, workshops in which you can experiment with new technologies were seen as a way to stimulate learning.

Participants mention that the constantly changing landscape actually forces you to gain knowledge about new technologies. But at the same time, you cannot always be learning and implementing new technologies every project again. Learning for instance also happens through improving what you have developed: *"P06: The landscape is growing so fast, [...] technically you could do something new every day. But you usually make something and a few months later you can do something else in a different way, which goes much faster. And then, from time to time, you have to take the time to learn and implement it."*

Sometimes it is also beneficial for learning to not engage in a new technology every time again, as you also have to learn how to master what you have learned in a previous project. This participant explains how he or she experiences this learning: *"P15: After all, you have to deliver to the customer and then you cannot keep learning continuously, or do a lot of new things. So yes, your learning curve will be slightly less steep. Now we are working on a project where we use a new technique and then you delve into that so then you have a learning curve again. And at a given moment you will know that and then you will apply it again to be able to efficiently carry out subsequent projects. Because you cannot expect such a learning curve every project."*

4.2.5. Team composition

The team composition is a key factor in learning by **social interaction** at the case study company. Members of the teams have different backgrounds which is a source of learning from each other: *"P03: And what I learned from [my teammate] is that you can and must be able to work together very well with a designer to see what is technically feasible. And we will soon burn our fingers when the designer makes a very fancy pancy design, but there will soon be nothing to build, or it will fail altogether, it all costs too much money."* However, one participant also notices that this learning from another craftsmanship about what is technically possible can also hinder the learning process in trying out new ideas: *"P20: Well, I partly believe that you should not let yourself be influenced too much in the design process. You must first aim for the sun, and past the moon, and then take steps off."*

Another aspect of the team composition is the extent to which members have other more senior team members of their craftsmanship to learn from. Some juniors mentioned that they had sufficient knowledge and expertise within the team which meant that mostly all questions could be answered by team members. On the other hand, it is hindering for some senior employees that they do not have another colleague from their own craftsmanship to learn from within their team*: "P02: Yes, I actually miss that a bit, that there really is someone in the team who is a lot higher in terms of level. That might be rude or something to say. Occasionally you miss someone about whom you can think 'I can learn a lot from that person' so to speak."* However, another participant notes that the solution to this can be found in approaching colleagues outside of the team: *"P06: But now that I'm in terms of [type of development] the wisest in the team, let me put it this way. But there are still plenty of things to learn. And if I don't know, I walk to someone else in [Company X]. I think that isn't done often enough."*

The reasons for not consulting colleagues from other teams differed; some said this was because it was easier to ask a quick question to a team member and that the barrier to ask someone outside the team for help was greater: *"P14: For me it's always a bit of a combination between indeed disturbing people and [...] that if you are looking for the solution to the problem, you will always find multiple possible solutions. Then it's always… when are you going to ask for help and when... [...] it's always a bit of what if I ask for help and the answer they give was the next thing that stood on my list?"* Also, as previously explained some said that consulting colleagues from other teams was not always necessary as most knowledge was present within the team itself and team members could solve problems and answer questions.

4.2.6. Social culture

This condition was an important factor for learning by **reflection** and **social interaction,** which are inseparable learning activities. The social culture at Company X is very informal and people are very willing to help others in their learning and make time to answer questions. Some participants described that although they mostly have much work to do themselves, they will always help when someone comes with a question. One participant explains that it does not matter if you are a junior or senior, everyone can help and learn from one another. Nevertheless, only one participant explicitly described how he or she experienced the culture at Company X: *"P06: I think in terms of learning process, everyone grants each other to learn, and everyone just helps each other to continue. Researcher: What do you mean by that? P06: Everyone... If you have a problem you can just ask someone, who will help. Sure, it occasionally is like 'I*

don't have time now because I have to finish this before two 'o clock'. And you understand that too. I have also had companies where they say yes, look it up, somewhere in the documentation, you will be turned away and that is not done here."

Some participants describe the culture at Company X as being very kind to one another. However, this also has consequences for the quality of the interaction. Three participants said that at Company X people are befriended and kind to each other, which makes it more difficult to give feedback: *"P19: I do have the feeling... and I don't know if that is necessarily true, but what I sometimes taste a little bit at [Company X] is that cosines and friendship is placed a high value upon. Which makes it sometimes a bit difficult or something to dare to say each other what you really think. [...] I think that we [as a team] do that better, but like I said, I cannot say a 100% sure that it is that way. But well we like each other just as much, and we can say each other like it is."* On the other hand, one participant explained that it is also important that you experience a fit with your team and feel safe to ask questions and feedback. Furthermore, participants also explain that some people are more reflective while others experience more difficulty to speak about their own performance, show some resistance in receiving feedback (are easily hurt), and also giving feedback.

In addition, some participants explain that they would rather receive more feedback from colleagues during work, than at moments of reflection because the context disappears and the feedback might lose its relevance. This participant illustrates that daring to give feedback creates opportunities for personal development: *"P11: People in [Company X] may sometimes give more feedback to each other if something is not nice, or something is not right then you just have to say that. I would appreciate it if someone comes to me and says '[own name] asshole listen; I don't like it.' Well that is not pleasant, but it is fair and then I learn from that."* Participants also seem to differ in the degree to which they would prefer organised moments for feedback in which there is explicit room for positive feedback. One participant who is convinced that organised feedback moments are valuable, also assumes 'no news, good news': *"P07: If you don't do it, apparently everything is okay or something, that's a bit how I am. If you don't complain, it apparently is fine."* While someone else explains why he prefers to receive feedback at an organised moment: *"P19: But I think that is very pleasant to do that in such a setting then you also have the chance to tell others that you didn't like it. Now, you are less likely to do that, the threshold is higher."*

4.2.7. Communication about the training budget

The communication about the training budget was a hindering factor for **off-the-job learning**. At Company X employees have a personal budget for learning that they can spent on formal learning activities such as (online) courses, conferences or books. One of the participants that has made use of the budget is positive about its availability: *"P18: I think that the budget for training is also important, so it's nice that they have that at [Company X]."* However, it also seems that there are a lot of questions regarding the personal budget: *"P13: Just like I say, there is not a very clear policy. I think if you ask the average [Company X] employee 'imagine you want to do a training; how does that work?' I think people don't have the faintest notion. [...] That there is a clear policy that people are also encouraged from within the organisation. That it also becomes more of a learning organisation, I just miss that a bit."*

4.2.8. Questions about responsibility

Another factor that emerged often (43 comments) in the interviews was what we labelled 'questions about responsibility'. While this is not a factor related to one of the five learning activities, we consider it to be an important topic that needs discussing. Central to this theme is that participants differed in how they experienced the vision on learning at Company X. The following section gives an idea of current questions regarding the topic.

Individual differences. Participants explained that at Company X you are responsible for your own learning. While some participants explained that they can direct their own learning, others experienced more difficulty doing this. To illustrate this, this participant explains: *"P17: When you are new to [Company X] then your terms of employment state that learning is very important and that growth and development are almost at the top. Yeah, nice! […] That's what I'm always in favour of. And then you come in and then that is often what is said, but if you look at what that means in practice... the ball is always in the court of the individual or the teams. [...] Personally, I don't think that is wrong. From the organisation point of view, it is not smart. Personally, I can take care of myself. [...] But if you are not like that, you have a chance you lose the good people, and you are left behind with the people that don't necessarily make a big difference. And that they don't develop themselves either. Researcher: Who's responsibility is that do you think? P17: Yes, they put that on teams now, and at the moment a team does not organise that itself, nothing happens."* Overall, being responsible for your own learning is easier for one person than the other and may be more difficult for introvert persons for example. Also, individuals differed in their motivation to learn. While some participants were very motivated and even invested time in learning at home, some participants also honestly acknowledged that they had been more ambitious in their own development in the past.

Stimulating learning. Participants differed in their opinion about who should take responsibility in stimulating personal learning and development. Some participants argue that people need to be stimulated and motivated (by others) to challenge and develop themselves. However, it also seems that it is unclear who should take this responsibility. Should Company X as an organisation do something, is it your own responsibility, should there be someone in the team to safeguard and stimulate learning? This quote illustrates this subject: *"P11: I think there must be someone every now and then, there are plenty of people you can get more out of, and also in terms of training and opportunities, only you have to trigger those people, motivate them to do that training, to do better, because some don't pick it up themselves. And then you can say 'missed opportunity you have to do it yourself', some people just need that, yes. [...] But then I wonder, is that someone who has to be in the team, or is that someone within [Company X] who should be there for that?"*

Taking responsibility. Other participants explain that it is also important to take responsibility for your personal development (also in busy times): *"P06: Because at your job you want to make sure you can do your work, because that of course also has to happen. We are not here to learn continuously. [...] But we of course also must just take time for self-study. I think it is important that you pick that up yourself."* Furthermore, another participant acknowledges the responsibility you can take as a team member to stimulate learning within the team: *"P14: How easy is it to say to a colleague 'hey, you have not done any training this year, maybe this is something you can do something with'. Because yes, those trainings are*

there for a reason." Some participants mentioned that sometimes people do not take responsibility to realise their learning goals, or that the daily job causes learning goals to move towards the background. In addition, everyone spoke positively about learning initiatives such as innovation team days, the workshops, etc., however only a couple of participants talked about having taken actual initiative. Overall, I could not really get grip on the factors hindering initiative taking.

Leadership/the HR role. Participants also had questions about who should be the driving force for learning within the teams. In the teams, some people with affinity for HR and learning related responsibilities take on these tasks. People have to give substance to this role themselves, which is easier for participants with affinity for this subject but that does not account for everyone: *"P17: The moment you just give that [the HR role] to someone and 'you do HR, good luck.' How is he supposed to do that? You also don't ask [the HR manager] 'go and program something'. That fits one more than the other."* One participant had taken the time and a training to give the role substance. One participant also questioned him or herself to what extent the team lead or HR responsible should support team members in actively managing their learning processes if they fail or find it difficult to do so themselves: *"P13: Is that my responsibility as a team lead? Do I have to do that? Or is that just your own responsibility or is that the responsibility of HR. Should they guide or encourage people in this? Yes, that is not clear. Yes, then you will soon get that it will linger a bit and that eventually too little happens."*

Let go or control? To sum up, the overall question within self-managing teams seems to be how and by whom individual learning and development should be stimulated. On the one hand you want employees to take initiative to for instance organise learning activities or work at another team for a while, however employees should develop a sense of self-directedness in their learning to do so. The following participant describes this tension and explains that good examples can stimulate people to consider learning options they had not thought of: *"Researcher: From whom should a transition [to another team] come from? P16: Preferably from the people themselves, that is what you want to achieve. It feels a bit weird, otherwise you really become a manager who will point out things, you will do this and you will do that. I think that when people see that there is a possibility that they automatically consult with oneself and think and 'yes, that I would like to, and I see that something can be gained or learned there'."*

CHAPTER 5 DISCUSSION

This study had two goals. First, to increase our understanding of how individual learning takes place in self-managing teams by investigating the learning activities individuals undertake. Second, to understand what factors enable or hinder the occurrence of these learning activities in self-managing teams. The outcomes of this study and the implications for theory will be discussed in the following paragraphs. Additionally, the practical implications as well as the methodological strengths and weaknesses will be discussed.

5.1 Goal 1 – understanding what activities employees in self-managing teams undertake to learn

The first aim of this study was to understand what learning activities individuals in self-managing teams undertake to learn. In this study five types of learning activities were found, learning by: doing one's regular job; applying something new in the job; social interaction; reflection; and off-the-job learning. First, individuals learned from *doing one's regular job* by making hours, learning from successes and mistakes, and getting responsibility over projects. Although everybody can experience this way of learning, this learning activity was least described by employees. This is a logical finding because this type of learning is largely invisible and not always regarded as learning by people (Eraut, 2004).

Second, regarding *learning by applying something new in the job* it was found that individuals are highly motivated themselves to work with new technologies and frequently implement something new in their job. This finding can be seen as characteristic for the context of this study as these individuals work in a team that is characterised by its knowledge intensive context. Due to the speed of technological developments, knowledge quickly becomes outdated which stresses the importance of being able to learn new things quickly (Esbroeck & Pepermans, 2003). Furthermore, new organisational structures such as the implementation of self-managing teams comes with fever hierarchical levels (Esbroeck & Pepermans, 2003; Morgeson, 2005) The results of this study suggest that an implication of self-management can be that individuals have greater opportunities to develop themselves professionally by taking on a new role (e.g., team lead or HR responsible) or moving to another team, rather than making promotion in terms of hierarchy or status. While participants frequently mentioned to take on new roles or new tasks, moving to another team (temporarily) was not often undertaken as a learning activity. For organisations working with self-managing teams it is important that employees perceive enough learning and mobility opportunities as this has been shown to be a predictor for employees' self-directedness in their learning (Verscheijden, 2017). Future research should investigate the impact flatter organisations on employees' perception of growth potential and motivation to learn and develop themselves.

Third, *learning by social interaction* was a category that was most frequently discussed by participants. Participants mentioned to put a lot of effort in helping others in their learning by coaching and answering questions. Less often employees organised internal activities such as workshops to share their own expertise and new experiences with the rest of the company. Furthermore, collaborating on projects, observing colleagues doing their job, and doing code reviews were fruitful ways to learn. However, the latter was not done by default in all teams. Lastly, less often employees consulted people from other teams to help them in their job.

Overall, working in self-managing software development team stimulates learning such that cooperating on projects with team members and receiving and providing help are important sources for learning (Tjepkema, 2011). At the same time this seems to hinder individual learning from interactions with colleagues from outside the team.

Fourth, teams differed in how they organised learning activities around *reflection*. To start with, not all teams had an alternative in place to the performance appraisals as only one team mentioned to have recently organised personal feedback meetings. Opinions differed about the need and usefulness of such meetings since employees argued that it was sometimes difficult to generate action points from these meetings and take action to do a follow-up. Also, the concept of a retrospective was seen as important but were sometimes not done at all, or not very frequently. This challenge of being able to come up with concrete actions and also regularly coming back to it was also found in previous research in software development teams (McHugh, Conboy, & Lang, 2014). Regarding team stand-ups, team had adapted the details and frequency of the practice such that it fitted their needs. Furthermore, not every craftsmanship had meetings to share experiences or trends. However, all participants were enthusiastic and argued that it would be good to resume doing. Lastly, employees also learned *off-the-job*. Learning through hobby projects at home was the most important way of off-the-job learning for employees in this study. In contrast, learning by participating in formal training, conferences or meet-ups was not frequently mentioned.

Overall, the activities that individuals (and teams) engaged in to learn differed per person and per team. The five learning activities found in this study were greatly in line with research of Berings et al. (2008) who in their research already expected their categorisation to be generalizable to a broader context than nursing. An explanation for the overlap may be the resemblance between the context of health care and software development which are both continuously changing, causing a need for employees to adapt to new work conditions by engaging in similar learning activities (Berings et al., 2008). Although the naming of the categories showed great overlap with the study amongst nurses, the interpretation of the activities sometimes differed (also see 3.6.1.). This might be due to the context of software development. For example, this study showed that learning by applying new things in the job in the dynamic and complex context of software development is much more involved with being innovative than in the health care context. In this context, employees must continuously challenge themselves to take on new roles and tasks, be innovative, and keep up with trends as this is crucial for an organisation's success. Furthermore, learning through a hobby at home was found to be a rich source of learning for the specific context of software development.

5.2 Goal 2 – understanding the factors that enable or hinder learning in self-managing teams

The second aim of this study was to gain understanding into the factors that hinder or enable learning in self-managing teams. Insight into these conditions will yield starting points on how to further strengthen enabling factors and improve or remove hindering factors in learning. In this study we found two or three conditions hindering or enabling the occurrence per learning activities. Firstly, the *nature of work* was the most important stimulator for learning by doing one's regular job. Working on a variety of projects or working at new projects (instead of

maintaining) was a motivational factor for employees to learn. At the same time working on similar projects, and further improving what was developed, was also beneficial for learning as it allowed employees to master what they had previously learned and become more efficient. This is in line with research that found that too much variety can impede learning, a good balance between specialisation and exposure to variety is preferred (Narayanan, Balasubramanian, & Swaminathan, 2009).

Second, this study showed that *latitude* and *workload* were the most important conditions regarding learning by applying something new in the job. For employees of self-managing teams in the knowledge intensive context of software development it is especially important to have the freedom to experiment with new technologies, but also experiment through taking on new tasks or roles. Having the autonomy to decide in what new technologies to invest was motivating for learning as it enabled employees to invest time in something they were interested in. While applying new technologies or designs directly in a project for a customer enhanced learning, it can also cost a lot of time and money if someone does not master the technology yet. Furthermore, times with less workload enabled teams to take time for learning something new. However, in general workload was always high which meant that taking time for new things was mostly not coming off. Instead most experimenting was done by employees in their spare time by means of hobby projects.

Third, regarding learning by social interaction with colleagues, the *way of working* and *team composition* greatly determined if and how learning from colleagues took place. To begin with, teams worked on multiple projects for various customers which made knowledge sharing and feedback giving within the team more difficult. Since you are not working with everyone on the same team, learning from each other's feedback might be more relevant for the team members you actually work with. Second, team composition was a great stimulator for learning as employees mentioned to learn about their own craftsmanship from working together will colleagues from diverse backgrounds. However, as a consequence of working in multidisciplinary teams, employees sometimes missed a more experienced other from the same craftsmanship in the team to learn from.

Fourth, the *way of working* also determined how reflection was organised in teams. Since teams had multiple smaller projects to work on this hindered the engagement in reflection activities such as retrospectives and stand-ups. Because of the absence of task interdependences between all team members, these practices were less efficient and costly to engage in with the whole team. As a result, practices were done with the smaller sub-project teams and less frequently which reduced the opportunities for learning from each other's feedback. Furthermore, high *workload* also hindered reflection not all teams took the time to engage in reflection meetings during and after projects. This finding is in line with previous research in the context of software development which showed that practices related to reflection are often abandoned as teams perform under continuous pressure to deliver value for the customer (Babb et al., 2014). In addition, the informal *social culture* enabled learning as employees were very willing and approachable to help each other in their learning. On the other hand, the informal and friendly atmosphere seemed a hindering factor in giving critical feedback. Fifth, *communication about the training budget* seemed to hinder off-the-job learning for employees in self-managing teams. While the employees that did make use of the training budget

experienced it to be a stimulator for learning, employees that had not made use of it argued that there was no clear communication about the budget.

Lastly, *questions about responsibility* had an impact on learning in general in self-managing teams. Working in a self-managing team which is partly responsible for learning and development of its members might be a pitfall for employees that are unable to self-direct their learning. Furthermore, employees of self-managing teams had questions about who was responsible for issues regarding learning and development. As a lack of this clarity, vigour to actually engage in learning activities sometimes stayed behind. Interestingly, in contrast to the study of Tjepkema (2003) on self-managing teams, the role of the team leader was not a frequently mentioned factor that facilitated and stimulated learning in self-managing teams in this study. While the employees that were team leaders or HR responsible did talk about how they gave substance to this role, other team members did not bring up this topic during the interviews of how they experienced how their team lead or HR responsible stimulated and organised learning within the team. Future research should delve into how a team leader and HR responsible in self-managing teams perceive their role, and the perceptions of the team members on their role.

Overall, this study provided new insights into the everyday challenges that self-managing teams face regarding learning and development. Multiple factors were found to influence learning in self-managing teams, each in its own way. However, it is questionable to what extent all of these factors are specific for self-managing software development teams. For example, the conditions of nature of work, workload, team composition, and culture were also found in research of Tjepkema (2003) amongst three self-managing teams of which only one was a software development team. The conditions of way of working, latitude, communication about training budget, and questions about responsibility were new in this study. However, one can only guess if these conditions are specific for self-management, software development, or the case study company. Future research could investigate how commitment to individual learning and development differs among varied organisational settings (e.g. self-managing teams versus traditional teams) or contexts (e.g. in healthcare, high-tech, or governmental organisations) (Ellinger, 2004).

5.3 Theoretical implications and directions for future research

In this study, the main theoretical aim was to understand the implications of self-management for individual learning and development in the context of software development. Furthermore, the aim was to gain insight into the daily challenges that employees of contemporary teams encounter when it comes to their own learning and that of their team members. A relevant implication of this study is that being self-managing can cause ambiguity as this study showed that members of self-managing teams have questions about their responsibilities regarding learning. From this study we know that questions about facilitating and stimulating individual learning and development are highly complex to understand, let alone solve them. Especially because in a self-managing context, managers and HR(D) professionals must continuously shift between steering on responsibility and giving employees space, letting go (Kengen & Jagtman, 2010). How can you further enhance individual learning, without steering individuals too much but rather by helping them develop their self-directedness for learning? It seems paradoxical, but Bos-Nehles (2018) argues that self-managing teams just needs a sort of leader or manager

that supports and coaches teams in being self-managing. This also seems true when it comes to individual learning and development, team members need each other and (HR) managers that support them in their individual growth.

Furthermore, this study showed that employees differ in the learning activities they engage in and in the degree to which they can self-direct their own learning. Especially in the software development field, which is dominated by introverts (Capretz, 2003), future research should investigate the experiences and challenges employees encounter with regard to learning in a self-managing environment. Is a self-managing working context beneficial for everyone's personal growth? And how does this differ for individuals? And more importantly; what can organisations do to facilitate and support all employees in their learning and development to make sure their talent is fully used and retained within the company? This is especially important because organisations will need self-directed employees to cope with the increasingly complex context in which they operate.

While this study did provide insights into the conditions that enabled or hindered learning, not all conditions are necessarily related to self-management (e.g. difficulties with managing work load and taking time for learning and experimentation). However, trying to categorise teams, or study 'types' of teams, can limit our understanding as we simply cannot assume that all teams are similar (Tannenbaum et al., 2012). Furthermore, the word 'self-managing' by some is argued to be one of the biggest "air balloons", a hollow concept, in HR(D) (Cocquyt, 2018). Rather Cocquyt (2018) believes 'self-management' should be replaced with "we are going to get the best out of our people by steering them well, coaching and serving them as we should", as that is what it really is about. The same is true for 'agile' working, which was the initial focus of this study. As every organisation implements agile working in its own way, Bouma (2018) argues that it is useless to give it a name since it is cannot be seen as a universal concept. The need in scientific research to frame and categorise 'what' is being researched (the nature of the teams for this study) was a major obstacle in this study. This was also why these concepts were set aside during the interviews. Future research should therefore study teams by their characteristics instead of one team type (Wildman et al., 2012). Research should not cling to concepts that might be theoretically well defined but have no meaning in practice: it is what it is, teams are what they are. Reality cannot be isolated into elements to be studied, which is done in classical science, rather interrelations should also be taken into account (Decuyper, Dochy, & Van Den Bossche, 2010). Therefore, further research would benefit from taking a 'complexity' or 'systems theory' approach to develop an in-depth understanding of individual learning and development in contemporary organisations.

5.4 Practical implications

The practical aim was to gain understanding of, and provide starting points for HR(D) professionals on, how to further facilitate and stimulate individual learning and development in self-managing software development teams. Practical implications are discussed for each of the five learning activities and learning in general in the following paragraphs. These practical implications may not be generalizable to self-managing teams in other companies, since they are specific for the case study company. Instead they could be an inspiration for other HR(D) professionals. In developing interventions for learning you will never benefit from looking for a model that fits all, which intervention is successful differs per workplace and the people in it

(Alten & Rondeel, 2018). Instead HR(D) professionals in other organisations with self-managing teams will benefit from engaging in conversations with employees about topics regarding learning and jointly look for approaches (Alten & Rondeel, 2018).

Learning by doing one's regular job. In the case of the developers, employees can be stimulated to become more successful in their learning by steering on doing code reviews at multiple moments throughout the development. In this way employees can enhance their reflection-in-action skills and move away from a more trial and error mode of learning (Edwards, 2004). Employees can also be supported in finding colleagues outside of the team to review their code. Furthermore, awareness of learning can be enhanced by asking each other a couple of times a day or week what you have learned (Alten & Rondeel, 2018). Awareness into daily learning opportunities can further stimulate learning by doing one's job. Lastly, for junior employees it is important that team members continue to provide them with responsibilities over a project from the start of their employment as this will stimulate their learning.

Learning by applying something new in the job. To further stimulate this way of learning, workload must be reduced or bypassed, and there must be enough latitude for learning. Since reducing workload is difficult, employees can be facilitated in experimenting by reserving time for this learning. If employees get more time to read about new trends and try something new at work, they will likely be inspired to continue working on it at home. Also, HR(D) could stimulate teams to organise the team days for innovation, since these moments are perfect for experimenting without it having consequences for clients or going over the budget of a current project. Such initiatives are an effective way for employees to learn about new trends, but also about what other teams have recently gained experience on and knowledge about. Knowing who knows what will likely reduce the threshold for employees to consult colleagues from other teams. Furthermore, good examples of employees that take initiative to share their knowledge (e.g., organising workshops) or to develop themselves (e.g. working at another team) could be given a stage. Such employees could be asked to share their experiences and success stories with the rest of the organisation by using internal communication channels (e.g. a blog or meeting). This will increase the awareness of possibilities for learning which might in turn stimulate further initiative taking within the organisation.

Learning by social interaction with colleagues. To begin with, HR(D) professionals should facilitate interactions to lower the employees' threshold to ask help from colleagues outside the team. Peers or employees differing in seniority that can be of significance to each other's development could for example be connected to each other to form some sort of mentoring relationship. For employees such a mentoring relationship can be very important for one's personal growth through which employees can further develop their self-directedness for learning (Galbraith, 2003). Also, more senior employees can be stimulated to actively offer their own help to more junior colleagues within the organisation. Furthermore, stimulating employees, especially the more senior ones who are the 'wisest' of their team, to keep developing themselves can be done by emphasising the opportunities of developing contacts outside the team or organisation. Such new contacts can provide resources and support in their learning (Confessore & Kops, 1998). This could of course be stimulated for all employees regardless of their seniority.

Learning by reflection. While members of self-managing teams at the case study company did value retrospectives, not all teams engaged in these meetings frequently enough

(or not at all). Teams could benefit from receiving support in how to organise reflection meetings more frequently and how to have meetings that are more qualitative. Providing employees with one or two fixed hours per week for project reflection and personal reflection would be an idea. Furthermore, HR(D) professionals can coach teams in holding retrospectives in which action points are generated and follow-up is done. Another idea would be to use various reflection techniques to keep meetings fresh, and avoid meetings to become dull and routine (Lamoreux, 2005). HR(D) professionals could provide teams with a set of techniques for reflection, or coach teams in developing one. It is also important to keep highlighting the importance of reflection for the organisation and employees to ensure they are not forgotten. Furthermore, this study showed that giving critical feedback was sometimes difficult and not all teams took the time to organise personal feedback sessions. Therefore, teams might benefit from being supported in improving individual skills in giving and receiving feedback through for instance team coaching or workshops. Also teams can be encouraged to give each other feedback, especially positive feedback (Stray, Moe, & Dingsyr, 2011). Such interventions may lower the threshold to give each other feedback. Furthermore, HR(D) professionals at Company X could stimulate or facilitate craftsmanship meetings to be initiated and organised.

Off-the-job learning. To stimulate individuals to participate in formal learning, organisations working with self-managing teams will benefit from clear communication about the policy regarding participation in training, conferences, etc. HR(D) professionals could for example choose to remind employees a couple of times per year about the availability of training budgets or options. Also, for new employees to the organisation, information about the training budget can be made part of the socialisation process. Furthermore, this study showed that employees of innovative self-managing teams frequently learned through working on hobby projects at home. Working at projects unrelated to work could also be facilitated by the organisation through providing employees with time for such initiatives at work. This could be done by for instance organising hackathon days at which employees work at innovative ideas for a day. In this way, learning can be safeguarded by 'detaching' learning from the daily tasks for a day which enables employees to experiment and preventing employees from feeling the pressure to work for customers.

Learning in general. Since employees at the case study company differed in their ability to direct and initiate their own learning, HR(D) professionals must recognise these individual differences and support employees in developing the necessary skills to direct their own learning (Confessore & Kops, 1998). This can also be done by training team leaders or team HR representatives on how to support team members in their learning. They could for example support team members through formulating learning goals and making agreements about learning activities together (Tjepkema, 2003). While this does happen at the case study company to some degree, this role does not fit everyone naturally so individuals might benefit from being coached in giving the role substance. Furthermore, working in a self-managing team resulted in a lot of questions about who has the responsibility for learning and development of employees. It is essential that HR(D) and employees at the case study company start the conversation and make explicit what they expect of each other regarding learning. Having clarity about what HR and management expects from its employees, and what employees expect in turn will generate more self-organisation of teams regarding learning and development. Also teams itself should frequently enter into dialogue to gain clarity and

alignment in expectations within the team about the roles of team lead and HR representative. Roles have impact on interactions, if a role is solely used as a tool for task division this will likely reduce the need to interact about what behaviour people expect of each other (Schrage, 1995; as cited in Bengtsson, 2004). HR(D) professionals could design an intervention, such as a board game, to facilitate such conversations within teams.

5.5 Methodological strengths and weaknesses

A major strength of this study is that it has made a first attempt to fill the research gap of individual learning in self-managing teams in the context of software development. Previous research has mainly focused on team learning (e.g., Moe, 2013) or inter-team learning (e.g., Chau & Maurer, 2004; Santos, Goldman, & De Souza, 2015), rather than individual learning. While this study has resulted in ideas on how to further stimulate and facilitate individual learning in self-managing teams, actual interventions remain absent. Future research should therefore invest in developing interventions to stimulate the occurrence of each of the five learning activities. However, the applicability for interventions is different per organisation, and even per team. This was one of the reasons why it was difficult to develop an intervention at the case study company, since all teams differed in their way of working and how they engaged in learning.

Also, several limitations are worth discussing. First, the emerging nature of the research design had some limitations. Because participants were allowed to talk about the subjects they concerned of importance with regard to learning, the content of the interviews showed great variation. It is therefore important to consider that participants possibly would have liked to say something about a topic but have not because it did not come up during the interview. This made it more difficult to quantify the data and make meaningful statements about the actual occurrence of certain learning activities or conditions. Another limitation was that the gathered interview data showed high variation in contents which made the development of a code book highly difficult. As a result, no interrater reliability was calculated but the codebook was validated through conversations with other researchers. Instead, the discussion session with employees on statements about learning serves as a kind of validation. A recommendation for future case study research would be to further validate the quality of the interviews or gather additional information through triangulation. Future research on learning in self-managing teams will benefit from collecting data at different points in time, different organisations, or using different methods (e.g., surveys, observation, documentation, interventions, etc.) (Meijer, Verloop, & Beijaard, 2002, as cited in Diefenbach, 2009).

Furthermore, it appeared that verbalising thoughts on personal development and the enabling or hindering factors for learning was sometimes difficult for participants. An explanation might be that because participants were part of the context themselves, and for some Company X was their only frame of reference, answering questions about how their work environment influenced learning was rather difficult. Also, not all participants were that willing or able to talk about their personal development. An explanation might be that informal learning is largely invisible and mostly taken for granted which requires a certain degree of personal reflection and awareness to be able to talk about your own learning (Eraut, 2004). Furthermore, a lot of participants equated learning to formal education and training or knowledge sharing

between teams which sometimes hindered the evolvement of a valuable conversation (Eraut, 2004). An idea for future research would be to ask indirect questions about learning (e.g., "What are things you have done different over the past year?" or "What supported you in this learning") rather than asking about learning directly (e.g., "What did you learn from?") (Berings & Doornbos, 2011). However, this requires well-developed interview skills of the researcher to ask proper follow-up questions and avoid getting entangled in factual stories about learning.

CHAPTER 6 CONCLUSION

This study provided new insights into individual learning and development in self-managing teams in the context of software development. It showed *what activities* individuals in self-managing teams engage in to learn and *what conditions* were stimulators or inhibitors for the individual or team engagement in the five types of learning activities. Results of this study indicated that individuals frequently mentioned to take on new roles or tasks, implement new technologies, help others in their learning and develop themselves at home through hobby projects. Less often individuals participated in formal trainings or conferences, organised feedback sessions, consulted colleagues from other teams, or worked temporarily at or together with other teams. Furthermore, several conditions for learning were found to positively or negatively influence learning of members in self-managing teams, each in its own way. These conditions can be influenced by HR(D) professionals to further stimulate and facilitate individual learning and development in self-managing teams in software development. This study indicates that the absence of clarity about responsibilities for learning might be implication of self-management. As employees of self-managing teams assume greater responsibility for their own learning, management and HR(D) professionals are continuously challenged with shifting between steering on taking responsibility and giving employees space for their learning and growth. At the same time, working in a self-managing work environment may be beneficial for employees that can self-direct their own learning, but might be a pitfall for employees that experience more difficulties in doing so. However, future research should investigate to what extent the conditions found in this study are specific for a self-managing way of working, or the context of software development. Overall, this study resulted in meaningful theoretical insights of the implications of self-management for learning. Furthermore, this study resulted in practical implications of how HR(D) professionals can further stimulate and facilitate individual learning and development in self-managing teams.

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Appendix A – Interview questions (Dutch)

Introductie
Bedankt dat je wilt meewerken aan het interview. Ik doe dit onderzoek in het kader van mijn Master Corporate Communicatie. Doel van het onderzoek is om te begrijpen hoe medewerkers in teams bij 'Bedrijf X' zichzelf ontwikkelen op persoonlijk en professioneel vlak. In dit interview zullen we het hebben over jouw eigen ontwikkeling en hoe jouw team en andere collega's hierin een rol spelen. Maar ook over hoe jij een rol speelt in de ontwikkeling van anderen.

Naar schatting zal het interview een uur duren. In dit interview ben ik benieuwd naar jouw eigen ervaring en mening. Ik wil je vragen om zo eerlijk mogelijk te antwoorden. Je antwoorden kunnen dan ook niet goed of fout zijn. Ik zal het gesprek opnemen zodat ik het later kan uitwerken en analyseren. De uitwerkingen van dit interview zullen gebruikt worden in mijn scriptie maar ik zal deze zo verwerken dat het niet tot een persoon te herleiden is. Verder behoud je het recht om op elk moment te stoppen wanneer je niet verder wilt gaan met het interview. Ga je hiermee akkoord?

Algemene informatie nodig van participant:

1. Leeftijd:
2. Hoe lang al in dit team:
3. Hoe lang werkzaam bij 'Bedrijf X':
4. Totaal aantal jaar werkervaring:
5. Junior/medior/senior:
6. Vakmanschap:

Topic 1: werk bij 'Bedrijf X'

1. Kan je beschrijven wat jouw werk in het team inhoudt?
2. Wat is jouw rol in het team? Wat betekent jouw aanwezigheid voor het team?
3. Hoe lang werk je al bij 'Bedrijf X'? Heb je altijd al in dit team gezeten?

Topic 2: persoonlijke ontwikkeling en groei (JIJ)

1. Wat zijn manieren voor jou om jezelf te blijven ontwikkelen/te blijven groeien?
2. Wat denk je dat 'Bedrijf X' verwacht als het gaat om persoonlijke ontwikkeling?

a. Wat verwacht jij van 'Bedrijf X'?

Topic 3: persoonlijke ontwikkeling in team (TEAM)

1. Hoe zijn jullie als team bezig met leren/elkaars ontwikkeling? Of: Hoe leer jij van je teamgenoten?
    a. Hoe wordt kennis en ervaring gedeeld binnen het team?
2. Welke inspanningen doe jij zelf om team genoten te stimuleren en ondersteunen om te leren/te groeien?
3. **Multidisciplinair**. Wat leer je van mensen uit andere disciplines? Hoe draagt multidisciplinair bij aan je eigen en de team ontwikkeling?

4. **Projectaanpak**. Hoe wordt er tijdens projecten van elkaar geleerd?
    a. Welke rituelen zetten jullie daarvoor in? Waarom wel niet?
    b. Wat vind je daarvan?
    c. Wat is prettig aan die manier van werken?
5. Hoe wordt er feedback gegeven/gereflecteerd in het team?
    a. Project inhoudelijk
    b. Persoonlijk
6. **Zelfsturing**. Als ik het goed begrepen heb, heb je als team ook een stukje verantwoordelijkheid over HR. Hoe wordt dat bij jullie opgepakt?
7. Welke practices zou jij andere teams aanraden om je team zich beter te laten ontwikkelen?

Topic 4: persoonlijke ontwikkeling en andere teams (INTER-TEAM)

1. Als je buiten je team kijkt? In hoeverre heb je contact met mensen van jouw vakmanschap buiten je eigen team? Hoe verloopt dat contact dan (formeel of informeel)?

Topic 5: support van collega's in eigen ontwikkeling

1. Ik ben benieuwd naar de ontwikkeling die jij doormaakt binnen 'Bedrijf X', als je kijkt van hoe je hier binnenkwam tot nu. Zou je kunnen vertellen wat het belangrijkste is wat je hier bij 'Bedrijf X' hebt geleerd? Is er een situatie die erg belangrijk is geweest?
2. Als je nadenkt over jouw professionele ontwikkeling, wie van de mensen die nu bij 'Bedrijf X' werken, of hebben gewerkt, zijn of waren belangrijk hierin?
    a. Participant schrijft namen op memo's (geel = binnen team, roze = buiten team) en wordt gevraagd deze in een cirkel te plakken en te ordenen op belangrijkheid. De mensen die het meest belangrijk zijn komen in de binnenste cirkel, minst in de buitenste.
3. Onderzoeker loopt personen langs. Waarom heb je deze persoon opgeschreven?
    a. Hoe is deze persoon belangrijk geweest voor jouw professionele ontwikkeling? Kun je een voorbeeld noemen hoe deze persoon jou geholpen heeft? Wat heb je geleerd?
4. Hoe past de rest van je team hierin (die niet opgeschreven zijn)?
5. Wie is een voorbeeld voor jou?

Topic 6: anderen helpen in hun ontwikkeling

1. Wie probeer jij op jouw beurt te helpen? Kun je een voorbeeld noemen hoe je deze persoon geholpen hebt?

Afsluiting

1. Tot slot, als je kijkt naar de aandacht voor leren en persoonlijke ontwikkeling binnen jullie team of 'Bedrijf X', wat zijn nog kansen/dingen die goed gaan?
2. Bedanken voor gesprek, vragen/aanvullende opmerkingen?

Appendix B – Statements about learning (Dutch)

1. Als ik graag wil experimenteren kan ik daar zelf de tijd voor inruimen.
2. Elke drie jaar zou iedereen van team moeten wisselen.
3. Ik krijg regelmatig feedback van mijn teamleden op mijn functioneren. En wij komen daar ook regelmatig op terug.
4. In mijn team lukt het ons/weten we hoe we een kwalitatief goede reflectiebijeenkomst kunnen houden.
5. Mijn team is op de hoogte van mijn leerdoelen en ambities.
6. Wij bespreken elk jaar binnen het team wat we met ons persoonlijke opleidingsbudget van €1250 p.p. gaan doen.
7. Als team hebben wij hulp van buiten het team nodig bij vraagstukken omtrent leren (denk aan reflectie, feedback geven, leerdoelen opstellen, etc.).
8. Bij ‘Bedrijf X’ worden er genoeg initiatieven genomen om van elkaar te leren.