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Supporting self-directed learning

A systematic review and interview study of organisational challenges in supporting Self-directed learning

by

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Abstract

This study examines what challenges organisations might face when supporting their employees in self-directed learning. Self-directed learning, SDL, is a learning process where learners are responsible for identifying their learning needs, setting learning goals, initiating the learning process and evaluating the results. Previous research has shown the benefits of having self-directed learners as employees. It has also examined how individual characteristics and prior experiences affect the use of self-directed learning. This thesis focuses on the organisational context and challenges that might occur when supporting the use of SDL. The study used a two-fold approach where challenges were first identified through a systematic review of empirical data from 2010 to 2022. Identified challenges were later checked against Learning and Development practitioners to examine if they experienced them and, if so, how they addressed the challenges. The results were analysed and compared to find overlaps and contradictions between the literature findings and the experiences of practitioners. The results suggest that all challenges and their proposed solutions are highly interconnected and that managers play an essential role in enabling SDL for employees. The practical implications this can have for organisational learning are discussed. Future research should be done on a more extensive sample and more diverse organisations to further examine the organisational challenges and ways to manage SDL for employees.

Keywords: self-directed learning, organisational learning, learning and development, organisational challenges, organisational support, learning motivation, SDL

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1. Introduction

The ability to adapt and learn efficiently is becoming increasingly essential for organisations (Morris, 2019b). Today's employees play a significant role in sustainable organisational development, and they are constantly required to be aware of the organisation's desired future, adapt their learning needs, take the initiative to develop new capabilities, and learn effectively (Hashim, 2008; Rana, Ardichvili & Polesello, 2016). Self-directed learning (SDL) has been a noteworthy concept for effective adult learning and development and sustaining competitiveness in the 21st century (Boyer et al., 2014b; Ellinger, 2004; Stubbé & Theunissen, 2008).

SDL was introduced in the literature in the 1960s. However, the concept has developed remarkably since then (Garrison, 1997; Guglielmino, 2008; Hiemstra and Judd, 1978). Although there are multiple authors describing SDL in the current literature, the most well-known description was done by (Knowles, 1975). He describes SDL as a learning process in which each individual is responsible for identifying their learning needs, setting learning goals and initiating learning. The SDL concept requires building strategies, deciding and implementing the learning process, and evaluating the results (Knowles, 1975). Hence, self-directed learning can be defined as an independent act and self-management in learning. Self-directed learning skills are fundamental in adult learning, and they are also essential for effectively putting the learned information into practice (Manz and Manz, 1991). When performing SDL, learners need to take charge of their goal settings, and they have to be capable and motivated to solve problems and exhibit constant improvement in the process (Hutasuhut, Ahmad & Jonathan, 2021).

Self-directed learning has multiple dimensions and three dimensions usually emphasised are the process of learning, personality characteristics of the learner, and contextual elements that affect and influence the learner's probability of performing SDL (Sawatsky et al., 2017; Beckers et al., 2016). Morris (2019) and Garrison (1997) argue that the fourth dimension should be considered. This dimension focuses on the cognitive aspect of SDL, i.e. how knowledge is constructed during learning. Hence, SDL's success depends on many factors, including the learners' skills to the environment in which the learning happens (Sawatsky et al., 2017; Beckers et al., 2016; Dapko & Snyder, 2021; Pearce, 2019).

Even though most adults are considered self-directed in nature, the capacity to perform SDL does not necessarily mature on its own, and no individual can become a self-directed learner without the support and external resources (Brookfield, 1985; Cremers et al., 2014; Knowles,

1975); Long, 2000; Tough, 1971). It is difficult for most individuals to keep track and direct their learning, and most individuals require additional support when engaging in SDL (Cremers et al., 2014; Hutasuhut, Ahmad & Jonathan, 2021). The concept of SDL concentrates on the individuals' ability to initiate and manage the learning, constructing knowledge, and other factors that influence the process (Sawatsky et al., 2017; Beckers et al., 2016; Garrison, 1997; Morris, 2019a). Hence, the different dimensions of SDL are integrated. This integration can create multiple challenges for both employees and organisations, such as managing different levels of self-directedness in employees (Artis and Harris, 2007; Garrison, 1997; Hutasuhut, Ahmad & Jonathan, 2021).

For a long time, SDL has been an interesting research topic, and several studies have focused on SDL both in higher education and organisational context (e.g. Boyer et al., 2014b; Garrison, 1997; Karakas & Manisaligil, 2012; Knowles, 1975; Rana, Ardichvili & Polesello, 2016; Samad et al., 2019; Vithayaporn, Yong & Chai, 2021, 2021; Wong et al., 2019). However, to our knowledge, no study has systematically reviewed the current literature to find the challenges in supporting SDL and compare these results to the experiences of practitioners and organisations. Therefore, this thesis first aims to review the current literature to identify the challenges organisations might face when supporting their employees' self-directed learning processes. Second, to contribute to this knowledge, it aims to examine the practitioners' experiences with SDL, what challenges appear, and how are these addressed.

The thesis has a two-fold approach to data collection. The first section concentrates on empirical data from 2010 to 2022 to systematically review and identify challenges and the organisational factors affecting SDL. The second section focuses on interviews with HR and Learning and Development practitioners to examine if and how they have experienced and addressed these challenges in their organisations. Hence, this thesis builds upon the knowledge of SDL in the currently available literature and the practical experiences of HR and Learning and Development practitioners. The research questions of the thesis are:

RQ1: What challenges in supporting SDL can be identified in the current literature?

RQ2: Are these challenges experienced in organisations?

RQ3: How are these challenges managed in organisations?

Findings from this thesis were identified through an extensive literature review of peer-reviewed journal articles, majorly from available online databases, including Scopus, Business Source Complete, and ERIC. Furthermore, an additional search was conducted on Google Scholar to target relevant existing systematic reviews to this thesis. The findings of the systematic review were then checked during the interviews with practitioners in the learning and development field to compare the literature and the experiences of organisations. This thesis ultimately aims to contribute to organisational learning and development by increasing efficient learning.

This thesis begins by providing the necessary overview of the SDL concept in the existing literature, discussing its importance and use of self-directed learning processes in organisations. Second, it provides the methods and results from the literature review and the interviews conducted. In the final section, we present a comparison between the data collected and a discussion on the thesis's implications for research and practice.

2. Background

2.1 What is SDL?

One of the most cited definitions of self-directed learning was originally stated by Malcolm Knowles (1975). In a broad meaning, self-directed learning

> describes a process in which individuals take the initiative, with or without the help of others, in diagnosing their 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).

Knowles also puts forward that SDL is not a type of education. It is a basic competence all humans possess - the ability to learn new things independently. One of his core assumptions about adult learning is that learning becomes increasingly self-directed as learners mature.

Even though Knowles might provide the most cited definition, he was not the first to investigate the field. Allen Tough presented the first conceptualisation of SDL in the 1970s (Parker & Roessger, 2020). Tough (1971) claimed that about 70% of learning projects adults engage in are initiated and planned by the learners. Just as Knowles (1975) later continued, Tough (1971) argued that intentional learning efforts exist everywhere. Family members, colleagues, peers and instructors provide us with learning opportunities whether we are aware of it. Tough (1971) emphasises three themes of learning. The first two themes consider deciding and planning aspects of learning. He argues that the first step for a learner is to decide on whether, what, and why to learn. Then the learners must decide if to plan the learning themselves. Alternatively, they could select a group, individual or other resources to take on that responsibility. Regardless of planning the learning process themselves or leaving that responsibility to other resources, learners must decide during the project whether to continue or not.

The third theme he stresses is the help that learner seeks and obtains during a learning project. All three were reoccurring themes when the concept of SDL was further developed in the following decades. An important point to underscore is the importance of external sources of assistance for SDL, both in human and non-human forms. Tough (1967, 1971) highlighted the dependency on external resources that adults express when engaging in learning projects. Hence, it is important to understand that self-directed learning does not

mean that learners are completely on their own without the support of external resources. If we would understand SDL in that way, no act of learning could be self-directed (Brookfield, 1985).

Along with the breakthrough and popularisation of SDL came papers questioning and criticising the concept and its definition. One important characteristic of SDL is often claimed to be individual control over learning, connecting the concept with autonomy and independence. But on the other hand, it has also been stated that SDL usually requires external resources, either in the form of human or material assistance (Brookfield, 1985; Though, 1967). Another criticism is how self-directed learning, requiring autonomy, can happen in controlled environments. Kruszelnicki (2020) argues that adult education, when aimed at serving the labour market, ceases to have anything to do with self-directed learning. He questions whether learning due to circumstances in the labour market can have anything to do with emancipation, autonomous choice, and self-reflective knowing. He claims that what is often referred to as self-directed learning, in fact, is nothing more than self-regulated learning, which has very little connection to one's independent, critical choice. He and others have also acknowledged that the distinction between the terms self-directed and self-regulated learning is not very clear for many theorists and researchers (Kruszelnicki, 2020; Saks & Leijen, 2014).

2.2 Models of SDL

Since its introduction in the literature, the topic of SDL has been popular, and several models and frameworks have been introduced. In 1991 alone, three prominent models of SDL were introduced to the literature (Brockett & Hiemstra, 1991; Candy, 1991; Grow, 1991). Grow (1991) developed the Staged Self-Directed Learning Model to describe four different stages of self-directed learning. He proposed that learners can be at different stages of self-direction and require different types of support from a teacher, showing a relation and dependency between the actors (Grow, 1991). Another model proposed SDL as an outcome of the interaction between person and environment, emphasising that self-directed learning consisted of four dimensions: personal autonomy, self-management, the independent pursuit of learning, and learner-control of instruction (Candy, 1991). The third model presented in the same year was the Personal Responsibility Orientation (PRO) model of Self-Direction in Learning (Brockett & Hiemstra, 1991). Since then, the PRO model has been updated with increased understanding of the topic (Hiemstra & Brockett, 2012), and the Person Process Context (PPC) model has evolved. The model consists of three elements: person, including the characteristics of the individual, process, involving the teaching-learning interaction, and

context, referring to the environment and sociopolitical climate. The authors propose that when the three elements are in balance, it provides the best circumstances for effective self-directed learning. A developed understanding of SDL suggested that context was more important than initially thought. This development was why the PRO model was updated (Hiemstra & Brockett, 2012).

A later model of SDL presented by Garrison (1997) proposes that self-directed learning consists of three dimensions: self-management (task control), self-monitoring (cognitive responsibility), and motivation (entering and task). All dimensions in the model overlap in reality. However, for the sake of the model, they are separated. Self-management refers to the external activities of the learning process, such as acting on learning goals and managing learning resources and support. Self-monitoring describes the process when learners take responsibility for integrating new ideas and concepts with existing ones, i.e. creating personal meaning. It is strongly connected to cognitive and metacognitive processes, monitoring the learning process, and being aware and able to reflect on their thinking. This enables the learner to modify their thinking in line with the learning goal. Motivation is an important part of initiating and maintaining learning efforts and achieving cognitive goals. Garrison (1997) differentiates between entering motivation (deciding to participate) and task motivation (the effort required to persist with a task). He claims that the essence of self-directed learning is that learners take responsibility for constructing personal meaning. With the growing literature on SDL, researchers and theorists broadened the view of learning from the false dichotomy that learning arranged by institutions is effective and purposeful. In contrast, informal learning is ineffective and serendipitous (Brookfield, 1985). This helped challenge the assumption that adult learning only was possible when directed by a professionally certified teacher.

2.3 Differences between Self-directed learning and Self-regulated learning

The term self-directed learning is sometimes used interchangeably with the term self-regulated learning (SRL) in the existing literature. However, SDL and SRL are different concepts (Saks & Leijen, 2014). The concept of SDL took shape during the 60s and 70s and originates from adult education. The somewhat younger concept of self-regulated learning emerges from educational psychology and cognitive psychology. The concepts connect in some ways - a self-directed learner needs to self-regulate, but a self-regulated learner does not necessarily self-direct (Saks & Leijen, 2014). Some propose that SRL is situated at a micro-level of learning and concerns processes within task execution while SDL is situated

at the macro-level (Jossberger et al., 2010). The main difference between the concepts is that SDL puts even more responsibility on the learner. Self-directed learning implies that the learner defines what needs to be learned, sets the learning task and critically evaluates their learning materials. In self-regulated learning, the learning task can be provided by a teacher or other (Kruszelnicki, 2020; Loeng, 2020). This systematic review focuses on studies and articles using the term self-directed learning.

2.4 SDL as a learning process and a personality trait

Self-directed learning has played an important role in adult learning and development since its introduction in the literature (Cazan & Schiopca, 2014). Even though it is considered that the majority of adults are capable of undertaking the necessary processes for SDL, it is essential to acknowledge that the success of the process depends on the capability of the independent learners (Long, 2000). It has been seen that the success of the individual development through SDL is strongly related to the personality traits self-directed learners possess (Roberson and Merriam, 2005). For this reason, occasionally, the literature defines SDL as a personality trait or a characteristic of learners (Cazan & Schiopca, 2014; Ellinger, 2004). Self-directed learners need to master a high degree of self-efficiency and motivation (Boyer et al., 2014b; Garrison, 1997; Oddi, 1987). They should be ready to face challenges that arise during the learning process (Boyer et al., 2014b; Garrison, 1997; Oddi, 1987).

Examining the relation between SDL and personality traits, Cazan and Schiopca (2014) found a strong correlation between SDL and personality traits such as conscientiousness, extraversion, openness, emotional stability, and agreeableness. However, despite the found correlations, it was stated that the personality traits could not explain the total extent of SDL success (Cazan & Schiopca, 2014). It is understood that SDL is linked to multiple other factors such as learning goals, motivation, proactive personality and demographic variables such as age and sex (Cazan & Schiopca, 2014; Raemdonck et al., 2012). According to Judge et al. (1995), prior educational and professional experiences can have a positive influence on self-directed learning.

Claes and De Witte (2002) suggest that a proactive personality also positively affects the SDL. It is crucial that organisations concentrate on promoting and developing proactiveness in employees. Human resources should enable coaching and training for proactive employees to reinforce their self-directedness (Claes & De Witte, 2002).

2.5 SDL projects

The purpose of this study is to examine the challenges organisations might face when supporting employees in SDL. Therefore, it is important to not only examine the definition of SDL but also how it happens practically. This chapter aims to present the concept of SDL projects, exemplifying how both external and internal factors can lead to the use of SDL. Some SDL projects might be more common in certain organisations, thereby affecting the support employees would need. Early research on SDL during the 1980s and 1990s was mainly focused on examining learners' readiness for SDL and the antecedents of learner behaviour (Boyer et al., 2014b). Eventually, research gained more interest in the actual usage of SDL, leading to a revival of the concept of *SDL projects.* These describe more about how SDL happens in practice and what situations might lead to the use of SDL. The concept was first introduced by Tough in 1967 (Boyer et al., 2014b). He referred to it as *self-teaching projects,* which were defined as a deliberate attempt to learn some specific knowledge or skill. According to Tough (1967), SDL projects required that the person doing it had spent at least eight hours engaging in the learning process and that the person had the primary responsibility for planning, controlling and supervising the entire project (Tough, 1967).

Three main types of self-directed learning projects are presented in the more recent literature on self-directed learning, especially in the workplace. These were first introduced by Clardy (2000). *Induced SDL* refers to SDL being triggered by a discrepancy between the current and expected level of knowledge, skills, and abilities. In this case, the learner recognises a need for learning that is not supported by guidance or formal training. Hence, the learner is individually responsible for deciding which learning activities to undertake. This type of SDL project is dependent on an external, contextual trigger, such as changes in employee job duties.

On the contrary, without any external demand involved, *voluntary SDL* evolves. In the case of voluntary SDL, the initiative to learn comes from the individual employee. The process of learning is guided by the personal motivation to learn and act, and it is expressed as interest, ambition, or curiosity. These projects are usually more ongoing and open-ended since they are driven by interest rather than reaching a specific level of competence.

The third type of SDL project is *synergistic.* These occur when the motivation to learn and workplace circumstances are combined. The synergistic projects are all linked to a current or future task at work but do not necessarily include the urgency that is present in induced

projects. A synergistic SDL project can happen when an employee chooses to engage in learning a new procedure, even though it is not required by the external circumstances, as it is for induced SDL projects. In addition, Clardy (2000) identified a fourth, less prominent type of SDL project. This type of SDL project is different from the others in terms of being continuous and driven by an interest to stay up to date in one's field. This SDL project is referred to as *scanning SDL*. It is process-oriented rather than concentrating on reaching a specific learning outcome.

It has been found that there is a risk with treating all types of SDL projects the same way. When examining SDL, it can be essential to differentiate between different SDL projects since similar antecedents might lead to different results (Boyer et al., 2014a; Clardy, 2000).

2.6 Desirable difficulties in learning

In SDL, a lot of the responsibility for the learning process is put on the individual (Knowles, 1975). Learners are faced with several challenges when learning something, both in traditional learning and SDL. One main issue is that learners tend to be misled by subjective impressions to believe that they have learned in an efficient way when they have not. To learn efficiently, the concept of desirable difficulties was suggested (Bjork, 1994). Examples of desirable difficulties are spaced learning, using tests rather than presentations as study events or varying learning conditions. Bjork and Bjork (2011) emphasise the word desirable. Of course, several undesirable difficulties can happen to a learner. The desirable ones are such that they trigger the process of encoding and retrieval to support learning, comprehension and memory. Still, to take on learning strategies that contain even the desirable difficulties might be difficult for a learner. Bjork and Bjork (2011) suggest that learners need to take a more active role in their learning, especially in a world that is rapidly changing and becoming more complex. Learning on one's own is increasingly essential, and as written by Bjork and Bjork (2011, p.63), "Learning how to learn is the ultimate survival tool".

2.7 Self-directed learning in a digital era

The current world does not only mean that people and organisations face new demands of learning but also new opportunities (Karakas & Manisaligil, 2012). The technological advancements in the world are reforming the dynamics of learning and transforming the concept of SDL. Constant access to information and virtual networks provide learners with new ways of engaging in self-directed learning. Both universities, libraries and non-profit

organisations have started to utilise the opportunities enabled by new technology and internet tools. From the perspective of SDL, these new technologies can allow people from all over the world to connect and support each other's learning processes. Furthermore, technologies enable increased collaboration and interaction through sharing and giving feedback (Karakas & Manisaligil, 2012).

One big shift in the use of technology is the increased use of Web 2.0 technologies in workplaces. Web 2.0 is a concept that first appeared in the early 2000s, marking a turning point for web use for learning. Web 2.0 technologies emphasise social networking, content created by users, and cloud computing (Britannica, n.d.). Hosted services, such as social-networking sites, video sharing sites, wikis, blogs and search engines, are all examples of Web 2.0 technologies (Caruso, 2018). It can be said that Web 2.0 technologies have altered the understanding of the digital ecosystem by providing easy access to a significant amount of updated content in various forms (Karakas & Manisaligil, 2012).

Although online learning opportunities such as Web 2.0 technologies are relatively new concepts for adult learning and development, they have opened the gates to an innovative way of learning and enhancing skills sets (Lai, 2011). New technologies allow versatility in learning opportunities and increase workplace mobility (Benson et al., 2002; Candy, 2004; Fischer & Scharff, 1998). These technologies also decrease memorisation and enforce knowledge construction when learning (Harel & Papert, 1991). The introduction of online opportunities in learning also offered organisations a more cost-effective and contemporary approach to meeting the needs of organisational learning and development (Combs, 2002; Shinkareva & Benson, 2006). Hence, the new era of technological learning opened the gates to more beneficial learning and development opportunities for learners and organisations.

3. Method

To answer our research questions, we decided on a two-folded approach. For RQ1, a systematic review of the challenges faced when supporting SDL was conducted. This was done to present a comprehensible and extensive overview of the challenges that could be identified in the currently available literature. Based on the identified challenges, an interview guide was constructed to enable answering the second and third RQs. With the combination of systematic review and interviews, it was possible to compare the findings from the two. Thereby, it enabled examination of whether challenges found in the systematic review were also experienced in organisations. To get the most out of the interviews, it was also examined how organisations manage these challenges. This method contributes to the purpose by examining what challenges organisations might face in supporting employees in SDL from both a theoretical and practical perspective. Combining the two methods enables a more comprehensive overview of the challenges.

The following chapters outline the actions and methodological choices of the systematic review. Afterwards, we move on to the method for the interviews conducted.

3.1 Systematic review

The aim of this systematic review on how to support SDL is to provide a methodological and comprehensible outline of the existing knowledge. It was decided to consider articles on both workplace learning and adult learning-context. Participant groups sometimes overlapped, with participants being both employees and adult learners. It was also believed that the challenges of engaging adults in SDL would be similar regardless of whether the context was school or work. This thesis aims to explore the field of literature to compare it to practitioners' experiences. To get a broader perspective of the challenges, we chose to include articles from both renowned universities and authors, as well as less impactful ones. Since the aim of identifying challenges was to compare them with the experiences of practitioners, it was considered valuable to collect a diverse and comprehensive set of challenges.

The systematic review guidelines provided by Siddaway et al. (2019) were used to ensure a transparent, methodical, and replicable approach. The reviewed literature consisted of varied study designs and presented both quantitative and qualitative results. Hence, it was not possible to conduct statistical analyses of all included studies. Instead, it was decided to do a narrative review to enable analysis, although the studies were methodologically diverse

(Baumeister & Leary, 1997). We used the software Covidence to facilitate the screening and inclusion and exclusion of articles in the reviewing process.

3.1.1 Search terms and databases

For the search, the databases used were Scopus, Business Source Complete, ERIC, and Google Scholar. Inclusion criteria (see Table 3.1) were set before the search to balance sensitivity and specificity. This is done to avoid excluding articles too early in the process and get a broad overview of the existing literature (Siddaway, 2019). The year limitations were chosen with regards to examining SDL in a modern context, where technology is often a part of learning. Previous systematic reviews on SDL have covered studies with a participant sample of nurses, nursing students and medical students (e.g. Buch, Rathod & Naik, 2021). Since this thesis focuses on organisational challenges, it was decided to not include that participant group and instead review studies with other perspectives.

Table 3.1 Inclusion criteria

Examining self-directed learning
Studies conducted between 2010-2022
Adult learners (higher education or work setting)
Participants other than nurses, nursing students, and medical students (since there are already systematic reviews done on this topic)
Journal articles
Written in English

The search was conducted by the two authors separately with a continuous discussion on the articles found. Search terms and results are presented in Table 3.2. At first, all articles found in the search were included in the next step. Early in the process, we decided to do a first screening of the abstract during the search phase to make sure the article matched the inclusion criteria and only included those articles in the next step. This resulted in 529 articles that were saved and imported to Covidence for further screening.

Table 3.2 Overview of searchterms, databases and number of results

Scopus	
Search terms	**Results**
"Self-directed learning"[a]; "Self-managed learning"[a]; "Self-regulated learning" OR "self-directed learning" AND "adult education"[b]; "self-directed learning" AND adult education[b]; "Workplace learning" AND "learning and development" AND "self-directed learning"	461 results

[a] Filtered on subject area "Business, Management and Accounting"
[b] Keywords connected to medical/nursing were excluded

Business Source Complete	
Search terms	**Results**
"Self-Managed Learning"*; "Self-Directed Learning"*; "Continuing education" AND "self managed" OR "self directed" AND "adult education"; "Self-directed learning" AND "self managed learning" AND "personnel management" AND "Learning and development in a workplace"; "Self-directed learning" NOT "medical" NOT "nursing" AND self managed learning	425
* Subject limitations: Individualised instruction; Learning; Problem based learning; Online education; Active learning; Higher education; Learning strategies; Teaching methods; Motivation (psychology); Adaptability; Attitude; Collaborative learning; Critical thinking; Distance education; Adult education; Digital technology; Education research; Knowledge transfer; Metacognition; Psychology of learning; Adult students; Adult learning	

ERIC	
Search terms	**Results**
"Lifelong learning" AND "self-directed learning"; "Lifelong learning" AND "self-directed learning" AND "adult learning"; "self-directed learning" AND "adult learning"	190

An additional search for existing systematic reviews on SDL was also conducted. This was done to get an idea of what was already presented in these sources and educate ourselves on examples of writing a systematic review. This search was conducted on Business source complete, Scopus and ERIC. Hence, the same databases as for the article searches. Google scholar was searched as an additional database to see if other systematic reviews could be found. The search term used was *Systematic review self-directed learning work*,

limited to the years 2010-2022 and sorted on relevance. When searching Google Scholar, results were collected only from the first ten pages of search results. The later search results were perceived as too out of scope. The systematic reviews that matched the inclusion criteria were included in the next step of the systematic review process.

3.1.2 Screening and exclusion process

When importing all the articles to Covidence, 85 duplicates were removed. The titles, keywords and abstracts of the remaining 444 articles were screened individually by two reviewers. This approach was chosen to increase the reliability and level of objectivity.

Exclusion criteria (see Table 3.3) were chosen before the screening. These were set to guide the screening of articles to ensure that included articles connect to the research questions and purpose of the study. Already in the inclusion criteria, studies with nurses, nursing students or medical students were excluded. For the first screening, it became evident that some articles had a clear medical connection. These were also excluded due to previous systematic reviews focusing on medical settings and participants.

Table 3.3 Initial exclusion criteria

Medical connection
Children as learners
Not covering SDL
Only focusing on SRL
Only covering self-managed or problem-based learning
Self-directed motor learning
Health interventions

After individually screening all titles, keywords, and abstracts, we had 89 conflicts on whether to include or exclude an article. These articles were screened a second time, with both reviewers discussing why or why not to include the article. Two hundred articles were identified as eligible for the next round of screening. These articles were considered to match all the current inclusion and exclusion criteria.

Both researchers individually conducted a full-text screening of the currently eligible articles to identify if they matched the inclusion and exclusion criteria. For this round of screening, additional exclusion criteria were set (see Table 3.4) to get more exact results in the included articles.

Table 3.4 Final exclusion criteria

Children as learners
Not covering SDL
Only mentioning self-regulated learning, self-managed learning, self-determined learning, self-directed motor learning, or problem-based learning
Self-directed motor learning
Health interventions
No open access to articles
No full text in English
The research question and/or purpose did not specifically cover self-directed learning

The individual full-text screening resulted in 67 included articles. There were 105 conflicts on what criteria to exclude the article. The conflicts were collectively reviewed to decide which exclusion criteria were the most suitable or if the article should be included. This conflict resolution resulted in 67 included articles. Included articles covered a wide range of studies on self-directed learning, both in school and work-setting, as well as both qualitative and quantitative data.

3.1.3 Analysing and extraction process

A narrative synthesis approach was chosen for the analysis in the systematic review. Narrative analysis, unlike meta-analysis, does not have the same well-founded body of knowledge or rigorous techniques that have been tested and developed over time. To increase the transparency and reliability of our analysis, we acted on the guidelines provided by Popay et al. (2006).

A template on what data to extract from each article was created. The included articles covered SDL both in an organisational and adult learning context. The extraction phase

aimed to extract all things that could be a challenge, either for the individual or the learning provider. Certain extracted results were not explicitly mentioned as challenges. For example, in Curran et al. (2019), supportive attitudes from customers and/or staff toward the use of new technology were mentioned as a factor in facilitating new technology for learning. This was coded as a challenge since it is factor organisations need to consider. The aim of extracting challenges was to examine these further through interviews with practitioners. Hence, the objective was to collect challenges from a broad perspective to see if these could be validated or not.

The articles were divided between the two authors to read and extract data. The results and discussion sections of these articles were used to extract data and answer our research questions. The results covered both important factors for organisations or learning providers to consider and challenges for individuals engaging in SDL. Once one author had reviewed the articles, the other author repeatedly read the article and extracted relevant data. The findings were then compared and discussed to maintain the objectivity and reliability aimed for in the previous steps. In the data extraction, 18 articles were excluded since no challenges for organisations could be identified, resulting in a total number of 49 articles included for the coding of challenges. For a summary of the number of identified, included, and excluded studies in the screening and extraction process, see figure 1.

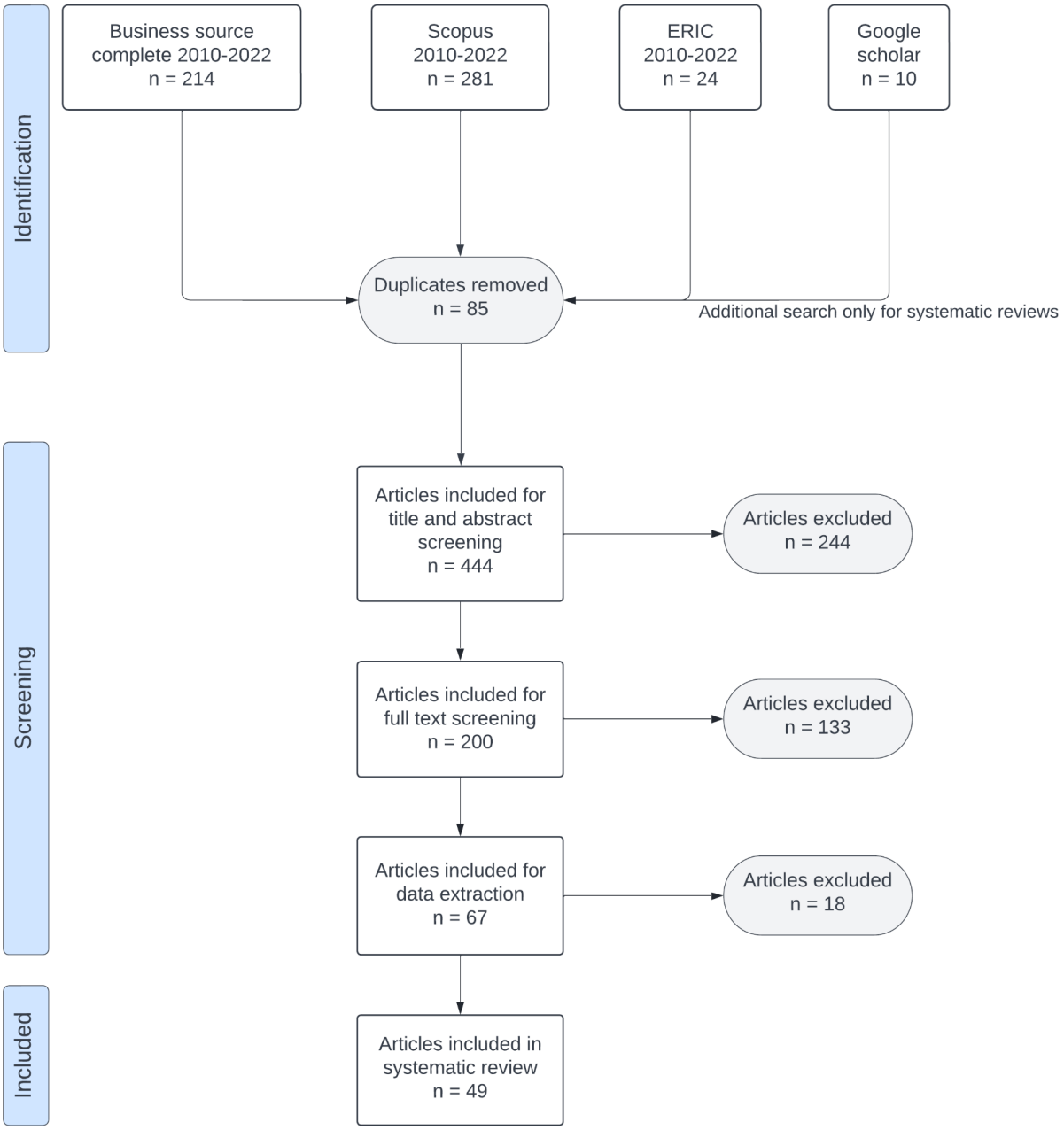

Figure 1. *Prisma flow diagram illustrating the process.*

3.1.4 Coding of the identified challenges

A thematic analysis was chosen to identify the most reoccurring challenges across several articles (Popay et al. 2006). It was done with an inductive approach, meaning that there were no predetermined challenges to guide the coding, but these instead emerged from the data. Each challenge extracted was coded with a word or short sentence. Certain challenges identified by the authors were hard to tackle. It was due to the article not explicitly mentioning it as a challenge for organisations. For example, some mentioned challenges of

individuals. These were coded as what would be needed from the organisation to address them - e.g. learners feel overwhelmed by the amount of available information. Hence the challenge for organisations is to guide information usage. No assessment of the importance of each challenge was done. No matter how small or big scale, they were all considered when sorting the codes. The codes were sorted to identify recurring ones and if these had similarities or differences. After this, the codes of sub-challenges were grouped into main challenges. The final analysis included seven main challenges that organisations need to work on to support their employees in being self-directed learners (see appendix A for a frequency table of the main challenges identified in each article).

3.1.5 Limitations of the process

One of the limitations of the search process for the systematic review is the imprecise definition of concepts. The terms SDL and SRL are sometimes used interchangeably. Due to our limitation of only including articles using the term SDL, there is a risk that relevant articles were excluded. The search was conducted on four databases. This number could have been increased and extended to cover smaller databases and journals not published in our included databases with more time. When doing a thematic analysis of results, there is always a risk of lack of transparency, and it can be difficult to track how and at what stages challenges were identified and grouped (Popay et al., 2006).

3.2 Interviews

The purpose of conducting interviews was to answer the second and third research questions: *RQ2:* Are these challenges experienced in organisations?, *RQ3:* How are these challenges managed in organisations?. The interviews aim, first, to understand if the practitioners and organisations experienced the identified challenges in the literature. Second, to see how they managed these challenges in practical ways. In addition, to find if there were any other challenges they experienced that were not found in the systematic review. To examine the second research question, an interview guide was created based on the findings from the systematic review. This approach and the formulation of interview questions enabled examining whether professionals in an organisation experienced the same and/or other challenges when supporting their employees in being self-directed learners.

3.2.1 Participants

A total of 7 participants (Male = 3, Female = 4) were included in the study. All participants were recruited based on their professional role in learning and development. Two of the participants worked for the same company in different regions. The companies they worked for had various numbers of employees (n = 312.250, n = 70.000, n = 24.617, n = 3.800, n = 1.300, n = 550). All companies had a global presence. Participants were recruited through a convenience sample by posts on social media and networking at events. They worked at companies in Sweden (n = 5), Germany (n = 1) and Switzerland (n = 1). Guest et al. (2006) suggest that six to twelve interviews are sufficient for saturation if the participant group is relatively homogeneous. This study only included a narrow set of professions despite working for companies of different sizes, which created homogeneity. Five of the participants worked explicitly with learning and development, while two participants worked in HR but focused on learning and development. During the interview process, it became clear that the answers differed depending on the participants' roles in their organisation. The ones with a learning and development title answered the questions more in-depth. However, the HR participants contributed with perspective on how challenges were addressed and presented similar experiences despite having different titles.

Due to time restrictions and some respondents not being available for an interview within the timeframe for this thesis, the number of participants resulted in seven. For the purpose of this study, the participant sample was considered to be homogeneous in the critical aspects. Saturation was experienced concerning their experiences of the identified challenges. However, if more participants would have been included in the interviews, it is possible that the answer to the third research question could have been enriched. Hence, answers from more participants could have resulted in a more diverse description of how organisations address the challenges of supporting employees in SDL.

3.2.2 Interview questions and materials

Challenges and the categorisation of these, identified in the systematic review, provided the basis for the interview questions. The interviews started with general questions on their role and learning processes in their organisation. The rest of the interview was structured around the seven identified challenges and examined if the challenges were recognised. If the respondent acknowledged the challenge, they were asked how they addressed it. Careful measures have been taken to ensure that the questions allowed the respondent to share other challenges they might have faced and not direct them too much to avoid confirmation

bias. These measures were taken by testing and reiterating the questions based on feedback from the two authors and external colleagues. For the full interview guide, see appendix B. The interviews were conducted and recorded via Zoom.

All participants were presented with the thesis topic, self-directed learning in organisations. It was done both when they were asked to participate and through an additional information document. The information document contained terms for participating in the study, a description of what the interview questions would cover and some examples. However, the term self-directed learning was not explicitly mentioned in the questions in the actual interviews. Instead, the act of SDL was formulated as, for example, “when employees take the initiative and responsibility for their own learning process”. This was done to not confuse participants with a term that they might not be familiar with and instead describe its definition. Of course, this might have caused a risk of misinterpretation, which will be further discussed in chapter 3.2.5 Limitations of the interview process.

3.2.3 Procedure

Before the interview, participants were informed about the thesis. An email with the interview link and terms for participating in the study was sent to the participants. Attached they could also find an information document describing what the interview questions would cover and some examples if they wanted to have a look before the interview. A complete interview guide was not sent because we wanted to avoid limiting participants thinking and collect more honest raw data. Presenting the topic of the questions was considered beneficial since participants could then have a better understanding of what the interview would be about and attend with a focus on the topic. The aim was to minimise the risks of missing out on valuable information that the respondent would not have had time to recall during the interview.

For each interview, one of the authors was the asking the questions. The other author attended to take notes and ensure that all questions were covered. All interviews were conducted online and recorded.

3.2.4 Analysing the interviews

To answer the second and third research questions, we aimed to examine if and how the challenges identified in the literature corresponded with the experiences of practitioners. Since the interview questions were constructed based on the main challenges found in the

systematic review, the same challenges were used for interview analysis. All interview answers that were connected to the same main challenge were analysed by coding them. This analysis was done by comparing the interview answers and finding the overlaps and contradictions in what the participants mentioned. The interview participants were asked about the main challenges identified in the systematic review. The sub-challenges were later identified from the answers given to the questions. This process allowed us to examine if the main challenges were recognised and find if there were additional sub-challenges practitioners experience.

Extracts and quotations from the interviews were carefully edited to keep the essence of what the participant mentioned. Words such as “Uhm”, “so, like”, and repetitive words were removed to increase the readability of the quote.

3.2.5 Limitations of the interview process

One limitation to the interview process is the use of the term self-directed learning when talking about the concept. In the interview questions, the term SDL was not explicitly mentioned. Instead, the definition of the concept was used to discuss it. This methodological choice intended to not base the interview discussion on a concept that people might have differing or no previous understanding of the concept. Since the term is sometimes used interchangeably with other self-learning terms, such as self–regulated learning or self-managed learning, it was identified to be a big risk of having different preconceptions about the concept SDL. By presenting the definition, all participants could answer the questions based on the same understanding. Some participants used the term self-directed learning when answering the questions, signalling that the concept was familiar to them. However, there is a risk that other participants did not fully grasp the concept and the aim of the questions. Due to the choice of not mentioning self-directed learning explicitly, some participants might have answered some of the questions as if it was for learning in general.

The results could have been affected by several factors. When participants asked for clarification of a question, they were provided with examples. The same examples were not given to all participants. Even though the examples were set to be as neutral as possible, this might have affected the answers that participants gave. The interview questions (see Appendix B for interview guide) usually had one main question and several follow-ups. If one of the follow-up questions were answered in the main question, this question was not repeated. We could have received even more elaborated answers by repeating the

questions. The questions were based on the seven main challenges found in the systematic review and not necessarily all identified sub-challenges.

The participants have different levels of experience and different professional roles in their organisation. In addition, it became clear that the organisations also had differing approaches to learning in general. Some focused on traditional learning, while others leaned more toward a self-directed process. This could, of course, affect their approach to SDL and their answer to the interview questions.

3.3 Comparison of systematic review and interviews

After conducting and analysing both systematic review and interviews, the results were compared to identify similarities and differences. A comparison was made to present a clear answer to RQ2: Are these challenges experienced in organisations?

The comparison was made by taking the challenges identified in the systematic review and seeing which challenges were recognised by participants in the interviews. It was also analysed which of the identified challenges from the literature were not mentioned in the interviews. If interview participants mentioned other challenges not explicitly identified in the systematic review but connected to one of the main challenges, these were also presented in the comparison.

4. Results from the systematic review

The findings from the systematic review showed several examples of what organisations need to provide their employees with to support self-directed learning. The findings were analysed and categorised under seven main challenges.

As mentioned in the method section, identified challenges were extracted from the results and discussions. These challenges covered both challenges individuals can face when engaging in SDL and essential factors that can be challenging for organisations and learning providers to support SDL.

4.1 Motivation

Findings from this systematic literature review indicate that motivation is one of the key elements for performing self-directed learning. The results showed that it is fundamental for organisations to continuously motivate their employees as learning requires intrinsic and extrinsic motivation (Zhu, Bonk & Doo, 2020). However, motivating employees is challenging because many things affect the motivation level of employees. (Hutasuhut et al., 2021). Hence, the challenge for organisations is to constantly take the proper steps to motivate their employees to engage and remain engaged in learning.

The importance of motivation was clearly outlined by Boyer et al. (2014b). In their result, motivation appeared to be a challenge for individuals (Boyer et al., 2014b). It was shown that to motivate the individuals, the SDL project has to be rewarding and recommendable, be of future use, the project has to create an appreciation for the experience, the project has to motivate, and the learner must have the motivation to complete the task (Boyer et al., 2014b). Without motivation, the employees may procrastinate and struggle to complete the tasks (Gu, 2016; Hutasuhut, Ahmad & Jonathan, 2021).

Hutasuhut et al. (2021) suggest that to increase SDL, it is fundamental to foster a positive working climate that integrates five disciplines to motivate employees in their SDL processes. These five disciplines are personal mastery, team learning, systems thinking, shared vision and mental models. Their study confirmed that a favourable working environment increases self-autonomy and self-management, encouraging employees to initiate SDL. In addition to the learning environment, teams in harmony are mentioned to boost SDL. Having a positive team climate allows employees to support one another and learn from each other. The combination of a positive team and work environment can

encourage employees to improve their capabilities together and motivate each other (Hutasuhut et al., 2021).

Organisations should promote systems thinking to increase employees' ability to perceive themselves as a part of a larger unity (Hutasuhut et al., 2021). This increased feeling of uniformity enhances employees' capability to acknowledge the interconnections between their actions and a more extensive system. As a result, it motivates employees to learn and improve while working and encouraging others. However, organisations must apprehend that to build motivation, they must communicate a shared vision and support employees in creating ownership of the vision communicated (Hutasuhut et al., 2021). Additionally, implementing SDL projects in organisations can increase motivation and improve employee performance (Boyer et al., 2014b). Hence, the motivation needed for both individual and team learning depends not only on the environment but also on the motivation generated by tasks and projects demanded by the organisation.

Curran et al. (2019) state that the motivation for engaging in SDL was linked to the work-related nature. Their results put forth that employees perceive SDL as a duty to develop in their professional fields. The participants in their research expressed that most workplace learning can be triggered by job needs in different professions. Furthermore, according to Raemdonck et al. (2012), job characteristics, such as the number of challenging tasks, and decision-making freedom, also affected the learners' interest in engaging in SDL. There was a correlation between tasks completed by the employee and SDL. First, the number of tasks offered by the organisation directly affected the number of learning opportunities, increasing the chances of employees engaging in SDL. Second, tasks which granted more autonomy and decision-making freedom increased the proactivity and engagement of employees (van der Baan et al., 2022). As a result, it can be concluded that employees who have the opportunity to be a part of a workplace that offers improved working standards are more likely to engage in SDL (Raemdonck et al., 2012).

4.2 Safe learning environment

In an environment where employees constantly feel frustrated and discouraged, it is likely that they will not be motivated to engage in learning (Dapko & Snyder, 2021; Pearce, 2019). Hence, organisations must foster a positive learning environment to allow employees to feel safe and exploit their self-directed natures. To use the total capacity of their employees' self-directed learning skills, organisations must be aware that it is necessary to promote experimentation when learning. Viewing failure as useful and meaningful is highly unfamiliar

to many organisations, but organisations must welcome certain mistakes to encourage learning. Independent effort put in by each employee to engage in learning is essential, and organisations must value this behaviour more than success. However, it is the organisation's responsibility to build a safe learning environment to allow employees to make meaningful mistakes (Dapko & Snyder, 2021).

According to Silamut & Petsangsri (2020), adult learners in their work-life need self-directed learning. However, their learning needs are highly influenced by the environment learners are in. Their study identified that positive attitudes from other employees and job promotion allowed employees to have a more positive perception of their work environment. Raemdonck et al. (2012) also mention a correlation between pay level and self-directed learning in organisations. The results indicated that the increase in the pay level would simultaneously increase the self-directedness of employees.

Raemdonck et al. (2012) have also found other factors that have changed employees' impression of the organisation. They have stated that employees' SDL benefits from a workplace that cultivates a safe learning environment and supports the active participation of employees. By doing so, organisations can harvest more self-directedness in learning.

4.3 Digital tools and support

Digital tools and Web 2.0 technology can support employees in their SDL process (Boyer et al., 2014b; Caruso, 2018; Curran et al., 2019; Fleming, Artis & Hawes, 2014; Gu, 2016; Haidari, Yelken & Akay, 2019; Haworth, 2016; Rana, Ardichvili & Polesello, 2016). A challenge for organisations is to navigate the use of digital tools. There are several types of workplace technologies, and an important aspect is to choose tools that fulfil the needs of the employees. Rana, Ardichvili, and Polesello (2016) encourage organisations to utilise tools that offer platforms for individual learning, encourage open communication, and provide opportunities for collaboration and teamwork. Organisations should also strive to create internal collaboration and use Web 2.0 technology that encourages knowledge and information sharing (Caruso, 2018).

One type of digital tool is Personal Learning Environments, PLEs. Just as video-sharing sites, wikis, blogs and search engines, PLEs are another example of Web 2.0 and social media technologies. These enable learners to become self-directed by tracking, organising, and accounting for their learning (Haworth, 2016). Even though learners can become more interested and engaged by taking control of their learning with PLEs, caution should be

taken to not use PLE technology only for the sake of using it. Instead, it is stressed that simply adding a PLE technology, as well as any other technology, will not develop SDL competencies. Those skills need to be developed before immersing in technology (Haworth, 2016). The personalisation of technologies can also support educative sensemaking (Butcher & Sumner, 2011). Educative sensemaking is when a self-directed learner seeks information, evaluates the content, and uses representations. Technology can increase access to the external resources utilised in the learning process. It can be in the shape of videos, talks, movies, and reading materials that can help the individual engage in SDL without support from a human resource (Haidari, Yelken & Akay, 2019).

Regardless of the software or digital tool organisations decide to work with, some design principles should be included to support SDL. These were examined closer by Firat et al. (2016), who concluded interface design principles that support SDL are based on literature principles and experts' opinions. The main characteristics were that the interface design should be user-directed, ensuring variety, supported by learning analytics, motivational and sharing-oriented (Firat et al., 2016).

The use of technology is a common part of SDL projects. The perception of the organisational climate and its support for the use of technology is positively related to employees' use of SDL projects (Fleming, Artis & Hawes, 2014). Employee engagement in voluntary SDL projects seems to be connected already to the selection of employees. Hence, the employee has a pre-existing affinity for technology. Induced and scanning projects may instead be dependent more on the environment fostered by the organisation and how the employee perceives their affinity for technology. On the other hand, Synergistic SDL projects seem to depend on both. Therefore, a challenge for internal marketing is to communicate the organisation’s attitude towards technology usage (Fleming, Artis & Hawes, 2014). Of course, it is not enough to express supportive attitudes, and the main challenge might be to act according to the supportive attitudes and guide and train employees in the use of technology (Caruso, 2018). It is important to identify the right technological tools and situate them properly in the workplace. This identification should be guided by the employees’ preferences and what tools they are already familiar with or need. It is crucial to communicate employee performance expectations concerning new tools and present the benefits of using them (Caruso, 2018).

There is a changing landscape of learning in the creative digital age. Karakas and Manisaligil (2012) argue for five transformations and their implications for SDL and how HRD practitioners could deal with these. For HRD practitioners, this shift in the learning landscape

shapes new responsibilities. To keep up with *virtual collaboration,* they need to strengthen collaborative capabilities outside their company walls. Utilising virtual collaboration creates new opportunities for employees to engage in SDL and allows employees to create new ideas. By encouraging the use of multiple platforms and diverse tools, organisations can harness *technological convergence*. This process should include providing curated technological infrastructures, training on how to use these, and learning options for employees to customise their learning.

The third transformation is *global connectivity.* To benefit from this, they recommend that managers and HRD practitioners give employees time, resources and opportunities to direct their learning based on their interests. The learning ecosystem needs to be expanded outside the firm boundaries to utilise access to a global world. Bringing together minds from different disciplines and forming cross-disciplinary teams can help organisations form *online communities.* If the organisation successfully bridges physical and psychological boundaries and encourages employees to engage in networking and learning in the digital ecosystem, this enables employees to support each other in SDL. Since *digital creativity* is increasingly important for organisations, HRD practitioners need to support the development of digital creative competencies in employees. This support can be done by encouraging SDL activities where employees build on their strengths to use digital technologies in their creative process (Karakas & Manisaligil, 2012).

4.4 Self-directed learners and learning strategies

Employees have different learning preferences and levels of self-directedness. Therefore, they require different types of support throughout their learning process to develop SDL competencies (Cremers et al., 2014; Haidari, Yelken & Akay, 2019; Jossberger et al., 2010; Mann & Willans, 2020; Markant, 2019; Morris, 2020; Nasri, 2019; Rana, Ardichvili & Polesello, 2016b; Schedlitzki & Witney, 2014; Vithayaporn, Yong & Chai, 2021). HRD practitioners need to identify the learning and development needs of the individual learner based on their work context, how their job is defined and their expertise. Knowing the individual learner, their learning styles, career goals and performance expectations enables HRD practitioners to create better settings for efficient SDL experiences (Karakas & Manisaligil, 2012).

Providing individual support for employees can cause challenges for organisations. These challenges need to be managed to support SDL, and there are some things that are crucial for organisations to provide. First of all, organisations need to provide opportunities for

employees to direct their learning. These challenges might require organisations to transfer the responsibility of learning to the employees and help them facilitate the process themselves (Hutasuhut, Ahmad & Jonathan, 2021). Employees' self-monitoring and self-regulating capabilities must be strengthened (Randall, Hanson & Nassrelgrgawi, 2021; Zhu, Bonk & Doo, 2020). When learning categorical rules, which is a basic building block of knowledge formation, SDL can be affected by biased hypothesis generation. While SDL can create the opportunity to test one's hypothesis directly, it is challenging for the learner to generate a proper, unbiased hypothesis (Markant, 2019). Organisational guidance can therefore be required at this step of the learning process. Some learners need to be made aware and see an immediate opportunity to apply their new knowledge. (Quinney, Smith & Galbraith, 2010).

Having employees on different levels of self-directedness can require different types of support depending on the individual. Providing employees with mentors or coaches is one way to support their SDL, even though this comes with its own challenges. The organisation needs to make sure that mentors are familiar with the SDL approach, enabling them to provide the employee with a safe learning environment (Boyer et al., 2014a). Learners benefit the most from mentors in the workplace when there are both professional and personal relationships. To develop self-directed learners, the effects of relationships need to be emphasised by the organisation (Pearce, 2019). Reflection is often useful after the employee has acquired new knowledge or skills but might be hard for the individual learner. Presenting different types of reflection activities is beneficial for engaging employees with different preferences (Janakiraman, Watson & Watson, 2018). Organisations constantly need to keep individual differences in mind. Not only when providing learning opportunities but also when learning projects fail. Depending on the employee, some might need continuous feedback to accept a failure, while others are comfortable with it (Dapko & Snyder, 2021).

Self-directed learners face a lot of similar difficulties as traditional learners. Still, these might be experienced as even more challenging in a self-directed process. This requires the organisations to be aware of the risks and provide support. One difficulty concerns retrieving information. It is a cognitively demanding action, and a learner might find this demand undesirable. This is known as a desirable difficulty (Parker & Roessger, 2020). Retrieval practice refers to recalling information from the mind rather than rereading or hearing it again (Roediger and Butler (2011) in Parker & Roessger, 2020). Experiments on the concept show that repeated testing rather than repeated study resulted in more and longer retained knowledge. Despite this, learners often rely on repeated reading rather than testing themselves. This act can cause a false sense of confidence that information is learnt when

it’s not. Losing motivation to learn or avoiding testing oneself to recall knowledge can happen if the retrieval task is experienced as too challenging. To avoid this, it is important to provide the employees with an understanding of retrieval practice and its effects. By creating this awareness, organisations can help employees avoid a false sense of confidence.

Another desirable difficulty that learners benefit from is spaced learning. A central part of the process for self-directed learners is structuring a plan for when and how often to learn. The learner can either spread the learning sessions over time or focus the sessions on a shorter time. One study examined self-directed learners attending an online course. Learners who spaced their learning throughout the learning period had higher grades and were more satisfied with their learning experience than those who binged (LaTour & Noel, 2021). Learners who binged early on during the learning period had quite similar results as learners using spaced learning. The most negative effects were seen among learners who binged the learning material later in the learning period. For organisations, this can imply that it can be beneficial to make material for learning accessible early on in the learning period. Encouraging employees to revisit the material by encouraging testing or recap of old material before moving to the next step can also support their learning. The more challenging the material is for the learner, the bigger the risk of delaying learning and ending in bingeing. Therefore, organisations also face the challenge of dividing material into smaller, manageable segments (LaTour & Noel, 2021). There is often a discrepancy between what learners know and what they think they know, resulting in high confidence and low performance (Schroeter & Higgins, 2015). That discrepancy can be valuable for organisations to be aware of to avoid that risk when employees engage in SDL.

4.5 Feedback

Feedback is an important part of SDL. It is essential for the steps of SDL that the employee struggles with when learning. For example, when they are faced with the previously mentioned desirable learning difficulties. During critical times in the process of SDL, organisations need to provide feedback and encouragement (Cremers et al., 2014; Parker & Roessger, 2020). Employees' ability to reflect is closely connected to feedback. Some studies show that organisations need to enable employees to reflect before SDL occurs. The employees' “self-assessment mentality” can help generate new ideas through self-directed learning (Perkins, 2018).

Feedback does not necessarily need to come in the shape of top-down communication. It is also important to encourage learners to offer and seek feedback from each other.

Self-directed learners are expected to know when and how to seek feedback from others. Furthermore, they are considered to be willing to work on the feedback received. However, organisations might need to assist employees in defining what has been learned and give feedback on the process (Cremers et al., 2014). Feedback might also be implemented in digital learning tools. Quizzes, exams and problem tests can be one type of feedback to support SDL. It is an activity that allows learners to set goals, self assess, maintain focus, and verify and get feedback on their learning (Janakiraman, Watson & Watson, 2018).

It is not only relevant for organisations to provide employees with feedback on their learning. Organisations should also collect feedback from employees on how they perceive the organisational support and their learning progress (Boyer et al., 2014a). Since the employee perception of organisational support (for SDL) influences the use of SDL projects, responsible executives in the organisation need to receive information on employee opinions. Ways to confirm that the intended retention of skills and information occurs should also be developed. By gathering this type of feedback, organisations can also remain focused on what training topics are relevant and important for the employees (Boyer et al., 2014a).

4.6 Guiding to the right information and resources

The amount of information available can cause confusion, and it can be overwhelming for employees. A wide range of skills is required for SDL in this context, and it is the organisation’s responsibility to guide the employees. The employee's performance can be affected when the individual controls what information they use for their learning and decision-making. Their decisions to sample information can either facilitate new learning or only reinforce existing beliefs (Markant, Settles & Gureckis, 2016). Therefore, employees require support and guidance in finding new relevant information, assessing it and not opting out of the easiest answer available (Butcher & Sumner, 2011; Curran et al., 2019; Karakas & Manisaligil, 2012; Malison & Thammakoranonta, 2018; Morris, 2020). The same applies to the use of new technology. Learners may need guidance on which digital tool to use and how to use it (Haidari, Yelken & Akay, 2019).

Learners can face questions concerning the credibility of the information found on the internet (Curran et al., 2019). Facilitators of learning need to recognise the available learning resources and provide employees with access (Nasri, 2019; Vithayaporn, Yong & Chai, 2021). A challenge for organisations can be to balance providing information without directing the learning process too much. It should be encouraged that employees critically

evaluate the information provided to match it to their learning needs. Enabling employees to seek information from experts proactively is also claimed to increase learner control of the SDL process (Morris, 2020).

4.7 Hiring SDL competence

Performing self-directed learning is highly dependent on individuals' personality traits, and SDL is occasionally defined as a personality trait (Cazan & Schiopca, 2014). It is a challenge for organisations to cultivate an environment that supports learning and develop employees that are self-directed learners. However, organisations must keep in mind that the organisations' ability to keep up with the changes and new business requirements is dependent on the number of capable employees (Dapko & Snyder, 2021; Fleming, Artis & Hawes, 2014). Furthermore, it is important to hire self-directed employees because these employees are more likely to engage in SDL projects and take responsibility for their learning (Fleming, Artis & Hawes, 2014). Hence, hiring employees with self-directedness can increase performance in organisations (Dapko & Snyder, 2021). Selecting candidates with SDL personality traits can also improve organisational learning and increase efficiency while decreasing the organisations' training budget (Alonderiene & Suchotina, 2017).

It is crucial to hire self-directed employees, and one way of hiring them is to screen for self-directedness during the hiring process (Dapko & Snyder, 2021; Hutasuhut, Ahmad & Jonathan, 2021). Recruiters can screen for self-directedness in two steps. These steps check for distinct SDL experiences and determine if the candidate acquires self-directedness skills and personality traits. When screening for self-directedness, recruiters should know about the four different types of SDL projects, induced, synergistic, voluntary, and scanning. When conducting interviews, having questions that can distinguish experience with different types of SDL projects can help recruiters detect the candidate's self-directedness. It is fundamental that recruiters analyse the answers and seek to understand how the candidate provides examples and demonstrates motivation and expectation. Moreover, it is essential to diagnose to what extent the candidate is aware of the learning opportunities (Dapko & Snyder, 2021).

A second way of hiring employees is to directly screen for self-directed personality traits. The sub traits of self-directedness are beneficial to be aware of during the hiring process. There are five sub traits, and the first four are the most prominent ones. These sub-traits are responsibility vs blaming, purposefulness vs lack of goal direction, resourcefulness vs inertia, and congruent second nature vs bad habits. The first sub-trait weights if the candidates

recognise that they are responsible for their actions and if they take responsibility. The second sub-trait determines if the candidate can set goals by themselves. The third sub-trait measures open-mindedness and curiosity, and last but not least, the fourth sub-trait scans for self-acceptance and the candidate's capabilities. Furthermore, Raemdonck et al. (2012) suggest that employees with proactive personalities are more self-directed in their learnings. Similar to the process of predicting self-directedness, the recruiters can adapt the interview process and questions to recognise SDL personality traits (Dapko & Snyder, 2021).

Organisations can also utilise personality and accomplishment tests and questionnaires in the hiring process. These tests can support organisations in detecting the performance and self-directedness of the candidates. Especially when hiring, it is essential to seek those candidates with personality traits that are hard to train, such as confidence and self-initiation. SDL personality traits can be seen as the ability to regulate goals, choose methods and implement learning strategies, and actively look for learning results (Alonderiene & Suchotina, 2017).

5. Results from the interviews

In addition to the systematic review, interviews with Learning and Development practitioners were conducted. The results are presented under the seven main challenges identified in the systematic review. Under each main challenge, sub-challenges were determined based on the participants' answers.

Table 5.1. Overview of the challenges from the systematic review and the sub-challenges found in the interviews.

Challenges	Sub-challenges
Motivation	Organisational motivation as a motivating factor for employees Motivating employees Creating a space for learning and motivation Utilising managers
Safe learning environment	Defining an environment to support learning Challenges in building a safe learning environment
Tools and support	Providing digital tools Organisational culture impacting the use of digital tools
Self-directed learners and learning strategies	Individual differences in employees Time and resources for learning Informal learning Creating structures for informal learning Enabling mentorship
Feedback	Working through managers Keeping track of learning Collecting feedback
Guiding to the right information	Providing curated content Individual preferences and adjustments Communicating resources
Hiring SDL competence	Screening SDL competence

5.1 Motivation

Throughout the interviews, all participants pinpointed the importance of employee motivation for learning. They agreed that there was a close interdependency between motivation levels and learning results. Two participants mentioned that motivation increases learning and self-motivated employees are more likely to engage in learning activities.

According to three of the participants, the challenge of motivation had a two-fold approach. First, they expressed that when there is no individual motivation to learn from the employees' side, it is challenging for organisations to create the necessary motivation to engage in learning. Second, if the organisation is not motivated to provide for the learning needs of the employees, consequently, the motivation level of the employees would significantly decrease. Hence, they supported that motivation had to come from both the individual employee and the organisation.

"If the employee doesn't have the motivation to learn, it will be very difficult. It has to come from both sides, a willingness to do that learning." - Participant A

"An environment that supports learning and development of every individual increases the motivation of an employee." - Participant B

"If you're not motivated, nothing will happen. And I can't motivate you to learn. It needs to come from yourself. Then it's again providing the support and encouragement, providing the environment that supports motivation and learning." - Participant E

"Without the motivation, it will not happen. So, it's like the hen and the egg, I would say. What comes first?" - Participant G

Two of the participants mentioned that organisations should provide support for SDL, a motivating learning environment and opportunities for employees to increase motivation. Participant E explained that providing learning opportunities was fundamental for motivation and attracting, retaining, and developing employees.

"If you don't provide learning, people will not stay. If you don't provide learning, people will not come. If you don't provide learning, the people who are staying will not have the right knowledge after a while." - Participant E

All participants agreed that to create employee motivation, there are several techniques that their organisations use. These techniques were identified as building development plans, internal marketing (creating awareness of the opportunities and building recognition and visibility), building a reward system, fostering a supportive and open-minded environment that allows experimenting, constantly influencing through communication, and clear communication of organisational initiatives.

The participants mentioned how the learning in the organisation is designed affects the employee motivation. It was voiced that the learning direction provided by the organisation needs to be closely related to the employees' learning expectations to increase motivation. Another perspective given on the learning design was the format of the provided training and courses. Two participants agreed that when their organisations shifted their learning approach from long courses that lasted for days to short segments over a period, the motivation of the employees mutually increased with the shift in format. They also highlighted that it was crucial to design enjoyable courses and provide alternatives for each employee to plan their learning according to their schedules.

Two participants mentioned that the motivation level of the employees would decrease after repeating the same tasks for an extended period. Providing new tasks and support appeared to be fundamental to creating motivation.

"I mean, the motivation also goes with the assignment. If the person always does the same thing repeatedly, where is the recognition in that? It is okay to work, but I don't see where is the challenge there. So, I think it's also sometimes about providing new activities and assignments to stretch goals. It is, I mean, again providing the project. And then you provide no support behind. Then, of course, motivation will go down very quickly. You have a project. Oh, shit, this is not working. Boom, going down. So again, that's where the support needs to come in. And then the whole engagement is the commune. So my team is constantly looking for new challenges, new activities, expanding their scope and trying out new things in that part. And then, again, comes the support. So again, the learning doesn't happen only in the classroom. To give a new assignment to the coworker or something the coworker has never done before. This is an opportunity for the coworker to learn." - Participant E

"Any challenges? Well, I absolutely think there are challenges. For instance, when you have people working in an organisation for a long time, that can be quite challenging to find these motivating factors for these employees. And we work hard to work with our managers." - Participant G

When looking from the employee perspective of motivation, three major challenges were found that significantly influenced individual motivation. These factors were the time limitation, promotions and learning behaviours of employees. When the first challenge, time, is taken into consideration, four out of seven participants mentioned that due to busy working schedules, employees were struggling to find the motivation to engage in learning.

“We see that the challenge for people is taking the time, having the time, finding the time to shift from day-to-day business into learning. So the challenge is also to find smart ways to combine the day-to-day work tasks and learning and development.” - Participant B

“Also in busy times. Employees are not, of course, they are not thinking about training.” - Participant D

“Everyone is working, and they have different clients, and they have the different commitments to attend. And then on top of that, you need to fit your learning.”
- Participant F

As a solution to this, two participants mentioned learning interventions they have adopted in their organisations. These interventions mainly concentrated on building a company culture that prioritises learning and hiring the right employees with SDL competencies to harbour employees with existing self-motivation to learn (Hiring SDL competence will be explained further in section 4.2.7). They brought up that both the organisation and the employees needed to acknowledge that learning hours must be dedicated to learning activities. To achieve this, they exemplified their learning interventions such as learning afternoons, learning Fridays, and learning trips in which the teams or the entire organisation would dedicate a certain period to only engage in learning without being disturbed.

Two participants had also recognised certain periods when employees were more motivated. Accordingly, these periods were the first months of the employment, the first year of the employment, the beginning of the new year, and when employees could have a promotion after completing their learning.

“In our company, I would say this is within the first three months of their employment, so doing what we call the onboarding phase, there certainly is a big openness to soak in information to develop and learn. Also, when we look at it from a calendar point of view, we see a higher motivation early in the year, for whatever reason.” - Participant B

“I would say in the beginning when they start at the company. Like the first year, I would say the biggest motivation is shown there. And then I think sometimes it comes with the expectation of being promoted. When it does not happen, then the motivation drops.” - Participant C

According to participant C, the demotivation that arises from not being promoted is a difficult challenge to overcome due to the disagreements between the different management decisions and company resources. However, the participant implies the importance of recognition as a solution to ease this challenge.

"What we try to do now is to work more on this recognition part and move it away from promotions because it's tricky to do, at least from our side because there are other parties involved. But with the reward side of the recognition, we have some toolkits for managers to ensure that people are still recognised for their development and work without necessarily being promoted. And that includes having just like feedback talks, even outside of their bi-yearly cycle. After you see that your team member has done something well, really recognise them for that. Also sometimes just send little gifts like if there's was a big project and there was successfully done. Maybe you get a bottle of wine or something like that. It doesn't have to be a big thing, but it's still something you feel a bit recognised. I think it doesn't solve the core problem. Still, it's at least showing something, so that's where I think we could go deeper and solve something more, but that's at least like a quick fix that we came up with that makes people feel recognised." - Participant C

According to four participants, managers play a significant role in creating motivation. Managers must understand employee needs and communicate these to the Learning and Development practitioners. Furthermore, managers are also responsible for sparking curiosity and increasing motivation through many practices. Four participants described these practices as mentoring, building formal and informal communication, giving feedback, providing support and encouragement, and creating learning opportunities for employees. Participant B also believes it is important to educate managers and provide them with the toolkits they need to create motivation.

"Motivating the individuals, we approach it by addressing their manager. So, we focus a lot on what we call manager enabling, which means not just introducing and educating them on what they need to do when it comes to HR practises, learning and development. Still, we invest a lot in showing them, giving them examples of how they can motivate employees, and how they can almost sparkle the wish for learning the curiosity in their teams from a manager's perspective. So, we work with them so they can then influence the culture of the learning environment within individual teams." - Participant B

"Team managers have a massive role in recognition and support. But also, co-workers and peers." - Participant E

5.2 Safe learning environment

All participants agreed that a safe learning environment was necessary for employee engagement in learning. When participants were asked to explain a safe learning environment in their organisation, several sub-challenges were repeated under the main challenge of a safe learning environment. These sub-challenges were commitment from both the employees and the organisation, a trustful common ground, freedom of speech, open-mindedness and honesty, fostering collaboration, and a culture of failure.

“So, making sure that a trustful common ground characterises the learning environment. That means it's very clear that everything that's being shared stays within this environment or whatever room that is. It is very clear that everybody is allowed to say everything within certain standards. And there are pieces of openness and honesty when it's about getting feedback.” - Participant B

“I love a safe learning environment. I would say it has a lot to do with the culture of failure as well. It's more important to try something and learn from it than just to do it right the first time.” - Participant C

“An environment where it is okay to say “I don't know”. It is okay to fail. It's okay to ask questions and not to feel judged where it is supportive. In that perspective, trustful.”
- Participant E

“Safe learning environment is where you can share your mistakes and flaws and learn from them. And where you have a supporting team around you that can give you both positive feedback and sometimes some constructive feedback. So, with the purpose of the other one to grow. Right. So with the right intention of giving it.” - Participant G

Throughout the interviews several challenges were identified in building a safe learning environment. These challenges mainly concerned building a culture of failure, perceived support from managers, and engagement. Participant C expressed that the main issue they face when building a culture of failure is that the employees are eager to prove themselves and show what they are worth. Adding to this, Participant E mentioned that the challenge is to decouple learning with performance in organisations.

“That is exactly the opposite when you're just trying to show that you're brilliant. Then you don't learn so much because you learn mostly through making mistakes and asking some

questions that might not be super smart. If there's this competitiveness within the team and people try to be better than each other, that can hurt. That's a bit tricky, I think."
- Participant C

"Learning is a playground, where you can fail, stumble and go wrong. Failure needs to be allowed. If you're in a context where performance needs to be perfect, then everything needs to be delivered in time, and then you're not creating this environment. So that's the first conflict there." - Participant E

Both participants mentioned different solutions they have to work on these challenges. One way of managing this challenge is to have a top-down approach and to use management and leadership to convey the message that it is ok to be vulnerable. It is ok not to be perfect and make mistakes. Following this, the participant also put forth the leadership principles they have implemented in the organisation. These principles were chosen according to the organisation's expectations of what managers and leaders should display. Some principles mentioned were finding and growing potential, empowering and trusting, embracing humility, being 100% you, winning as a team, and champion inclusion.

Another way of managing the challenge of building a culture of failure was to find a way to document the mistakes made by all employees. By documenting these mistakes, employees can share, be transparent, and learn from each others' mistakes without repeating them.

"Also, like a way to document mistakes or failures that have happened so others can learn from it without making the same mistake again. I think some companies are really good and actually building an open platform where all the things that have happened are visible for everyone so they can learn from each other. I think that creates a safe learning culture." - Participant C

Participant E put forward the idea of recognising different starting points employees have when they begin learning. According to the participant, by recognising these differences, it is possible to decouple performance from learning. The participant also mentioned that it is important to acknowledge various learning styles and approaches to adjust and calibrate the learning systems. Besides recognising these differences and addressing them with different learning activities and opportunities, the participant mentioned that they utilise peer to peer relationships as a solution.

“There are different activities. I mean, we believe very much in peer to peer. That's very much a preference. You have someone who has a question. Most likely, you have someone who has the answer in the room. The only thing is to say can how we can connect the person with the question with a person who has the answer. And that's why we rely on the disputed peer. So, the answer doesn't always need to come from the teacher or the facilitator. It can come from the group. So we believe a lot about this, bringing together this social learning activity. So we have different formats where we talk about how this person has solved this problem or this activity or done this, and then people join in. And then you build upon this part. So you have so many ways now.” - Participant E

Two participants expressed that building a safe learning environment depended on the managers' involvement and perceived manager support by the employees.

“But also the challenge is to managers to support the employees and being a people manager, taking time to see those little nuances and support the employees in the right way. I think that's maybe the challenge, to make sure that you are taking time and you are investing in those employees that you will want to grow. And that you are giving feedback, checking in and seeing the development over time, and making sure those goals are met. I think that's the challenge.” - Participant A

“It's, of course, depending very much on your manager if you have the support for getting the right training.” - Participant D

To address the challenge of manager involvement, Participant D explained that they are utilising leadership development programs that are required for most managers. Through these development programmes, they aim to build an inspiring leadership community that supports employees and builds a safe learning environment.

However, due to the long list of significant duties that fall on managers in building a safe learning environment, one big challenge remains, time. When the managers and organisations do not meet the demands of building a safe learning environment, this directly impacts the motivation of employees when engaging in learning. Hence, motivation for learning and the environment are two sides of the same coin. Without one another, both are ill-fated.

5.3 Digital tools and support

All participants mentioned using different types of digital tools for learning in their organisation. Digital tools that were frequently mentioned were the organisation's own learning management system, LMS, and external learning platforms.

In the interview analysis, the main challenge of providing digital tools for learning was to ensure that the platforms have a user-friendly interface and functions. New digital tools, such as learning platforms, require proper onboarding for the employees. If employees don't know how it works, or if they experience technical issues when using it, it will only cause frustration. If the platform's content is not updated and relevant, this will also increase the frustration of the employees. Struggling with digital tools was mentioned to happen also unrelated to learning. Still, frustration with the system, in general, can impact the perception of the tool when used for learning as well. Therefore, some participants perceived the facilitation of digital tools as a challenge in their organisations. Even though facilitating digital tools and finding the right suppliers was mentioned as a challenge, participant D claimed it to be a better option compared to producing a digital tool of their own. Developing a tool internally would require even more time and resources.

One participant experienced that employees get overwhelmed by the number of systems to keep track of. The participant mentioned that this could also create resistance to implementing new ones. Contrastingly, another participant expressed that they could use more digital tools for learning purposes. Participants also mentioned that they constantly need to communicate the existence of tools and inspire employees to utilise them. Concerning the LMS, several participants mentioned the importance and challenge of having a user-friendly system that employees benefit from. Participant B emphasised that they struggle to ensure that a tool is not being seen as a solution.

"We also want to be very cautious and ensure that the tool is not being seen as the solution, right? If the quality is not there and if there isn't a solid development planning between manager and employee, then the tool doesn't help." - Participant B

While one participant mainly saw digital tools as a choice and benefit for the employees, another participant experienced new challenges when engaging employees in learning through digital tools. They addressed this challenge by encouraging employees to meet in peer groups, even though a workshop is conducted virtually.

“So I would say one of the challenges that we are facing because we tend to go more to our virtual environments in our learnings, and also because of the pandemic where all the training that we've been deploying have been virtual, is that it's more difficult to get the same connection between the facilitator and participants, I would say.” - Participant F

Three participants expressed that their organisations had a more technical focus and tech-savvy employees. They also recognised this as affecting their company culture and built a more positive attitude towards using technology.

“But I think this tech-savviness is something that I can see there. So whenever there's a new tool or something new that people can try out, I think the motivation is there quite well. Yeah, I think others, like more old school companies, probably have more problems with that than our company. - Participant C

The impact of the Covid-19 pandemic was mentioned by three participants as something that has affected their company culture and how they work with digital tools. It boosted the organisations to implement digital tools. One participant mentioned the new opportunities that have become visible due to the adaptations they had to make during the pandemic. Especially in terms of learning and collaborating on a global level.

5.4 Self-directed learners and learning strategies

All participants recognised that individual differences in employees affect their learning and development process. Mindset and attitudes to learning were frequently mentioned. Participants mentioned that some employees have a more traditional, consumption-based attitude to learning, while others were more active and self-driven with higher individual engagement levels. On the same note, other participants mentioned growth vs fixed mindsets. Employees also have different learning preferences for how to obtain learning. Participants mentioned the importance and challenge of meeting these different preferences to get everyone on board.

A challenge that the participants could see in employee behaviour is the ability to reflect on oneself. Initially, learning needs to be guided by an insight into what you need to develop and learn. Participants experienced that this process is something employees need support and guidance for. Participant E mentioned that it is also challenging for employees to see how they can benefit from learning in the long run. Self-reflection is needed to see the value of learning and development itself.

“So that is quite tricky to show people how they can benefit in the long run by actually taking time for their development and not just focusing on the work that might look good at the moment. It might bring them to a new position, but we also focus on learning something in development.” - Participant E

Participants mentioned challenges that employees go through in the learning process. Three steps were mentioned. First, to become aware of what it is they want to develop. Second is the challenge of initiating the learning process, for example, actually signing up for a course. Third, to follow through with the process, find the information they need to complete it, and collect support from their manager to complete new learnings.

Individual differences in employees were considered inevitable but something that organisations must address. Participants B and E mentioned that the first step is to recognise differences and avoid judging them.

“We try not to judge them because, I mean, there are differences. There are reasons for these differences. At the same time, we want to make clear that the traditional learning style, the consumption base belongs to a past and will not be a characteristic of successful performance in the end.” - Participant B

Organisations try to offer a variety of ways to learn and find ways to accommodate the different learning preferences.

Participants frequently mentioned that finding time for learning was a challenge for most employees. Due to busy schedules, many employees have a hard time prioritising learning.

“When an employee sits in their daily work, and they have a lot of deadlines and know that they should keep up with those deadlines, what will they do in the end when they know they've been assigned training? They will, of course, be prioritising their deadlines and commit to their current work.” - Participant A

What resources employees have access to for learning was another challenge that reoccurred in the interviews. These could be resources in terms of budget, time, information, and their closest manager. Two participants mentioned that a good connection and support from managers might be a challenge. If this is not in place, the employee can have a hard

time in the learning process. The manager was often mentioned as the person that could provide resources and make decisions to enable learning.

“The second challenge, in my perspective, is getting the respective support and connection with their line manager to make things happen. Not looking or not keeping this or letting this be an individual initiative like I would like to, but also getting the support specifically from the manager to put things into action.” - Participant B

All participants mentioned that the majority of learning comes from learning at work, working with others and being assigned stretch assignments. All participants recognised collaboration and knowledge sharing among colleagues as benefiting learning. The challenge mentioned in this was to create time for colleagues to meet and get these meetings to be prioritised in employee calendars. Furthermore, one participant noted that when the collaboration was lacking, employees tended to start from scratch when solving a problem instead of turning to their colleagues.

One way to overcome this is by working hard to establish good peer relations, which participants believed to be fundamental to creating an environment that is safe to learn and try. One participant noticed that if they could get people to show up at the first training, the likelihood of the employees returning to upcoming sessions would increase. In contrast, other participants focused on creating fun experiences connected to networking and learning, such as introduction or promotion programmes. Three participants argued the importance of presenting a clear link between how training or peer meetings can benefit employees in their everyday work. They also put forth that learning from peers, or learning in general, cannot be disconnected from the job task. Others argued that organisations needed to focus more on curiosity and development itself, not only on performance in job tasks, to make room for peer learning.

A big challenge in enabling informal learning was to connect people and different departments. Participants mentioned that departments often work in silos and are disconnected. Learning and Development departments and managers were mentioned as an essential part of the solution. They need to facilitate formal training and design an environment where informal learning can happen. It could be done by developing a good onboarding process where new hires can connect with several departments, using technological tools to connect and set up teams with diverse expertise to learn from each other.

“I think the onboarding process definitely has something to do with this as well, because sometimes you come in new at a company, if your manager doesn't have this mindset and don't schedule with different departments and different persons that you're going to meet during your onboarding, you're not going to be having those contacts your first time. So I think that's also important to onboard employees successfully, making sure that they meet not just their closest colleagues, but that they're meeting anyone that could have an impact or could give something back to their learning and their experience within the company. - Participant A

“For me, it's a leadership topic. It's a cultural topic. We have lots of discussions with our executive teams on their role and how their behaviour and practices impact the rest of the organisation. So that's it. And when we look at the employee level, it is in global functions like HR, Learning & Development, we again, we connect people all the time. We coordinate activities” - Participant B

“When we challenge people to go outside of their safe place, it's always, of course, scary. But we believe that when you do it in, you know, in a structured way that also keeps people a bit calmer. So we push people a little or, yeah, I think. I would say that you push people, but it's not mandatory or anything. But if you sign up to something, we try to get them around to see different perspectives” - Participant G

Once again, participants emphasised the importance of managers to make learning happen and accommodate individuals. The challenge mentioned was to get all managers to understand their responsibility and role in learning and development.

“I mean you, we sometimes really have paradoxical situations. The same senior leader who says we need to encourage collaboration, we need to break down silos, etc. We need to be open and transparent. And that the same person does things in reality that completely contradict these statements. So this is a person who then does not allow their training resource or their trainer to support another area in developing training or something.” (…) ”what I've seen is if you simply call this out and finger point: Hey, you said this, and you said this. Then you're very quickly in a confrontational mode that doesn't really lead to any good results. But it's really about entering these discussions with concrete suggestions that help both sides. And in the end, it's a leadership topic. It's a cultural topic. We have lots of discussions with our executive teams on their role and how their behaviour and their practices impact the rest of the organisation.”
- Participant B

Apart from managers and colleagues, four participants mentioned mentors and coaches as a beneficial way to create learning and work with role modelling. Two participants mentioned structured ways that they work with this. Some experts were mentioned to be very knowledgeable but lacking the ability to explain things in a good way. Participants mentioned that they provide senior employees with training on being mentors and mediating knowledge to manage this. The challenge they were facing was to expand the mentoring project and to get employees to educate each other instead of involving external trainers.

5.5 Feedback

All participants recognised the value of feedback in one way or another. It was mentioned to be provided both through digital systems and through discussions between the employee and their manager. All participants emphasised the challenge and importance of involving managers in the feedback process. A major challenge mentioned was to engage each manager. They need to understand the value of learning and development for the employees. Two participants mentioned that managers need to sit down and have a deeper reflection with the employee on what and how they have learned for learning to happen.

According to the participants, some managers mainly focus on delivering and quality of the results and don't see the importance of the process behind. Due to this, the quality of feedback that employees receive is highly dependent on the managers' involvement. According to the participants, it is not only the will from managers that might be lacking. Sometimes, managers struggle with finding the time to work properly with feedback.

"*Because we want managers to drive learning development, to drive the competency management. So that means at the beginning of the learning, or before any learning happens, ideally manager and employee sit together and make a plan. Having the manager say, "Yeah, this is what you should do. Fine, I'm going to support you". And of course, we then also want the same conversation to happen after a learning intervention. For me, this is a part of development discussion, this is part of an organisational learning culture, and we don't see every manager doing this at the moment. The focus is very much on the technical things, so the very straightforward: product one, product two, level ABC. But the challenge is to come to the point where we have the development discussions prior and after training that focus on personal development.*" - Participant B

"*Yeah, I would say that we rely really on the managers for feedback around that because they know the best where their employees stand. What's the current skill set is and also they are the ones that should then check in with them where they are and to kind of support them along the journey and there we see quite some differences*." Participant C

"*Admit a course, earn a certificate and then have it on my profile. Fantastic. But then how you are playing this. So your certifications, how are you working with this? Are you applying these? Are you working better and so on? And that's where the feedback comes in.*" - Participant E

The participants mentioned how they work to overcome this challenge. In one organisation, they had targeted managers interested in developing their feedback processes and started developing them. The hope is that other managers will be inspired to develop the same skills. Other participants presented more organised ways of working with manager feedback. This could be done through regular feedback chats between managers and employees where the topic of learning and development was included. The interviewed Learning and Development practitioners mentioned the importance of providing managers with training on this, maybe presenting them with a toolkit on what employees can be offered in terms of learning and development to be the best possible support.

One participant also highlighted that managers are an important part of the feedback chain in both ways. First, to provide employees with feedback. And second, just as important, managers can be the link providing the Learning and Development department with employee feedback on their initiatives and resources.

A question discussed in the interviews was how to enable employees to keep track of their learning process. Most participants mentioned that this might be hard for the individual employee. One frequently mentioned way to keep track of learning was through the organisation's learning management systems, LMSs. One participant said this is the main way to keep track of your learning. In the LMS, the employee can see what learnings they have completed or not and therefore, the employees should have quite an easy time tracking their learning. Other participants presented a different perspective where an additional challenge is that learning is not only done through formal courses. Without reflection, employees might miss out on tracking their learning from other resources than the LMS. Again, participants emphasised the importance of the managers to encourage this reflection.

“If you don't have a reflection, which is about identifying the learnings beyond the content that you have listened to. If you don't have this conscious exercise, you might just see it as a work task. So again, how co-workers and managers start considering and looking in activities through the lens of learning. What can be done differently? What can I improve on and so on? If this is not happening, then it’s, of course, difficult to actually track the progress of learning.”
- Participant E

Another participant presented how they have addressed the challenge of getting employees to track their progress. They implemented a new digital tool to support the tracking of development. In the implementation phase, they provided workshops on using the tool and creating a growth plan.

“Then we actually had some reflection work where they, in this session, filled out the growth plan. And that was actually super well-received because then they had some guidance, and we also made sure that if they attend the session, they at least start their growth plan, and it's not just showing them and now do it in your free time. Because like, they probably don't have free time and then they don't do it.” - Participant C

Other ways mentioned keeping track of learning is through growth plans and performance reviews. A challenge mentioned for these solutions was getting people to put down what they want to develop in words. If that is not explicitly stated, it is harder to track development.

All participants had structured ways of collecting employee feedback after a formal learning session, workshop or course. Some organisations have also implemented ways of collecting general feedback on satisfaction and perception of the work. Learning and development factors were also included in these structures. For these methods, participants claimed that it was easy to collect feedback. In general, participants mentioned two challenges with receiving feedback. First, to get traffic to the surveys and collect the opinions and second, to analyse the data and make something out of their received feedback. Participant D mentioned that one way to encourage employees to provide feedback is by clearly showing employees how the feedback is being used. If the feedback results in change, employees will see the value of delivering it.

“Once we have got some data or information for a certain amount of people, we also show them how we use the results. So they can feel that it is meaningful to answer and give

feedback" (…) "And then they can see that we are doing something with the feedback and create new initiatives or yeah, adjust or align with the feedback that we receive."
- Participant D

"It's like saying: your time has been, so we want to take this feedback and build for the future. And normally it's easier then because people really want someone else to have an even better experience than they have. So I think that works quite well. - Participant G

5.6 Guiding to the right information

All participants recognised that employees could be overwhelmed by the amount of information available when learning something. Supporting employees in this work was something that all participants recognised as a challenge.

One challenge mentioned was how to reduce information to a minimum and still keep it relevant. Providing relevant information for a targeted workshop was not seen as an issue. The challenge is to support individual learning processes. Even limited resources, such as e-learning platforms or learning management systems, can be perceived by employees as overwhelming. They can have a hard time finding a course or deciding which one to start.

Participant C presented a solution from their organisation. In the learning platform, they created curated lists of courses with material that belonged to a specific topic and were of good quality. Participant E mentioned that they sometimes recommend content but are concerned about not limiting employees to specific resources. In their organisation, they utilise three different learning platforms. The platforms are different in terms of content and approach. Employees are offered webinars to identify which platform suits their needs best. Additionally, Participant D mentioned that they are aware that employees learn from several different resources. Still, the least the organisation can do is make sure they have quality assured content in their LMS.

"So, the people should know that once it is on our LMS system, then they should know it is also a preferred content or that it's quality-assured content. And hopefully, they have trust in our ability to identify and select content and share it with the organisation, and that it is relevant." (…). "Then, of course, people speak about self-directed learning. Of course, people have their channels to find training, LinkedIn or Coursera or whatever they turn to. But we need to have some kind of idea of what we want to present from the organisational point of view. - Participant D

Knowledge sharing amongst co-workers was mentioned as an important resource to guide relevant content. In one organisation, this was done by letting employees present their learnings and share content in a subscription list that others can use as a guide. Another organisation utilised a structure in which they built peer groups of colleagues working on the same tasks and at the same level. This structure supported employees in their search for information.

Participants returned to the statements that individual differences affect learning, affecting how employees comprehend information. It was mentioned that employee differences could concern both what content of learning but also individual preferences in obtaining the information. Six participants mentioned curating and structuring the content in their LMS to address this. One challenge with learning platforms is that they can be limited in diverse learning styles, such as readings, videos and podcasts, to match different preferences. Participants also experience individual differences in what type of courses employees choose to engage in when learning. Some prefer courses divided into smaller sections, while others prefer to engage in a longer course and direct it themselves. It was also recognised that regardless of how the employee structures their training, they have the potential to reach the same result.

Participant C mentioned that in addition to curated playlists, they also provided employees with learning paths based on personas. This variety of learning paths also supported the employee in finding what to develop.

“But still, the tricky thing was to find like, OK, what do I even want to develop? The next thing that we did was create learning paths and use personas. So yeah, we just used what we saw. In performance reviews, there were often some development topics that managers had with their team members. And we then created a persona around it. So it was often said that people are super good in their area of expertise, but they don't speak up enough, for example. Or they're very good at their work, but communication with stakeholders and the team seems to be a problem. And with these personas, we then curated content and said OK, these courses especially help for communicating in a clear way that other people understand, or this is more for boosting confidence.” - Participant C

Another challenge mentioned was that employees tend to look for a magic pill and that there is one correct way of learning. What information is needed to learn depends on the starting point of the employee and what knowledge and skills they already possess. This is also what

makes it challenging when curating content for learning. One perspective raised was also the value of the amount of information available. It was mentioned that the amount itself might not be the challenge, but making sense of it is a challenge. That is where employees need support.

“The amount of information is a reality. It's not something we can… I mean, that's part of it. And I think it's good because then you also, getting back to the first question you had, How do you learn? I mean, I can learn from Google. I can learn in the LMS and learn with a friend. I can learn by reading an email. I can learn through podcasts or doing something. Soon, I think there's nothing wrong with that to have the amount of information. I think it's actually very nice to have a choice. Then it's about how to make sense of these choices.” - Participant E

Participants returned to mentioning the importance of the manager. Participant A talked about the challenge of making sure that managers and employees have a continuous dialogue. Managers often have the solutions and power to distribute resources, so the employee needs to be in dialogue with them. In addition, one participant broadened the perspective of who needs to be easily accessible to employees and included the HR and Learning and Development departments.

Concerning communication of resources, one participant identified a challenge in managing the amount of communication that goes out to employees. Employees do not only need to handle the information they need for learning. They also deal with information on what formal learning is offered at what times and newsletters. To ease the amount of that communication, the organisation has gathered all information concerning mandatory learning on one internal web page. They also aim to only present information to targeted groups so that everything an employee receives from the Learning and Development department is relevant for that specific person.

5.7 Hiring SDL competence

Throughout the interviews, the majority of the participants pointed out the importance of hiring employees with the right competencies. Six out of seven participants agreed that screening for learning readiness could be done by asking the right questions during the interview process. Participants did not perceive hiring SDL competence as a major challenge but an important step for harbouring employees with self-direction and self-motivation in the

organisation. As mentioned in the motivation section, 4.2.1, hiring SDL competence was also mentioned as a solution to the lack of motivation for learning in organisations.

The interview process in organisations is the main tool in hiring SDL competence. Participant A expressed that competency-based interviews are fundamental for hiring employees with the ambition to learn and develop. The participant also mentions that it is possible to incorporate questions related to learning engagement in conducting these interviews. Five other participants added that they assessed SDL competence during the interview process. The mentioned methods for this assessment were candidate evaluation forms and situational questions to assess readiness for learning, interview plans to discuss ambitions and goal setting, discussions on past experiences and seeking for growth mindset. Contrastingly, participant F stated that due to the organisation's more mandatory and traditional learning approach, most candidates are aware of the organisation's learning demands. Therefore, readiness for learning is not systematically screened during the interview processes.

"I think that's a very important thing. What I always work on within my different roles is competency-based interviewing. And what we are always looking for is that someone, of course, amongst other things, that you're not just filling up the requirements for the role, but also that you have the ambition to learn and develop. That's very important." - Participant A

"We have a structured candidate evaluation form. That, next to particular requirements for the job has focused on key core competencies, mindset, behaviours that we want to see, and this then leads to a comprehensive assessment where we could say OK readiness."
- Participant B

"We hired some people and I was part of the interviewing process. We always tried to include a few questions to kind of check that, so one was, for example, just to ask what they're looking forward to learning in the new role just to as like we're hiring for learning and development. See if they actually like to learn and develop themselves as well. It's kind of in our DNA, so I think that's important to check. And then also we always ask for situational questions like where they like had a project that they maybe didn't go as planned. We can then see what they learn from it and these kinds of questions. OK, how do they approach learning? Do they reflect and? Are they open to feedback and adapting their skill set pretty much?" - Participant C

“Of course, there are requirements for this specific role that they are going to hire for. They're having that discussion with the manager who is hiring for the position and also with recruitment and HR are also involved and looking at, of course, where the person is right now and doing some kinds of plans, discussing ambitions for the future, how it can help to support because sometimes it needs to develop in order to take on new roles and responsibilities. And then we have supporting processes for that as well. So you can put that in a plan.” - Participant D

“I mean, not directly, not generally when recruiting someone, so we would not be doing some kind of assessment. Okay. How much do you know when you start? This is part of the conversation. Then it is, of course, the manager when we are recruiting the person, by going through the interviews and going through the recruitment process, selection process, we're of course having an idea, an idea of uh, existing knowledge, certifications, deployments, background experiences and so on.” - Participant E

*“I think we do. We don't have any kind of system that does the scanning for us, but we do have that in our culture. Our culture is kind of, you know, built on the growth mindset. So you have to have that kind of mindset to get into *the company*. So, somehow we try to scan it in our interviews and make sure that people are not in the job here now but that they're ready to grow and upskill and reskill as the world is changing. You can catch it from many levels. You can look at what's the motivating factors for people? And most people say it's development. And then you can always go deeper on that and see what you mean by that? So there are a couple of interesting questions that you can ask. And we also have, you know, we look at people: what does that environment look like where you like to work and those kinds of things. And you can catch those nuances from those interviews.”*
- Participant G

In addition, Participant E mentioned that managers play an important part after the recruitment process. Managers must keep track of the new employees to identify new employees’ strengths and weaknesses. Also, to see if the new employee reaches the organisational expectations and matches with the observations from the interview process.

“And of course, this idea will be confirmed, or it will be not, and it will be expanding on the first weeks of work and the first month of work, of course. So, if you say that I know data science and then on your first day you're not able to handle the problem, then there is a conflict there. Then through the job charts and the observation that managers will do, they will then identify, I can see your strength here.” - Participant E

6. Discussion

6.1 Comparisons of the findings

Findings from the systematic review and interviews were compared to identify similarities and differences. The aim of comparing the results was to clearly present the answer to the second research question: *RQ2:* Are these challenges experienced in organisations?. By contrasting the findings, the authors were able to identify which challenges were recognised by the practitioners. The authors of this thesis wanted to understand the differences between the two results. This was important for validating the reliability of the systematic review results and comprehending if the interviews have contributed to the systematic review findings by identifying new challenges.

6.1.1 Motivation

During the interviews, all participants mentioned the importance of motivation for SDL. They acknowledged that motivation and learning results were strongly tied together, and creating motivation was a challenge in their organisations. In the results of the systematic review, the identified challenges in creating motivation were the learning environment, the organisation's level of promoting experimentation and active participation, a culture of failure, and challenges that have a work-related nature (Boyer et al., 2014b; Curran et al., 2019; Hutasuhut, Ahmad & Jonathan, 2021; Raemdonck et al., 2012; van der Baan et al., 2022).

In the interviews, all challenges found in the literature were also mentioned by the participants. The need for intrinsic and extrinsic motivation mentioned by (Zhu, Bonk & Doo, 2020) was perceived by three participants. They put forth that the challenge of motivation had two perspectives, the individual motivation of the employees and the organisation's engagement to motivate employees. Participants also mentioned that organisations must provide constant support and a motivating learning environment to cultivate motivation. All participants agreed that certain management practices could create motivation in the organisation. These paths were identified as development plans, creating awareness of the learning opportunities in the organisation, building recognition through internal marketing, having a reward system and recognising employees' efforts to engage in learning, influencing and communicating organisational initiatives.

Some of the challenges identified in the systematic review had a work-related nature in the systematic review. These challenges indicated that employees' motivation levels depended

on job demands, type and variety of tasks and projects to be completed (Boyer et al., 2014b; Curran et al., 2019; Raemdonck et al., 2012). These challenges were recognised by three of the participants during the interview process. The participants mentioned that the tasks have a significant impact on the motivation level of employees. Participants acknowledged the significance of task variety and mentioned that organisations must provide various challenging tasks combined with the necessary support to motivate employees and merge learning with daily work tasks.

Apart from the findings in the systematic review, interview participants added three major challenges in creating motivation; time, job promotions, and the different learning behaviour of employees. These sub-challenges were identified in the systematic review. However, they were found to be more significant for other main challenges in the review results. After the interviews, the participants made it explicit that these challenges were significantly important for the motivation of employees. To manage the challenges, both found in the literature and mentioned in the interviews. Participants highlighted the importance of prioritising learning in organisations and hiring the right employees with SDL competence. By creating specific time slots that are only dedicated to learning and hiring candidates who are self-motivated and willing to put the effort to learn even in busy times, organisations can increase motivation to learn.

According to the interview results, there were certain periods when employees would be more motivated to engage in learning activities. These periods were during the onboarding process, early years of employment, the beginning of the new year and when employees know there is a possibility of a job promotion. The systematic literature review previously found the effect of job promotions on learning engagement. However, it was put under the main challenge of a safe learning environment because it was found that job promotions could alter employees' perception of the working environment and create a more safe and positive understanding (Raemdonck et al., 2012; Silamut & Petsangsri, 2020). One participant during the interview mentioned that this challenge is a difficult one to overcome. However, it is possible to utilise managers to recognise the effort put in by employees, build a reward system and create a more positive environment where employees are motivated to learn and develop.

In the interviews, one significant way of managing most challenges in creating motivation appeared to be utilising managers. Four of the participants explicitly mentioned that managers are the key to creating and retaining the motivation of the employees. They stated that managers constantly need to communicate organisations' learning initiatives to

employees and employees' learning needs to the organisation to align both expectations. Managers are also responsible for increasing motivation through many practices such as mentoring, formal and informal communication, support and encouragement. Therefore, one participant put forward the need to educate managers to prepare them for the extensive responsibility of sparking motivation.

6.1.2 Safe learning environment

In the systematic review results, it was found that a safe learning environment was necessary to allow employees to engage in SDL and the learning needs of the employees are determined by the learning environment (Dapko & Snyder, 2021; Silamut & Petsangsri, 2020). The challenges in building a safe learning environment were identified as promoting experimentation, job promotions and pay level, active participation and a culture of failure (Dapko & Snyder, 2021; Raemdonck et al., 2012; Silamut & Petsangsri, 2020).

All participants agreed that a safe learning environment was essential in the interviews. The environment had to be based on trust, freedom, open-mindedness, honesty, collaboration and a culture of failure. The participants mentioned that the challenges in building a safe learning environment were mainly the perceived support from managers and engagement, building a culture of failure. The participants did not mention the challenges of promoting experimentation and job promotions under the main challenge safe learning environment but under the challenge of motivation. Hence, these challenges can be multifaceted and impact both the motivation and the perception of the learning environment.

According to the participants and Dapko & Snyder (2021), a safe learning environment was necessary. However, two of the participants mentioned that the challenge of building a culture of failure was highly related to the competition between employees and the need to prove oneself in the organisation. Adding to the challenges, both participants perceived this as a challenge and exemplified how their organisations managed these challenges. Some management examples were, utilising managers to illustrate that "It is ok not to be perfect and make mistakes.", implementing leadership principles, and building a system to allow employees to share their mistakes to allow collaborative learning from each other's mistakes.

Differing from these practices, one participant mentioned that organisations must acknowledge the different starting points of employees when they begin their learning journeys. This acknowledgement can allow organisations to recalibrate their learning systems to provide opportunities to all employees. The participants also specified that they

utilise peer to peer relations in their organisation to address the challenge of decoupling performance from learning. According to the participant, it is possible to connect the employee who has the question with another employee who has the answer by fostering a collaborative environment and increasing employee knowledge sharing.

According to the interviews and the systematic review results, fostering a safe learning environment has many demands that must be met. According to the participants in the interview, the likelihood of these demands being met is highly dependent on the managers. Hence, the managers' involvement and perceived managerial support by employees determine the success of learning in organisations. One participant explained that it is important to educate managers to develop their leadership skills to guide and support employees better to increase the sense of safety in the workplace. Managers carry a big responsibility in building a safe learning environment, which adds to their long list of tasks. Therefore, in the interview analysis, it was found that one critical challenge remained for managers, finding the time to meet all demands. However, organisations and managers must be aware that when these needs are not fulfilled, a safe learning environment is not present, this has a direct impact on the employees' motivation for engaging in learning. Hence, motivation and a safe learning environment are not complete without one another.

6.1.3 Digital tools and support

All participants used digital tools to support employees' learning process. The challenge of providing the right tool for learning was mentioned both by participants and in previous literature (Rana et al., 2016). Participants mainly mentioned the digital tool or platform to provide employees with content and enable them to check completed courses. Most participants were concerned about the user-friendliness of their learning platform. A user-friendly design was also suggested by Firat et al. (2016) as one of the guiding design principles to support SDL. To cope with lacking user-friendliness, many participants mentioned that they work hard to provide employees with proper onboarding of new systems. The opportunity to collaborate (Rana et al., 2016) was not something the participants mentioned as part of their digital tools. However, just as the literature stated to be important, some participants took careful measures to not view technology as a ready-to-use solution for learning (Haworth, 2016). Participants were aware that other aspects, such as reflection, also needed to be in place.

Many participants claimed to have a company culture and attitudes that support the use of technology. This is partly due to employees with technological skills and because of the

organisation's will to become more digital. The environment fostered by the organisation was suggested to increase employee engagement in induced and scanning SDL projects (Fleming, Artis, Hawes, 2014). The participants mentioned no explicit examples of this. However, they did mention that digital tools enabled employees to learn from each other and could be provided with some guidance on the platform, through playlists or learning paths, to support induced or voluntary learning initiatives.

6.1.4 Self-directed learners and learning strategies

The interviewed participants recognised that individual differences affect learning. Knowing individual preferences and the learning and development needs of the employees could help HRD practitioners create better settings for SDL (Karakas & Manisaligil, 2012). However, they mainly mentioned it as a responsibility of the manager to create good learning circumstances for the individual employee, instead of that being something the Learning and Development department focus on.

Three participants worked with mentors in their organisations. They also mentioned that all mentoring employees, often senior colleagues, are provided with training on mentoring. This goes in line with the findings in the systematic review, mentioning the importance of this (Boyer et al., 2014a). According to the findings from Pearce (2019), both personal and professional relations must be developed between mentor and employee. Some participants struggled to get mentors to provide knowledge on "hard skills", while others had structured ways of senior mentors passing on knowledge. Organisations enabled personal relationships through initiatives to create diverse teams, help different departments connect, and gently push employees out of their comfort zone to network.

6.1.5 Feedback

Feedback was mentioned to be crucial for the learning process steps that the individual finds challenging (Cremers et al., 2014; Parker & Roessger, 2020). The majority of the participants mentioned that their learning management system (LMS) is one way for employees to receive feedback and keep track of their learning. The feedback provided through the LMS mainly shows progress with what goals were set and how employees progressed through the learning process of attending courses. This use of digital tools as feedback support was also suggested in the results from Janakiraman, Watson and Watson (2018). However, feedback was also mentioned by the participants as a bigger challenge than just providing a list to check off. A lot of responsibility is put on the employees' closest manager, and

organisations tend to have a hard time engaging every manager in providing feedback. Several participants talked about how learning is viewed. If feedback is only given on formal training, there is a risk that employees and managers overlook the massive development coming from informal learning, such as stretch assignments. Again, managers were claimed to have the responsibility of supporting the employee to identify learnings and hence, deepen the learning. The ability to self-reflect is suggested to support SDL (Perkins, 2018) and participants argued that this is an important task for the managers to support the employees.

Apart from managers and digital tools as a way for feedback, self-directed learners need to seek feedback in other ways, not only through top-down communication (Cremers et al., 2014). In the interviews, it was mentioned that the Learning and Development departments try to organise for departments and employees to meet, but nothing specifically on how feedback on a peer level happens.

Boyer et al. (2014a) claimed that employees' perceived organisational support for SDL influences the use of SDL projects. Due to this, organisations must be aware of these perceptions and how training is perceived. Collecting feedback for formal training and, to some extent, general feedback on work situations appeared not to be a challenge for the participants. They had structured ways of collecting that data. However, what was mentioned as a challenge was getting people to respond and utilise the collected feedback. Some participants mentioned that they try to overcome these challenges by clearly showing how the feedback from employees is used. They hope that showing employees that their opinions matter and make a difference will motivate them to provide feedback. Feedback on informal learning, or feedback from employees who do not engage in formal training, was not mentioned as a group to collect feedback from. This could potentially mean that organisations miss out on important information concerning why these employees chose not to engage in formal training.

6.1.6 Guiding to the right information

In the systematic review results it was suggested that employees could be overwhelmed by the amount of available information, and therefore they require support in finding new relevant information and assessing it (Butcher & Sumner, 2011; Curran et al. 2019; Karakas & Manisaligil, 2012; Malison & Thammakoranonta, 2018; Markant et al., 2016; Morris, 2020). When mentioning this to the participants, they all nodded in recognition. Although challenging, some participants also mentioned that they see this diversity of information

available as something inevitable and more of an opportunity than a challenge. It was mentioned to help support employees with different learning styles and needs of learning.

The participants addressed this challenge of facilitating information mainly through their LMS. Through that platform, they provided quality-assured content and made modifications to guide the employees in their learning process. Having the content approved by the organisation decreases the burden on employees to assess the source's credibility, which can otherwise be a challenge for learners (Curran et al., 2019). However, as suggested in the systematic review results, organisations need to find a balance between providing information and not directing the learning process too much. According to the interview results, many organisations had formal training with a set process and provided employees with learning options that they could participate in on their initiative. Participants mentioned having both curated course playlists and learning paths to guide the employees. This could be seen as guidance, not only concerning information but also in the steps of the learning process. Many participants faced a challenge in meeting the different learning needs of employees, both in terms of what information is needed and how it is presented. Cremers et al. (2014) emphasised that self-directed learners are expected to know when and how to seek feedback from others. Peer-to-peer communication was not mentioned as a way to provide feedback in the interviews. However, when it came to information and knowledge sharing, participants encouraged employees to communicate and share on a peer level.

Apart from these challenges, participants mentioned that communicating the available resources could also be a challenge. Employees might not only be overwhelmed by the information available to learn something but also by the information presenting possible things to learn. Organisations tried to direct information on learning initiatives to targeted groups to avoid excess communication flows. Only targeting a specific group can make the information better suited and might result in more people reading the information and engaging in training.

6.1.7 Hiring SDL competence

According to the systematic literature review, self-directed learning was highly dependent on the employees' personality traits (Cazan & Schiopca, 2014). Hiring SDL competence was an important step toward increasing SDL in organisations because self-directed employees were found to be more likely to take the initiative to learn and develop (Cazan & Schiopca, 2014; Fleming, Artis & Hawes, 2014). The challenge of hiring SDL competence was

identified as screening for the personality traits during the recruitment (Dapko & Snyder, 2021; Hutasuhut, Ahmad & Jonathan, 2021).

Six participants pinpointed the necessity and significance of hiring SDL competence throughout the interviews. The topic of hiring the right employees also reoccured in the challenge of motivation as a solution to increase the number of employees with self-motivation in organisations. As stated in the systematic review, the participants agreed that the screening could be done during the interview process. According to Dapko & Snyder (2021), hiring SDL competence could be done in two ways. These are directing questions to check for SDL experiences and determine if the participant has the SDL personality traits. The participants' answers correlated with the systematic review results in the interviews. The participants stated that the search for SDL competence could be done during the interview.

To manage this challenge, participants stated they would utilise competency-based interviews, questions directed to detect learning engagement, candidate evaluation forms, and interview plans to discuss ambitions and past experiences and detect a growth mindset. Examples such as personality and accomplishment tests and questionnaires were also mentioned in the literature (Alonderiene & Suchotina, 2017). One participant added that after the recruitment process, it is the manager’s duty to keep track of the employee to identify strengths and weaknesses and assess the accuracy of the interview process. Most participants in the interview stated that they did not have an established organisational structure to screen for SDL competence other than the mentioned methods. Furthermore, in the results of the interviews, hiring for SDL was not perceived as the biggest challenge but a mandatory step to retain and increase SDL competence in organisations.

6.2 General discussion

This study aimed to identify challenges organisations face when supporting their employees’ self-directed learning processes. This was done by identifying challenges mentioned in empirical SDL literature and investigating how they correspond with the experiences of Learning and Development practitioners. In addition, data on how the challenges were addressed in organisations was also gathered. The results suggest that practitioners seemed to be aware of the most challenges found in the literature. The main challenges found were: motivation, a safe learning environment, digital tools, self-directed learners, feedback, guiding the correct information and hiring SDL competence. The interviews were based on the seven main challenges. However, since the specific sub-challenges found in the systematic review were not a part of the questions, the answers could differ from one

participant to another. The participants were given the room to express how the main challenges were experienced in their organisations. Hence, they also mentioned sub-challenges that were not identified in the systematic review but are still connected to the main challenges.

The first main finding of this thesis is that all main challenges found in the systematic review were recognised by organisations. What became visible from the interviews was that the challenges mentioned are connected. Due to the woven nature of these challenges, it can be concluded that it is difficult for organisations to separate these challenges from one another and only target one challenge at a time to increase SDL. Managing one of the challenges in the organisation was sometimes mentioned by the participants as a way to help solve another challenge. For example, providing a safe learning environment also supported the work with feedback on learning and development and increased motivation. Hence, this multifaceted and complex integration of the challenges makes it inevitable that organisations must handle all challenges together for better learning and development. However, when appropriately managed, all challenges have the potential to become an opportunity. Just as was mentioned, for example, for the amount of information employees can choose from in their learning process. When managing the challenge of guiding them to useful information, the number of resources and available information is an opportunity.

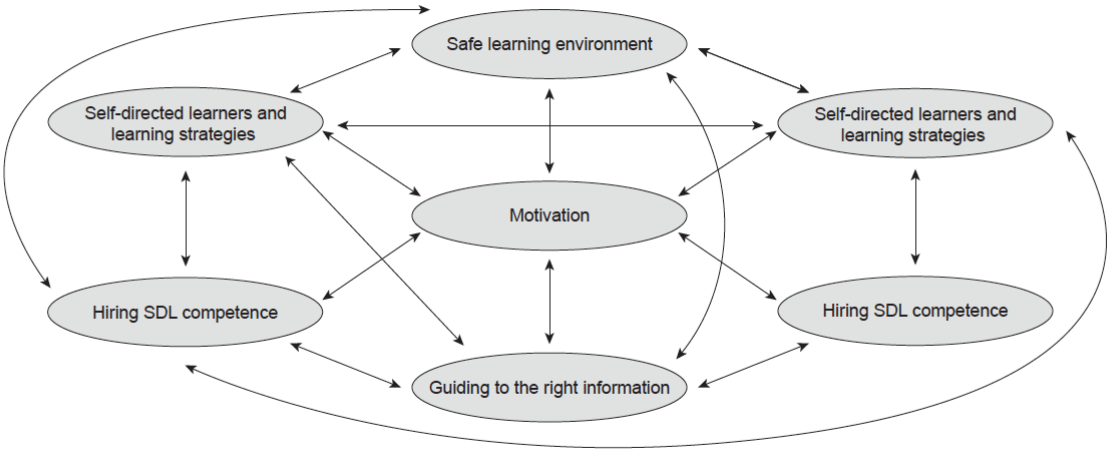

Figure 2. The interconnections between the challenges.

Second, the thesis identified that to address these challenges, managers must be utilised in the best way possible. When the participants in the interviews were asked how they were managing the identified challenges in the systematic review, almost all solutions indicated managers' utilisation. For this reason, this thesis concludes that managers are at the centre

of the stage, and the majority of the responsibility falls on them when addressing these challenges. Hence, organisations need to acknowledge that without enabling managers, providing them with the necessary tool-kits and getting them on board, it will be challenging to get the rest of the employees to exploit SDL.

From the findings, it can be discussed to what extent organisations actually are aware and actively work with supporting SDL. In the interviews, it became clear that the different organisations had differing organisational approaches to learning. Some participants mentioned that learning is still traditional in their organisation. They focused on providing employees with formal training and mandatory learning initiatives. Others had an organisational culture focusing on continuous learning and acknowledged informal learning and self-directed learning initiatives as a big part of employee development. Dapko and Snyder (2021) claimed that organisations must foster a positive learning environment for employees to explore and exploit their SDL competencies. However, if some organisations lack an awareness of the concept of SDL, it might lead them to ignore the challenges. As a result, they miss out on the benefits of having self-directed learners as employees and increasing learning and development in their organisations.

The interviews did not explicitly discuss the terms induced, voluntary and synergistic SDL projects. However, from analysing the results, it can be concluded that induced SDL projects, caused by a discrepancy between current and expected knowledge or skills, are mainly supported by providing employees with access to learning resources. Depending on the external trigger, it might be the case that organisations provide formal training and thereby decreases the use of induced SDL projects. It could be viewed as if the organisation focused on formal training might avoid SDL by predicting some of the external triggers and providing learning to the employees before they experience the discrepancy. Voluntary SDL projects guided by personal motivation, interest and curiosity were harder for the organisation to support from the perspective of the Learning and Development practitioners. These SDL projects could be supported with resources only if the project aligns with the organisation's purpose and would benefit the employee's work performance. It might be the case that synergistic SDL projects, when external triggers and personal motivations are combined, create the best circumstances for SDL.

Some previous systematic reviews examine the use of SDL in medical education or suggest ways to support it based on literature (Buch, Rathod & Naik, 2021; Rana, Ardichvili & Polesello, 2016). This is the first study, to our knowledge, that systematically and in a broad perspective identifies potential challenges of SDL with different participant samples while

also checking them against the experiences of practitioners. Not narrowing down this review to a specific population has its challenges, but it is also valuable to broaden the perspective of using SDL. This thesis contributes a new perspective to the current literature with the addition of how the specific challenges are addressed.

The interviews were done with a small sample and therefore have limited generalisability. However, the systematic review findings were general and covered studies on adult learners as students and employees. This suggests that the systematic review findings could be generalised and used to examine how the same challenges of supporting SDL are experienced in a school setting or other context.

The findings support that organisations seem to be aware of challenges and the importance of having and supporting self-directed employees. Implications for what needs to be done by institutions and instructors to help learners in planning their learning were suggested by Tough (1971) already in the 70s. The results of this thesis contribute to the recommendations, present challenges in SDL in a contemporary context and how to turn the challenges into opportunities. Therefore, it can be said that the results have both theoretical and practical relevance. The identified challenges from the systematic review can be utilised as a theoretical basis and tested against other participant samples. Recommendations of how organisations have addressed these challenges are of practical relevance for others facing the same situation.

6.3 Limitations

The results of this study are interesting for examining the awareness of challenges and how these are addressed. However, some limitations are affecting the generalisability of the results. For the empirical data collection, the method chosen was interviewing. The sample size (n = 7) can be considered too small to draw trustworthy, general conclusions. One optional method would have been to use a quantitative approach by constructing a survey and reaching more participants. This could have answered the second research question (*Are these challenges experienced in organisations?*). A survey could have provided a statistical measurement of how frequently organisations experience the identified challenges. Instead, we used interviews to collect qualitative data and answer a third research question: "*How are these challenges managed in organisations?*". This was considered more valuable since the results both present challenges to be aware of and organisational strategies to address them. Concerning the participant sample, they had different professional roles and worked in different types of companies that differed in size and location. However, all organisations had assigned Learning and Development

departments and participants were chosen based on their expertise. The results on experienced challenges and how these are addressed might have differed if other types of organisations or other professions were examined.

During the interview process, it was decided to describe the concept of SDL before the interviews and let the participants know that the questions were about SDL. Hence, during the interviews, the term SDL was not mentioned in the questions. This method was chosen because it was considered that some participants might not know about the concept. By describing the concept, the aim was to decrease the possible confusion among participants and minimise the risks of participants talking about another topic. However, it is not sure if the participants answered in line with the given description.

Similar to the decision made, it was decided to ask more open questions on the main challenges rather than asking specific points related to them. The aim of choosing this method was not to frame participants thinking from the beginning but also to give them a chance to contribute to the interview results with other challenges. It was thought that if the questions were precise, this could limit the scope of the research.

Concerning the systematic review, the authors of this study made it as transparent as possible to present a trustworthy result. When searching for articles, it became clear that differentiating between the terms self-directed learning, SDL, and self-regulated learning, SRL, was not always done. This was also validated by studies examining the use of the terms. Even though the terms describe different concepts, some authors use them interchangeably (Saks & Leijen, 2014). For this thesis, articles were only included if they used the term self-directed learning or presented a clear definition of the terms in cases where they mentioned both SDL and SRL. There is a risk that articles using the term SRL might define it as SDL but call it differently. These articles were automatically excluded from our search, which might have led to us missing out on relevant articles. A way to avoid this would have been to include articles with the term SRL in the first step and then analyse their definition to see if they matched the SRL or SDL definition. Due to time limitations, the inclusion of SRL articles and analysis was not possible for this thesis. However, it would be valuable to consider for future studies.

As always, there is a risk of subjectivity with a qualitative approach. In this thesis, the risk appeared in both codings of the challenges in the systematic review as well as analysis of interview results. For both parts, the two authors assigned codes that the other author later checked. The coded sub-challenges were later grouped under the main challenges

throughout the discussion by the authors. If possible, it could have been valuable to have an outside opinion on the process to review the analysis of the two authors. The selected method of this thesis could have been altered. It was possible to just do a literature review instead of doing a systematic review. However, it was decided that a systematical approach could increase the trustworthiness of the thesis and increase the value of the results.

6.4 Future research

As seen in this thesis there are several challenges that organisations can face when supporting employees in SDL. The challenges could be identified both in current literature as well as in interviews with practitioners. Since this thesis focused on the organisational aspect of SDL, it did not provide insights into the employees' learner perspective. It would be interesting to have a more in-depth look at how employees view their self-directed learning for future research.

As mentioned in the limitations, all participants were chosen due to their expertise and professional role in working with learning and development. It would be interesting to see if the results also hold for organisations without an assigned Learning and Development department for future research. It is not sure that they experience the same challenges, or maybe they have found other ways of addressing them. Perhaps, it could even be the case that organisations without a specific department focusing on learning and development affect the levels of self-directed learning for the employees.

The previous systematic reviews on SDL challenges have focused on studies with nurses, nursing students, and medical students as participant samples (e.g. Buch, Rathod & Naik, 2021). With this thesis, we wanted to contribute to broadening the perspective. To further examine this, it would be valuable to compare whether these different organisational contexts, i.e. medical education, general higher education or workplace, affect what challenges are experienced. If they are, that could increase the understanding and enable general guidelines that could be valuable for several types of organisations. If the challenges are not the same, that is crucial to point out so that one organisation does not blindly apply managing strategies specific to a completely another context.

The findings in the systematic review guided the interviews in this thesis. It could be valuable to use other methods, such as observation or case studies, to get a closer look at challenges outside the scope of this study and to get a broader understanding of the everyday work of an organisation.

7. Conclusion

This study's findings support the view that organisations see the benefits of having employees that can initiate and direct their learning. The results also clearly show organisational challenges in supporting employees in SDL and that the approach towards SDL might differ depending on the organisational structure for learning. The challenges were first identified in a systematic review of empirical SDL literature from 2010 to 2022. The challenges of supporting SDL were grouped into the main challenges: motivation, safe learning environment, digital tools, self-directed learners and learning strategies, feedback, guiding the correct information and hiring SDL competence. These were then compared with the results from interviews with Learning and Development practitioners. The interviews were conducted to examine if the challenges were experienced by practitioners and how these were addressed in organisations.

Findings from the interviews indicated that practitioners recognised the main challenges of the systematic review. Many challenges and solutions were similar when comparing the practitioner's experiences to suggestions mentioned in the literature. However, specific experiences and ways to address the challenges differ depending on the organisation. The results also present practical examples of how challenges are experienced and organisational strategies to manage them. Many challenges and solutions were strongly interconnected, and interview results suggest that organisations cannot focus on one challenge alone to support SDL properly. It can be concluded that working with one challenge, e.g. hiring SDL competence, could potentially be the solution to another challenge, e.g. motivation among employees. One crucial aspect to keep in mind is the potential lack of a mutual understanding and relation to the concept of SDL among the interviewed participants and maybe even Learning and Development practitioners in general. Participants could relate to challenges in supporting employees to take the initiative and responsibility for their learning. However, from the results, some organisations seemed to be further ahead than others in utilising the motivations and learning initiatives of the individual employee. Further research is needed to examine the awareness of SDL as a learning strategy and discover perspectives of organisational challenges in supporting SDL.

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Appendix A

Frequency table of the main challenges for each article

ARTICLE NAME	AUTHOR	YEAR	MAIN CHALLENGES	Motivation	Safe learning environment	Tools and support	Self-directed learners and learning strategies	Feedback	Guiding to the right information	Hiring SDL competence	Other*
The impact of self-directed learning on work performance of lawyers	Alonderienė, R., & Suchotina, N.	2017								X	
The Impact of Perceived Organizational Support on Self-Directed Learning in Sales Training	Boyer et al.(a)	2014			X		X	X			
Self-Directed Learning: A Tool for Lifelong Learning	Boyer et al.(b)	2014		X			X				
Self-Directed Learning and the Sensemaking Paradox	Butcher, K. R., & Sumner, T.	2011				X			X		
Toward Understanding the Role of Web 2.0 Technology in Self-Directed Learning and Job Performance	Caruso, S. J.	2018			X	X					
Self-Directed Lifelong Learning in Hybrid Learning Configurations	Cremers et al.	2014			X		X	X	X		X
Adult learners' perceptions of self-directed learning and digital technology usage in continuing professional education: An update for the digital age	Curran et al.	2019				X			X	X	X
Screening for self-directedness: A method for recruiting savvy analysts in a dynamic business environment	Dapko J.L., & Snyder G.J.	2021			X		X	X			
The effect of self-directed learning on the relationship between self-leadership and online learning among university students in Turkey	Durnali, M.	2020			X						
Web interface design principles for adults' self-directed learning	Firat, M., Sakar, A.N., & Yurdakul, I.K.	2016				X					

ARTICLE NAME	AUTHOR	YEAR	MAIN CHALLENGES	Motivation	Safe learning environment	Tools and support	Self-directed learners and learning strategies	Feedback	Guiding to the right information	Hiring SDL competence	Other*
Technology perceptions in employees' use of self-directed learning	Fleming, D. E., Artis, A. B., & Hawes, J. M	2014			X	X				X	
Sri Lankan Fashion Designers: Self-Directed Learning in the Apparel Industry *(article in press)*	Gopura et al.	2021			X			X			
An Examination of the Self-Directed Learning Practices of ESL Adult Language Learners	Grover et al.	2014			X				X		
Understanding self-directed learning in the context of mobile Web 2.0 – case study with workplace learners	Gu, J.	2016		X		X					
Technology-enhanced self-directed language learning behaviors of EFL student teachers	Haidari, S. M., Yelken, T. Y., & Akay, C.	2019				X	X		X		
Personal Learning Environments: A Solution for Self-Directed Learners	Haworth, R.	2016				X					
How a learning organization cultivates self-directed learning	Hutasuhut, I., Ahmad Z. A. S., & Jonathan, V.	2020		X	X					X	X
Adult Learners Use of Self-Directed Learning Strategies in a Massive Open Online Course	Janakiraman, S., Watson, S. L., & Watson, W. R.	2018		X			X	X			X
The challenge of self-directed and self-regulated learning in vocational education: A theoretical analysis and synthesis of	Jossberger et al.	2010					X	X	X		
Reorienting self-directed learning for the creative digital era	Karakas, F., & Manisaligil, A.	2012		X	X	X	X		X		
The role of self-directed learning, metacognition, and 21st century skills predicting the readiness for online learning	Karatas K., & Arpaci I.	2021		X					X		

ARTICLE NAME	AUTHOR	YEAR	MAIN CHALLENGES	Motivation	Safe learning environment	Tools and support	Self-directed learners and learning strategies	Feedback	Guiding to the right information	Hiring SDL competence	Other*
The Influence of Adult Learners' Self-Directed Learning Readiness and Network Literacy on Online Learning Effectiveness: A Study of	Lai, H-J.	2011					X		X		
Self-Directed Learning Online: An Opportunity to Binge	LaTour K. A., & Noel H. N.	2021					X				
A multi-layer map-oriented resource organization system for web-based self-directed learning combined with community-based learning	Li, H., Hasegawa, S., Kashihara, A.	2015							X		
An exploratory study of self-directed learning: The differences between it and non-it employees in Thailand	Malison, K., & Thammakoranonta, N.	2018		X		X	X		X		
"Monkey See, Monkey Do, That's Not Going to Actually Teach You": Becoming a Self-Directed Learner in Enabling Mathematics Units	Mann, G., & Willans, J.	2020					X				
Effects of Biased Hypothesis Generation on Self-Directed Category Learning	Markant, D. B.	2019					X				
Self-Directed Learning Favors Local, Rather Than Global, Uncertainty	Markant, D. B., Settles, B., & Gureckis, T. M.	2016							X		
Creativity through Self-Directed Learning: Three Distinct Dimensions of Teacher Support	Morris, T. H.	2020							X	X	X
Self-Directed Learning Curriculum: Students' Perspectives of University Learning Experiences	Nasri, N. M., Halim, L., & Talib, M. A.	2020			X		X				
Self-directed learning through the eyes of teacher educators	Nasri, N.M.	2019			X		X		X		
Self-Directed Learning and Retrieval Practice: Building a Bridge through Functional Contextualism	Parker, D. A., & Roessger, K. M.	2020					X	X			

ARTICLE NAME	AUTHOR	YEAR	MAIN CHALLENGES	Motivation	Safe learning environment	Tools and support	Self-directed learners and learning strategies	Feedback	Guiding to the right information	Hiring SDL competence	Other*
A model for developing competent and self-directed tradespeople	Pearce, D.	2019		X	X						
How does self-direction within learning operate to affect idea generation in small-medium enterprise contexts?	Perkins, G.	2018			X			X			X
Bridging the Gap: Self-Directed Staff Technology Training	Quinney, K. L., Smith, Sara D., & Galbraith, Q.	2010		X	X			X	X		
Predictors of self-directed learning for low-qualified employees: A multi-level analysis	Raemdonck et al.	2012			X					X	
The influence of job characteristics and self-directed learning orientation on workplace learning	Raemdonck, I., Gijbels, D., & van Groen, W.	2014		X	X					X	
Promoting self-directed learning in a learning organization: tools and practices	Rana, S., Ardichvili, A., & Polesello, D.	2016			X						
Staying focused when nobody is watching: Self-regulatory strategies to reduce mind wandering during self-directed learning.	Randall, J. G., Hanson, M. D., & Nassrelgrgawi, A S.	2021					X				
Teachers' practices in encouraging self directedness in learning English as a second language	Samad et al.	2019					X				X
Self-directed learning on a full-time MBA - A cautionary tale	Schedlitzki, D., & Witney, D.	2014		X	X		X	X			
Cognitive Flexibility, Procrastination, and Need for Closure Linked to Online Self-Directed Learning Among Students Taking Online Courses	Schommer-Aikins, M., & Easter, M.	2018		X							

ARTICLE NAME	AUTHOR	YEAR	MAIN CHALLENGES	Motivation	Safe learning environment	Tools and support	Self-directed learners and learning strategies	Feedback	Guiding to the right information	Hiring SDL competence	Other*
The impact of guided vs. self-directed instruction on students' information literacy skills	Schroeter, C., & Higgins, L.M.	2015		X			X				
Self-Directed Learning with Knowledge Management Model to Enhance Digital Literacy Abilities	Silamut, A-A., & Petsangsri, S.	2020		X	X						
Self-directed learning as a basis for complex leisure	Stebbins, R.A.	2017							X		
Employability competences of workers in health care and finance. The role of self-directed learning orientation and job characteristics *(article in press)*	Van der Baan et al.	2022		X	X					X	
The integration of self-directed learning and employee competency in the 21st century	Vithayaporn, S., Yong, S.S., & Chai, E.G.	2021			X		X	X			
Does culture or self-directed learning drive online performance?	Wang, Q., Xiong, C., & Liu, J.	2021		X							X
Self-directed learning in MOOCs: exploring the relationships among motivation, self-monitoring, and self-management	Zhu, M., Bonk, C.J., & Doo, M.Y.	2020		X			X	X			

* the articles marked with "other" had challenges that were only mentioned once and did not relate to any of the main challenges

Appendix B

Interview guide

1) We have read up a bit on XX as a company in general, can you briefly tell us about your role in the organisation?

2) How does learning happens in your organisation?

3) When employees take initiative and responsibility for their own learning process, what do you think is challenging for them?

4) How do you screen readiness for learning when hiring new employees?

5) Do you recognise any individual differences in employees that affect their learning?
- How?
- How do you manage this?

6) What is a safe learning environment for your organisation?

7) What are the challenges in building a safe learning environment in your organisation?
- How do you manage them?

8) How much decision power does the individual have for what to focus their learning projects on?
- Are your employees given the choice to direct their own learning and development?

9) How do you encourage your employees to actively participate in learning?

10) Personal relationships and collaboration among colleagues are often mentioned in studies as something that supports individuals in their own learning, is this something you recognise in your organisation?
    If yes:
    - How?
    - What are the challenges with encouraging and supporting this?
    - How do you manage?

    If no:
    - Is it something that you have actively tried to encourage?
    - How come?

11) In our research, motivation was mentioned several times as a factor for individual learning and development. What are your thoughts on how motivation affects learning in your organisation?

12) Are there any challenges in motivating employees in their learning and development?

- When do you experience that employees express the most individual motivation to learn?
- How do you manage them?

13) Are you aware of the employee's opinions of the learning initiatives in the organisation?
If yes:

Are there any challenges in enabling your employees to keep track of their own learning and development?
- how do you manage?

Are there any challenges in providing employees with feedback on their learning and development?
- how do you manage?

Are there any challenges in receiving feedback from your employees on your learning and development processes?
- How do you manage?

If no:
- Do you see an issue with that?

14) Employees seem to be confused with the mass amount of information available for learning and development. What are the challenges in providing trustworthy and relevant material/information?
- How do you manage?

15) What are the challenges in supporting your employees in searching and/or evaluating new material?
- How do you manage?

16) Are there any challenges in using digital tools for learning and development?
- What challenges have you experienced with engaging your employees in using the new tools?
- How do you manage?

17) How do you think your company culture affects the use of digital tools?