Self-regulatory learning in e-learning:
An investigation of the onboarding phase

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Abstract
Organisations are increasingly using e-learning as a tool to train employees due to its flexibility and cost-efficiency. Training and development plays a central part in onboarding of new employees where e-learning is used to help new employees getting up to speed in their roles and become an effective member in the organisation. Self-regulatory learning is an important theory to consider when managing learning in organisations. It provides insight on what learners do in educational environments in order to learn, and what important underlying behaviours that make a learning process flourish. Researchers call for an examination of the learning process of e-learners. Understanding learning processes can deepen our understanding of what support employees need and thereby provide important insights in how to support learners during e-learning. This paper presents a qualitative study, which applies four elements of self-regulatory learning to the phenomenon of e-learning during onboarding in IT-organisations. The aim is to understand new employees e-learning processes in their new roles. Our findings display the prevalent role of goal setting and help seeking during onboarding. This research identifies different types of goals and how a combination of distant and proximal goals provide learners with a good foundation for professional development during onboarding. Furthermore, we acknowledge the importance of help seeking within the organisational context and its vital role in early stages of using e-learning systems.

Keywords: SRL, e-learning, help seeking, goal setting, onboarding, workplace learning

1. Introduction
In a world where knowledge play an increasingly important role for organizational success e-learning has become a common tool for workplace learning (Lee et al., 2013). E-learning provide training and development on demand since it is not bound by time and space and can therefor be used in various situations where employees in organizations can themselves plan their execution of training (Lee et al., 2013; Zhang, 2004; Chen, 2012). Furthermore, the context of e-learning is built upon a higher degree of autonomy than traditional learning, which in turn demand a higher degree self-regulation of the learning process (Santhanam et al., 2008). Learning and development professionals argue that improvement of individual skill acquisition is one of the main concerns in the near future in order for e-learning to truly flourish (Towards Maturity, 2017). Developing through e-learning is especially important for new employees as they are new to the organisation and have to acquire knowledge to get up to speed (Chen, 2012).

Onboarding refers to the initial stage of employment where the end-goal is to make the employee an effective organizational member (Graybill et al., 2013). During onboarding, there are many aspects for employees to adapt to such as a learning new cultural contexts and task-related skills. Getting new employees up to speed in the company by giving them a
proper onboarding is shown to generate both profit growth and increase the likelihood of the new employee to stay at the company (Ellis et al., 2017). Employees today change jobs more often than before and are expecting that organisations can provide development of their skill sets, which increases the pressure on managers to deliver proper onboarding processes (Graybill et al., 2013). E-learning has great potential in supporting onboarding phases (Chen, 2012) and provides economic benefits as well (Lee et al., 2013). Even though e-learning continuously gain in popularity in organisations, little is known about what affects employees attitudes to use e-learning (Lee et al., 2013). Gupta & Bostrom (2013) also emphasize this where they argue that research has not sufficiently investigated learning processes of e-learning in the organisational context. It is therefore a need to further understand employees learning processes in e-learning in order for organisations to be able to utilize e-learning for onboarding in an optimal manner. We set out to contribute insights to e-learning used in onboarding by using a qualitative inquiry and conducting in-depth interviews with new employees in different IT-organizations. To our knowledge research has yet to conduct studies of a qualitative inquiry on the subject as it might reveal key aspects in individual experiences and how new employees e-learning processes affect their attitudes to use e-learning systems.

The theory of Self-Regulated Learning (SRL) has recently found footing in the field of Information Systems (IS), which provides the IS field with a theoretical lens of how individuals learn (Santhanam et al., 2008; Roca & Gagne, 2008; Wan et al., 2012). In this study, we have applied a framework based of key elements from SRL (Zimmerman, 2002) to grant us insights in how individuals learn in e-learning environments during onboarding. This study focus on e-learning used for learning task-related knowledge. Against this backdrop this study aims to answer the following research question: How do SRL processes affect attitudes towards e-learning systems during onboarding?

This research paper is structured as follows: firstly, we present a review of related research of onboarding with e-learning and introducing our theoretical framework. Secondly, the following section is dedicated to our methodological decisions and a brief discussion of our choices. Thirdly, we present our data and findings. Lastly, we discuss our findings and argue how our study contribute to practitioners and implications for research.

2. Related research

2.1 E-learning

The term e-learning is applied in various way by different researchers and there seem to be different opinions of the use of it. Related terms such as ‘technology mediated learning’ is used interchangeably with e-learning by some researchers, while others argue for the difference between the terms (Santhanam et a., 2008). Lee et al., (2013, p. 173) argues that “e-learning generally refers to the use of computer network technology, primarily over an intranet or through the Internet, to deliver information and instruction to individuals”. Furthermore, Oxford dictionary briefly defines it as “learning conducted via electronic media, typically on the Internet.” Rosenberg (2001) underlines that learning through
technology has been described in many different ways and e-learning is no exception. Despite various use of the term the two definitions mentioned above captures the common grounds which are often used to describe e-learning, where focus lie on e-learning as a tool of delivering information and education through the web (Santhanam et al., 2008). Santhanam et al. (2008) further specifies certain characteristics for e-learning which involves a focus on self-paced learning where the user is in control of his/her own learning process. Other researchers emphasize the individual setting where user control and the learner-centred process are underlined as e-learning characteristics (Zhang et al., 2004; Lee et al., 2013). This paper will from now on use the term e-learning to describe learning realized through the internet or an intranet.

2.1.1 E-learning during onboarding

The past decades researchers have argued that organisations will be increasingly reliant on learning in order to succeed in a world with a rapidly changing economy with advanced technology (Baldwin et al, 1996). Onboarding processes are not an exception as organizations are adopting e-learning as a new way of training new entrants. Onboarding refers to the process where new employees acquire valuable knowledge and insights needed for their new role (Graybill et al., 2013). The first phase of new employees in organisations is of the utmost importance for organisations as it aims to transition employees into useful organisational members (Chen, 2012; Wesson & Gogus, 2005). Ellis et al. (2017) emphasize the importance of having a proper onboarding and points out that traditional onboarding used to be a few days, however it is shown in research that it might take as much as a year to help new employees getting up to speed.

The onboarding phase for new employees has been identified by prior research to be associated with stress and uncertainty (Hatler et al., 2011; Wesson & Gogus, 2005; Chen, 2012). Stress and uncertainty could lead to new employees feeling insecure of how to act in the new organisational context, which impact how they acquire necessary knowledge and information. In order for employees to adapt to their new role they need task-related knowledge but also an understanding of organisational values and cultural aspects (Chen, 2012). However, this study focus only on the former but acknowledge that knowledge acquisition is only one of many parts of the onboarding phase of new employees. Furthermore, Cooper-Thomas & Anderson (2002) suggests that employees are dependent on colleagues during onboarding to learn specific organisational traits and further implies that the onboarding might be improved if colleagues had insights in what new employees need. There are also increased turnover rates in organisations as employees are changing jobs more often during their careers, which pressures the onboarding phase to happen more often as more employees are hired and thus onboarding has increased importance in organisations (Graybill et al., 2013).

Workplace learning is used to develop employees in terms of skill and knowledge acquisition and Lee et al. (2013, p. 173) argue that “training is considered to be a key educational practice and strategic organisational tool that is associated with higher profits and lower employee turnover”. As a result, many organisations have invested in e-learning technology to be able to offer an immediate and convenient training for their employees as an alternative to traditional education (Lee et al., 2013). This is also the case of the
onboarding training phase as employees turn to e-learning for support during onboarding (Chen, 2012). The authors argue that it is a suitable solution as it has high degrees of autonomy and shift the development of valuable skills to the learner.

Lee et al. (2013, p. 173) underlines that “the characteristics of e-learning fulfil the requirements for learning in a technologically advanced society and have created great demand for e-learning from businesses”. Organisations have recognized the importance of e-learning as a tool for providing information and improve performance among employees (Cheng, 2011; Rosenberg, 2001). To succeed in adopting into a new organisation the new members need information and knowledge in order for them to start adapting and e-learning could provide new employees with important support during onboarding (Chen 2012). Although, to our knowledge little research has been done in the area of e-learning during onboarding and research (Gupta & Bostrom, 2013) pointed out that there are few studies addressing the learner process of e-learning in organisations. Hence, we identified a gap in the understanding of what individual learners need in an e-learning context during onboarding. This is important to understand because both training of employees and proper onboarding processes can lower employee turnover and lead to increased profits (Ellis et al., 2017; Lee et al., 2013). A deeper understanding of this phenomenon could shed light on learning processes of new employees and how it affects their attitudes towards e-learning usage.

2.2 Individual learning processes in e-learning

Zimmerman (2002) argue that learning is a process where learners play an active role and where the learning emerges from their own thoughts and reflections and not as a result from an event. Self-regulation in learning refers more specifically to individuals processes to achieve goals that themselves set out for the specific outcome their pursuing. When pursuing goals, self-regulated learners apply a planned strategy to direct their efforts to acquire the knowledge needed in order to fulfil their self-generated goal (Zimmerman, 2002; Wan et al., 2012). Therefore, the process of self-regulation in learning is about structure and it is emphasized that the learner needs to understand what to pursue and how to do it. Everyone possess the ability to self-regulate their learning although different individuals apply it in different ways and various degrees (Zimmerman, 2002). Even though self-regulation focus on individuals and their learning, it is not seen as an individual setting. Social entities such as teachers and peers impact self-regulation through inspiration and help seeking during the learning process (Schunk & Usher, 2011). It is important to note that self-regulation focus on ideas generated from individuals and these ideas are affected by social contexts.

In e-learning the learner is traditionally in an individual setting without much outside support which leads to the removal of motivating and supportive social elements (Sharma et al., 2007). Santhanam et al. (2008) argues that e-learning environments are designed with the assumption that learners in an isolated environment learn best by regulating their learning. Furthermore, Wan et al. (2013) argues that the social isolation of e-learning is a drawback and emphasized that it can be overcome by seeking help from others. Researchers has identified the vital role of SRL in e-learning and argues that it is increasingly important compared to traditional learning sessions (Santhanam et al., 2008; Marcelo, 2017; Sharma et
al, 2007; Wan et al., 2012). Due to the isolated setting of e-learning, it is necessary to apply higher levels of SRL as it is the only guidance in their learning processes (Santhanam et al., 2008). Furthermore, Santhanam et al. (2008) argues that e-learners has shown a poor understanding of how to self-regulate their own learning. This can be problematic when e-learners in a business setting is in charge of their own learning, since it require a higher degree of self-regulation due to the individual setting (Tabak & Nguyen, 2013), which leads to the effect of the education being uncertain.

Poor self-regulation in e-learning could be partially explained by the shift to a digital environment, and that learners must adapt their SRL strategies in the new context which has proven to be difficult when individuals are used to learn in different environments (Santhanam et al., 2008). Furthermore, the theory of SRL is fairly new to IS research but has potential to give insights to barriers in employee training (Santhanam et al., 2008; Gupta & Bostrom, 2013). This theory might reveal vital information explaining the learning and use of e-learning systems. Research on E-learners motives to SRL are focused on academia but little research focuses on finding how motives to SRL are in employee training (Santhanam et al., 2008).

2.3 Theoretical framework

In order to structure our data and guide us through the process of analysis we applied key elements of SRL as our theoretical framework. SRL is a broad theory which is often presented as different phases of learning, involving usage of different skills to apply to one's learning process which must be adapted to current contexts of education (Zimmerman, 2002). In this study, we identified four elements based on related research and by looking at studies focused on SRL in e-learning (Sharma et al., 2007; Tabak & Nguyen, 2013; Wan et al., 2013). We selected the following elements; goal setting, self-efficacy, planning and help seeking to understand employees E-learning processes. These elements are used in this paper to provide us with a lens to interpret data and shed light on the phenomenon of e-learning as onboarding in IT-organisations.

Goal setting refers to goals generated from the individual that guide their learning process. However, goals can both encourage and weaken one's intention to self-regulate their learning (Zimmerman, 2002). There are also arguments that goals that focus on proximal obtainment may prove to be more effective rather than long-term and distant goals (Manz & Sims, 1980; Tabak & Nguyen, 2013). Furthermore, learners should pursue achievable goals in their learning processes, which aligns with SRL research as a vital part of effective learning (Roca & Gagne, 2008; Schunk & Usher, 2011).

Self-efficacy refers to the individual belief of one’s ability to complete a certain task (Zimmerman, 2002). This is vital in isolated learning contexts because it affects how learners orient themselves towards achieving and setting up their learning in terms of effort, chosen activities and interest (Schunk & Usher, 2011). In the realm of e-learning, self-efficacy does not only refer to individuals belief of being capable of learning the material, but also doing so in a digital environment. Roca & Gagne (2008) also emphasize that self-efficacy impact attitudes towards e-learning usage.
Planning refers to how individuals navigate themselves in order to achieve their set up goals (Zimmerman, 2002). More specifically, planning is an activity that create guidelines of how to manage; time, effort, activities and resources in order to obtain one's goals. It is important to note that the planning of learning processes is dynamic and good self-regulated learners possess the ability to adapt their planning to fit the current state of the learning process (Johnson & Davies, 2014).

Lastly, help seeking refers to acknowledging the need for external support and the execution of finding that support (Zimmerman, 2002). Seeking help from others have seen to improve one’s learning and is therefore an important part in SRL processes (Wan et al., 2013).

3. Research methodology

Holme and Solvang (1997) describes research method as a framework of conducting research which give researchers tools of gathering knowledge and further solving a problem in that specific area. We set out to conduct an exploratory study (Ritchie et al., 2014) in order to get a deeper understanding of employees experiences of e-learning as onboarding in their new roles as IT-professionals. In order to answer our research question: How do SRL processes affect attitudes towards e-learning systems during onboarding?

3.1 Research design

Interpretive research in the field of information systems brought some controversy among researchers in its earlier days during 1990s (Walsham, 1995), but has increasingly been growing since and is today well established in the research field (Walsham, 2006). According to Bryman (2012, p. 36) qualitative methods “embodies a view of social reality as a constantly shifting emergent property of individual’s creation”. We conducted a contextual study (also referred to as exploratory study), where we aimed to capture individuals experiences in their own social worlds and realities (Ritchie et al., 2014). We argue that this choice fit the purpose of the study where we set out to get a deeper understanding of new employees experiences of the phenomena of E-learning as onboarding in organisations. Thus, a contextual study allow us to display the phenomena as experienced by the respondents. Data was collected by semi-structured in-depth interviews.

Bryman (2012) argues that words are often in focus of qualitative research and put emphasis on the individual interpretation of participants’ social world. Ritchie et al., (2014) argues in similar manner that qualitative studies aims to understand the world and give insight to social phenomenon and individuals perceptions and experiences. Qualitative research focus on answering questions such as “why”, “what” and “how” (Ritchie et al., 2014), where the latter is central in our study.

3.2 Data collection

The data was gathered through in-depth semi-structured interviews. All the interviews were conducted through Skype to eliminate geographical boundaries and had a duration of 30-60 minutes each. We conducted six interviews in a semi-structured manner with the guidance of
an interview guide, which contained three main topics; e-learning systems, educational value and organisational support. Each topic were set up with main questions and follow-up questions (see appendix 1). We chose this approach to allow our respondents to talk freely and convey their thoughts about the topics and allowing them to focus on what was important for them in regard of each topic (Bryman, 2012). It is important to note that the freedom we gave our respondents had certain limits since we had to be in somewhat control of the setting and the topics of discussion. However, it was important that the interviews were conducted with a non-judgemental mind-set and we aimed to not let our own opinions as researchers influence the answers of the participants as far as possible (Bryman, 2012).

The semi-structured interviews assisted us in comparing the results because similar themes emerges from the chosen topics and acted as a way for us to make sure we got consistent data. In order to capture nuanced data we worked in a flexible manner by allowing respondents to pursue topics that they felt were relevant to discuss. By working in a flexible process, we had the ability to make slight corrections to our interview guide in between subjects as well as allowing a more open discussion during the interview sessions.

We recorded every interview with consent from each respondent and thereby eliminated extensive note taking. Recording the interviews gave us the advantage of being fully concentrated on the respondent during the interview. Moreover, recording the interviews enabled data to be collected exactly as the respondents presented it, with exception for non-verbal communication. The recordings together with the transcriptions, which were made after each interview, made it possible to work closely to the material during the analysis process (Walsham, 2006). We attempted to make the participants feel as comfortable as possible in the interview setting by telling them why we wished to record the material and how it was going to be used in accordance with the ethical considerations presented further in this paper. The aim was to make the respondents feel comfortable to share open and truthful data.

3.2.1 Sampling selection
The study aims to gain insight and understanding of new employees learning processes and attitudes towards e-learning in the phase of onboarding. The respondents were chosen by convenience sampling through contacts in the field. Convenience sampling is a common method in qualitative research and it means that the researcher choose easily accessible people to participate in the study (Bryman, 2012). Respondents were chosen purposively, meaning they had to fulfil certain criterions in order to participate in the study (Ritchie, et al. 2014). Firstly, they had to be recently employed by a new organisation to ensure that the respondents had recently gone through onboarding. Secondly, it was necessary that the respondents used e-learning systems where they conducted at least one e-learning during their onboarding connected to skill acquisition and their development within the organisation.

All respondents had similar backgrounds in terms of being graduates from university within the past year and were now working as consultants in different IT companies around Sweden. The respondents were using different e-learning systems with various content, all depending on what type of role they had. However, regardless of the specific e-learning content, they had a common ground of being conducted in order to get the respondents up to
speed within their organisation and new roles. In order to keep the participants anonymous they were referred to as A-F in the study.

<table>
<thead>
<tr>
<th>Label</th>
<th>Work role</th>
<th>Interview duration</th>
<th>Time employed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respondent A</td>
<td>IT-consultant</td>
<td>45 min</td>
<td>9 months</td>
</tr>
<tr>
<td>Respondent B</td>
<td>IT-consultant</td>
<td>48 min</td>
<td>8 months</td>
</tr>
<tr>
<td>Respondent C</td>
<td>Junior project manager</td>
<td>60 min</td>
<td>9 months</td>
</tr>
<tr>
<td>Respondent D</td>
<td>IT-consultant</td>
<td>45 min</td>
<td>11 months</td>
</tr>
<tr>
<td>Respondent E</td>
<td>Junior project manager</td>
<td>51 min</td>
<td>1 year</td>
</tr>
<tr>
<td>Respondent F</td>
<td>System developer</td>
<td>30 min</td>
<td>9 months</td>
</tr>
</tbody>
</table>

*Table 1. List of respondents*

### 3.3 Ethical considerations

We followed the Swedish science councils (Vetenskapsrådet, 2002) ethical guidelines in order to conduct our study accordingly to ethical considerations. Vetenskapsrådet (2002) specifies four ethical guidelines regarding requirements of; information, consent, confidentiality and use. First of all, it is important to inform the respondents about the research and that participation is voluntary and they are free to quit at any time. We informed the respondents about the research, its purpose and how information were to be used and got consent of their participation. Their own control of the participation was emphasized and we made sure of this by being available for questions and withdrawal on both telephone and email. When analysing and presenting our data we worked carefully to ensure our respondents anonymity. The respondents identity is hidden by giving them aliases in the paper and data that endangered our respondents anonymity were either scrapped or worked around. Furthermore, we will not use the results and insights gained in this research for any other purpose.

### 3.4 Data analysis

Data was collected through in-depth semi-structured interviews, as well as readings of related research in the field. All interviews were held in Swedish and therefore the citations found in the paper were translated to English and might therefore be slightly changed. We transcribed the data after each conducted interview and as suggested by Bryman (2012) we read and re-read the material to be able to start our categorization and coding of data. We used a data analysis approach suggested by Yin (2011), where data is being analysed in five steps; compiling, disassembling, reassembling, interpreting and concluding. This is a non-
linear cycle of analysis, meaning that the process is iterative and takes place not only when all data is collected, but throughout the whole process of data collection (Yin, 2011).

Data was being interpreted and disassembled into separate parts labelled with different codes which we reassembled through putting related data together (for excerpt of the coding process, see appendix 2). This was an iterative process which generated a trial-and-error approach for the organizing of data, where some codes remained while others got excluded until we reached a final stage of codes, which we argue represents the essence of the data (Yin, 2011). In the initial stages of data analysis we coded the translated data into eight different themes: background, attitudes towards platform usage, goal setting, help seeking, social elements, planning and execution, learning content, and self-efficacy. As our process of analysis proceeded, we restructured the data again and narrowed it down further to make the data more manageable. This resulted in the final themes which are showcased in the results; external support in e-learning, goal for skill acquisition, and planning the e-learning process. Walsham (2006) argued for the advantage of working iteratively with data throughout the process, thus makes it possible to reflect upon and evaluate data along its collection. Moreover, using this approach gave us opportunity to revisit our interview guide, where minor necessary changes were made such as refining and sorting out questions which did not capture our aim as expected.

It is important to note that the disassembling and reassembling of data was done in order conduct a systematic way of understanding and interpreting our collected data. However, we kept the necessary context around all parts, which were being disassembled into codes in order to not lose the context in which the data was presented by the respondents. Our interviews were based on reviews of related research and the theoretical framework as presented earlier was used as guidance through the data analysis.

3.5 Method discussion

A drawback to consider of this study is the lack of generalizing the data, which is an issue encountered in all qualitative research (Ritchie et al., 2014). Due to a limited and small sampling group we cannot argue that interference can be drawn to a wider population or a context beyond our study without further confirmation of our findings. The aim of the paper was not to attempt generalization of the results, but rather gain a deeper understanding of SRL processes of employees and its effect on attitudes to use e-learning systems. Although, it would have been beneficial for the contribution of the study to have a bigger sampling group. Another possible limitation of the study is the choice of convenience sampling, which means that participants were chosen through contacts in the field. By choosing participants through contacts who fulfilled the criterion of participation was beneficial in terms of getting respondents in time, however one could argue that it is not the most ideal choice of sampling as prior contact with respondents might influence their answers.

Another aspect to consider is the execution of interviews through technological means. The interviews were conducted via Skype due to geographical distances between us and the respondents, which made it possible for us to arrange meetings with the respondents without being present at the same location. One could argue that Skype might be a less convenient choice of conducting interviews, since some social interaction may be limited when meeting
does not occur face-to-face. This might result in a loss of body language or other more implicit social interactions (Ritchie et al., 2014). However, we attempted to avoid this by using video throughout the interviews in order to see the respondent and vice versa. The quality of audio was also tested beforehand to make sure all parts could hear each other properly.

Although we got consent from each respondent of recording the material and informed them about its use, we cannot ignore the fact that recording the material might cause the respondents sharing less truthful and open data (Walsham, 2006). Finally, one could argue that coding of the data might cause a fragmentation of the context in which it was presented (Ritchie et al., 2014). Coding was useful in order to manage all data from the transcripts in order to make more accessible and easier to interpret (Ritchie et al., 2014). Further, abstraction of the codes was used to form our themes, which was a necessary step to capture and present our findings. Although, despite our attempts of letting the context remain, one should keep in mind that coding might affect the data as a whole.

4. Results

This section presents the findings from the in-depth interviews conducted in the study. The results are summarized and presented in three different themes, which emerged during the analysis process. The themes presented are; External support for learning, Goals for skill acquisition, and Planning the e-learning process.

All respondents with the exception of respondent D have used e-learning continuously during their onboarding to develop professional skills in their new role. They have used it for a longer period of time and further revisited onboarding material when needed. Respondent D and respondent C have taken mandatory e-learnings whereas the rest have used e-learning systems on a voluntary basis. Although, respondent D and C are offered additional e-learning beyond the mandatory training from their organisations, but does not use these voluntarily. Moreover, the respondents expressed different levels of perceived self-efficacy regarding their ability to acquire new skills and knowledge through E-learning. The respondents that conveyed a higher degree of self-efficacy seemed more satisfied with their E-learning systems and development of skills.

4.1 External support in e-learning

An interesting finding in our study was the prominent need for external support in all respondents usage of e-learning. All respondents but one expressed that their e-learnings were set to be conducted individually. The exception conducted the e-learnings mainly individually, but with collaborative elements embedded into the e-learning. Although e-learning was explained to occur in an individual setting, help seeking were expressed to be a crucial part of their e-learning processes, both before and during the process. All respondent but one has sought help from colleagues by their own initiative in order to find their e-learning systems and get started with their training.
“How I found it [E-learning] was through my colleagues. That had used it themselves, so it was really, my colleague referred me to it” - Respondent B

“It was my boss who gave me tips about them. Because I told my boss that I wanted to work with this and got the answer “perfect, I advice you to take this training if you like to be an expert in this and get more knowledge”.” - Respondent E

Respondent F was the only respondent who arranged meetings with colleagues in order to get set with the e-learning systems used by the organisation. The respondent utilized the opportunity of asking senior colleagues about their prior experiences and tips about which e-learning systems they used when they were new in the organisation.

“When we were new there in the beginning, we had some colleagues who we scheduled meetings with. Or they scheduled meetings with us as well after getting instructions about guiding us a bit. [...] When I was new I did it like this, getting tips from them and it was certain e-learning platforms for example, that you hear are good around the office.” - Respondent F

The quotes mentioned above display that help seeking had a central role in the respondents initial use of the e-learning systems. Several respondents expressed that help from colleagues was used during their learning processes as well, where they discussed e-learning material with other co-workers especially in the initial stages of the onboarding. Seeking confirmation from colleagues to ensure being on the right track was prevalent for all respondents, both before pursuing e-learning and also during the process. As in the beginning of their employment, help seeking were often focused on verification that knowledge they acquired was correct. Furthermore, several respondents sought help when their perceived level of self-efficacy was low regarding learning relevant work-related knowledge. Some respondents said that it was a challenge for them as new employees to get up to speed on their own and be independent in their day-to-day work, thus wanted confirmation of being on the right path to achieve their goals. We can further see that help seeking played a less significant role in using the systems when our respondents were not entirely new to the role or the system, which might be explained by increased level of perceived self-efficacy.

“[seeking help] to ensure a good quality and to be able to stand for it. Then you should not trust... I don't think you should send a recently graduated on a project and trust them to know everything, and they [colleagues] did not think so either. So it was a lot of collaboration in the beginning.” - Respondent B

Three of our informants have sought out help when they have failed a mandatory test or wanted to skip certain parts of an e-learning module. Tests in e-learning acted as a gateway which some respondents had to pass in order to be done with the e-learning. When confronted with failure of tests the respondents expressed irritation of the e-learning in general, but with emphasis especially on the mandatory tests. Respondent C stated that the respondent does not perceive re-watching e-learning as useful after failing it once and as a
result the focus changed from paying attention to learn the content to simply complete the test. This lead to respondents seeking help of colleagues in order to pass the test and thereby taking a shortcut in the learning process of their onboarding.

“So I have made this [e-learning] four times and all of my colleagues were sitting there and said “it have to be this one!”, followed by “no that one was wrong as well”, I mean no one knew the answers so I was like “screw this” and then I skipped it. I actually never finished it” - Respondent D

“I remember when it was these eight hour e-learning before a course. So I was working with it one evening and it was a test that I absolutely couldn't pass so then I asked some colleagues that also made the test, so I got the answers from them so I passed” - Respondent C

Several respondents pinpointed that they often seek help from their closest colleagues, both when seeking help to find the e-learning systems with relevant courses and for discussions during the learning processes. The respondents mainly turned to colleagues they considered as friends in the workplace or other colleagues who also were new in the organisation. Respondent B expressed a feeling of openness in asking for help of friends in the workplace, which was also seen by respondent C where most of the external contact was with one person. Respondent F had also mostly been in contact with one colleague, which the respondent knew from before. These three respondents are also the ones who expressed to seek help in their processes the most.

“It [the contact] is mostly my colleague that I have worked with… I have this very close colleague who’s working in another country, but was in Sweden before” - Respondent C

“There you can basically write and ask about anything, we have very open discussions. Then we have this privilege of knowing each other since before. Therefore in the beginning when I was insecure I mainly turned to the ones I knew.” - Respondent B

In contrast of colleagues as external support, respondent D compared achievements in e-learning with other colleagues. By seeing the results of others the respondent felt a lack of self-efficacy in being able to complete the e-learning.

“But everybody was like “yes of course you can make it”, “there is no other choice than making it” and everybody made it except for me. So it was a little like “damn it, I suck” [...] But yeah, it felt really lousy.” - Respondent D

4.2 Goals for skill acquisition
All of our respondents had goals towards further development of their professional skills and used e-learning during their onboarding in order to reach their goals. They vary however in terms of time scope and tangibility, therefore we present this section by separating two types
of goals: distant goals and proximal goals (Tabak & Nguyen, 2013). It is important to note that one goal does not exclude the other, thus it is often seen that the two types of goals are intertwined in the respondents goal settings.

4.2.1 Distant goals

The results show that most respondents set distant goals in the initial stages of their employment, with a focus of acquiring necessary knowledge in order to be self-sufficient in their new roles. Although distant goals gave the respondents guidance in what they want to achieve on a longer term, our findings shows that distant goal were often divided into proximal goals in order to make their processes more tangible. Aligned with other respondents, respondent A got tips about the usage of e-learning in order to get up to speed in the organisation, where the respondent’s distant goal were to become self-sufficient in the new role.

“It is expected of me to know pretty much all parts of this software system, it wasn't something someone told me but I understood it would be a part of my role later on and then I got access to the e-learning system from a colleague. That was my first weeks at the job.” - Respondent A

Respondent D expressed a lack of purpose with the e-learning conducted during the onboarding since it did not relate clearly to the respondent’s role. Neither long term nor proximal goals were expressed to be present during the learnings. When asked about returning to e-learning the respondent recognized beneficial reasons to use their e-learning platform as it could give advantages in career development, but could not motivate an immediate need for the knowledge.

“There are benefits in doing them [e-learning] but it's not enough for me right now, because it will benefit me in the future and I could take them to advance within the company but it’s so far away so I haven't done them yet.” - Respondent D

Distant goals in e-learning was recognized throughout the interviews as aiming towards being self-sufficient in their new roles, but it also stretched further into plans about developing themselves for future careers. Respondent E focused more of the long-term benefit of conducting e-learning throughout the onboarding since it could generate competitive advantage in the future and development of the respondent’s resume.

“I would never do them [e-learning] if I wouldn’t get a proof that I did them. Like, it is also for the competence for myself that I can put this on my resume and show that I know this. [...] This feels more like, I get these certificates like a proof that I have specific competencies for the roles I want in the future.” - Respondent E
4.2.2 Proximal Goals

It appeared in the findings that the respondents used proximal goals as support in what knowledge to acquire in order to reach their long-term goal of being a self-sufficient employee. Furthermore, respondents explained that they used goal setting on a shorter term in order to acquire knowledge that was needed for specific tasks or projects coming up in the near future. These goals seemed to generate high perceived self-efficacy as they expressed high confidence with reaching their proximal goals which was mostly intertwined with work-related tasks.

“The first time I got in contact with these e-learnings was when I needed to do a work task. Then I learned what I was supposed to do next you know. And then after a while I took other parts.” - Respondent B

“And they [e-learning] are very nice to have while working, like now when I work with this, for example doing a certain tasks and you have no idea how you should do it. Then it’s very useful to watch a video and such.” - Respondent F

“We have an information system that we use, when I found that system I searched in the library [e-learning system] and got some e-learning about that system and I took a small course in it” - Respondent C

As the quotes above states, proximal goals expressed by the respondents are mostly intertwined with work-related tasks and are often closely connected in practise. Respondent E compared two different e-learning with each other and pointed out drawbacks with the e-learning currently conducted due to its lack of relation to practical tasks. The respondent explained that the first e-learning had a clear connection in practise, meanwhile the second one was more theoretical which were seen to lower the respondents self-efficacy to learn the necessities of the second e-learning. The respondent could not see an immediate need of the e-learning but hoped it could be utilized in the end for development of the role.

“That one [the second e-learning] is a little bit harder, it does not have any concrete tools but rather more how I as a person can change to be better. [...] I don’t really know how much I can use this one yet.” - Respondent E

When we asked about respondents goal settings it was shown that establishing own-initiated proximal goals throughout the usage of e-learning was common among several respondents. Even so, respondent A who has shown a self-driven usage of e-learning, expressed a lack of support in the learning process. As with other respondents, proximal goals were used as guidance in what skills to acquire, but the respondent wished for support in creation of these proximal goals and explained that a given plan would be beneficial.

“Nothing is tailored to me in the sense that “now you’re supposed to learn this because you’re going to work with this”, it’s more that I need to look up certain things because otherwise I wouldn’t be able to do my job.” - Respondent A
The accessibility of revisiting learning material from e-learning were commonly used by several respondent. Several of them emphasized a need for repetition during their onboarding and that e-learning gave them opportunities of revisiting the learning material as many times as needed. E-learning was often delivered through videos, which several respondents revisited in order to achieve new proximal goals. Respondent B argued for the need of good search functions in e-learning, since the respondent in the beginning of the role often returned to the material on the platform. Respondent A argued in a similar manner how the respondent repeated different e-learning when feeling uncertain in the new role.

“When you feel very unsure on what you should do, so I have revisited the e-learning often to make sure I know everything.” - Respondent A

A common mentioned disadvantage with learning through e-learning was content delivered through text. Reading was expressed as a non-preferable way of learning, whereas videos seemed to be more appreciated as means of learning. Respondents D and E identified reading as a key for succeeding with e-learning and drew conclusions about the way one was supposed to learn from e-learning did not appeal or fit their preferences. They expressed a harder time to achieve their proximal goals since the material was provided in text and thus reducing their perceived self-efficacy.

“... and then you have to be just in general someone who learns through just looking and reading. [...] It doesn’t suit everybody, me for example.” - Respondent D

Some respondents expressed different levels of perceived expertise of lecturers within their e-learning systems. Respondent E expressed doubt in the lecturers and associated the e-learning of being less trustworthy. The respondent also perceived e-learning to be more theoretical and abstract, rather than practically related. The respondent further experienced a lack of connection to proximal goals anchored in practise and could not see an apparent use in the respondent’s role.

“The person who is the lecturer now is in my opinion someone who is not any special expert on the subject.” - Respondent E

“The ones I looked at had very knowledgeable experts in their area, just that weighs very heavy. That you know that this is a person who has done this a lot, it’s not some rookie, you feel somewhat safe.” - Respondent A

4.3 Planning the e-learning process

All of our respondents pointed out that they mainly conducted e-learning individually and several expressed a feeling of isolation when spending time on e-learning. Even though the respondents discussed material with colleagues or other course members they still described it as mainly an individual setting. All described a lack of discussion in their learning process,
even the ones who continuously seek help from others. Some compared e-learning in relation to their experiences in academia where the focus was more on discussing with peers and having the opportunity of asking questions to teachers.

Time management was a recurrent concern when planning e-learning processes during their onboarding. Respondents talked about issues encountered with managing their time to learn while still fulfilling the requirements for their day-to-day job. When talking about planning, managing time was problematic which was one aspect of learning that our respondents expressed to be a direct link to self-efficacy. The more time they had, the more comfortable they felt in their ability to reach their goals through e-learning. Additionally, some expressed another problem in planning ahead of time, where their process were constantly regulated by new proximal goals.

“I don’t set any time schedules, everything is a little ad-hoc but I have sometime booked time for myself in my calendar, to sit down an evening and look at something because I was interested in it.” - Respondent A

Some respondents expressed to be supported by their managers and thereby felt comfortable in spending as much time as needed on developing professional skills through e-learning. Although the majority of them were alone in planning and balancing the execution of e-learning through their workdays. Respondents A and F used their e-learning systems on a similar basis where they were free to set up their own daily tasks as long as they keep up with ongoing projects. The other respondents with mandatory e-learning were challenged with planning the training, due to uncertainties of the duration of the e-learning which resulted in difficulties of scheduling time for e-learning during the respondent’s workdays.

“You might have been working three hours with something [e-learning] and you have seven e-learnings left that’s the same kind and you think “should I sit three hours with each one?”. At one point you go “now I have to get the answers, I can’t spend more time on doing e-learning on my job” somehow.” - Respondent C

A few of the respondents expressed frustrations of certain functions in the e-learning systems, which caused obstacles in planning the e-learning process. Some respondents expressed dissatisfaction due to a lack of overview of which e-learning they had already completed through their onboarding phase, which generated a feeling of wasting time navigating through the system instead of efficiently utilize the learning material. However, some respondents were not encountered with these issues and found support for planning within the e-learning systems. Respondent E describes a function within the systems that display progress and goals in the e-learning. Respondent A experienced support of guidance in terms of receiving a suitable starting level. The respondent describes how certain skill-related questions had to be answered before starting an e-learning and adapted the process thereafter.
5. Discussion

This study set out to get an understanding of how individuals learn in e-learning environments during onboarding. Capturing employee needs in e-learning can increase the potential knowledge acquired during time spent developing through e-learning. Insights on how individual SRL processes can be supported have the potential to optimize how organizations can support learning and how they can deliver learning opportunities to their employees through e-learning. This section presents a discussion of our results based on our research question: How do SRL processes affect attitudes towards e-learning systems during onboarding?

At the initial stages of employment, recommendations from colleagues are one of the most prevalent ways that affect how employees form their understanding of what e-learning can do for them. These recommendations seem to be centred on colleagues previous experiences with adapting to new roles in the organization. As previous research has acknowledged, the onboarding phase is often perceived as strange or uncertain (Chen, 2012; Wesson & Gogus, 2005). In addition to this, our findings show that uncertainty make the employees search help from colleagues to gain guidance in acquiring necessary knowledge. This indicates that help seeking is an effective activity to promote in organizations when employees need to develop new skills in an e-learning context. We can therefore strengthen the argument of Cooper et al. (2002), that having colleagues support during initial stages of employment is beneficial. Furthermore, our study align with the statement of Wen et al. (2013) who suggest that challenges of conducting e-learning in isolation can be support by seeking help from colleagues.

Our findings suggest that throughout individual learning processes the main reason to seek help was to confirm certain aspects of the training. Although help seeking is emphasized in learning processes (Zimmerman, 2002), the specific need to confirm learning lessons has not been specified. This unexpected finding indicates that employees perceive low self-efficacy during the initial stages of employment. It implies that searching for confirmation is a way to ensure the quality of the knowledge learned, and seems to be especially important during onboarding. Schunk & Usher (2011) indicate that low self-efficacy can hinder learning and we can with our findings further argue that it is important for organizations to consider that employees during onboarding seem to need confirmation on learning material from colleagues to boost their self-efficacy.

Our findings show that employees with low self-efficacy tend to set proximal goals with the focus on reducing time spent on training. This is aligned with prior research that has identified that goals can weaken SRL processes if they are not focused on learning (Zimmerman, 2002). Furthermore, it appears that employees who are taking shortcuts in order to faster complete their e-learning see mandatory tests as inconsistent with their expectations. This finding implies that employees interest is reduced when proximal goals are not aligning with the content of the e-learning.

The importance of proximal goals to guide employees in their learning processes played a prevalent role in our data. This is also indicated by prior research (Manz & Sims, 1980; Tabak & Nguyen, 2013) and we see that proximal goals accounts for majority of guidance in employees learning during onboarding. Proximal goals that are directly linked to work-
related tasks seem to be the most effective goals to guide employees during onboarding. Tabak & Nguyen (2013) argues that setting proximal goals is an indication for good self-regulatory processes. Even though proximal goals are seen as a powerful impetus to engage in e-learning during onboarding, this study indicates that it is strongest in combination with distant goals. Surprisingly, this study point towards that for employees to fully engage in e-learning and doing so with a more fruitful learning process there seems to be a need for them to set both distant goals and proximal goals. Prior research has mentioned mainly proximal goals as an indicator for good SRL processes (Tabak & Nguyen, 2013), but our findings indicate that setting up both distant and proximal goals are optimal. Additionally, we argue that it is important for organisations to ensure that employees are setting up goals both guided by distant goals (e.g. building their career) and proximal goals (e.g. providing task-related knowledge) in order for e-learning usage to truly flourish.

Failing mandatory e-learning and being forced to re-watch the material severely lowers employees self-efficacy and failure of these mandatory tests seem to impact their future attitudes towards e-learning usage. This finding aligns with previous research (Schunk & Usher, 2011; Roca & Gagne, 2008) and we can confirm that failures of tests impacts employees self-efficacy during onboarding. We argue that it is increasingly important to support employees perceived self-efficacy during onboarding as the information acquired during this phase lay the foundation of becoming a valuable member. As previously mentioned, our study confirm that new employees experience uncertainty (Chen, 2012). Furthermore, the uncertainty of new employees has also shown to impact self-efficacy in this study and e-learning that involve tests should be carefully used during onboarding. It is also found that low self-efficacy impacts setting proximal goals (Schunk & Usher, 2011) where we can see a lack of proximal goals in employees with low self-efficacy. We suggest that mandatory test should be carefully designed in order to align with employees educational goals in order to not reduce self-efficacy during onboarding.

A limitation of our research is that it is conducted with respondents from different IT-organisations and thus cannot capture elements of organizational culture and organizational procedures. Future research should investigate SRL processes impact on attitudes towards e-learning but inside a single organisation in order to capture these elements. This might reveal important insights on their attitudes and give further insights of how managers influence e-learning during onboarding.

6. Conclusion

This study set out to present how e-learning processes within organisations affect attitudes towards e-learning usage during onboarding phases of new employees. This is important to study since organisations rely increasingly on e-learning as a tool for training and development of employees (Lee et al., 2013). However, there seem to be a lack of studies examining the learning process of e-learning within organisations and researchers are pointing out a need for further investigation (Gupta & Bostrom, 2013). Furthermore, it is important to examine onboarding processes as successful onboarding lead to keeping employees longer and other advantages such as growth of profits (Ellis et al., 2017).
Additionally, offering training and development to employees is also seen to have the same effect (Lee et al., 2013). Therefore, we argue that it is important to study employees e-learning processes during onboarding in order to gain insight to what organisations can do to support their employees development during their initial stages of employment. Our results have been analysed by applying a theoretical framework of SRL in order to capture and understand individuals learning processes. Data was collected through semi-structured interviews in order to give insights to our research question: How do SRL processes affect attitudes towards e-learning systems during onboarding?

We answer our research questions with mainly two contributions. Firstly, we acknowledge the role help seeking play for employees attitudes towards e-learning systems within organisation. Additionally, help seeking is often used by new employees for further support during their onboarding processes and verification of relevance of the knowledge which they acquired or are about to acquire. Our findings suggest that organisations can get insight from this, and we suggest organisations to provide more organisational procedures that include discussion and opportunities to confirm that employees are learning what is important for them to perform their work. Secondly, we identified that setting distant and proximal goals provides strong guidance to individuals learning processes through obtainable milestones and generating insights of how the knowledge is beneficial for their personal development. This study suggest that setting both proximal and distant goals positively affecting their attitudes towards e-learning usage. We suggest that organisations should encourage their employees to identify and set both proximal and distant goals in order for e-learning to truly flourish during onboarding.

Finally, the aim with the research was not to provide a best practice for using e-learning during onboarding for new employees, but to explore the area to contribute with insights to how individual learning processes in e-learning can be supported during onboarding and thereby optimize the use of e-learning. Given this, we argue that our paper is relevant for both practitioners such as managers and for research by contributing with insights on e-learning processes of new employees.
References


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Interview guide

Background
What is your role?
How long have you been working there?
When did you graduate?
Describe the E-learning that you have done while working at XX.

E-learning systems
What previous experiences do you have of E-learning?
When have you used e-learning in your role?
How often have you used e-learning in your current role?
How does it feel when you use e-learning?

Educational value
What utility does E-learning bring to your role?
What outcomes did E-learning lead to?
How do you perceive that E-learning affects you in your professional role?
Do you feel comfortable in E-learning situations?
How do you follow your development?
What do you want to achieve?
Have you experienced any disturbance when using E-learning systems?
Can you name any barriers to engage in E-learning?

Organisational support
How did you get introduced to E-learning?
Where do you turn if something goes wrong?
Is someone following your progress?
Do you have set out time for development through E-learning?
Is e-learning used by others in your organisation?
Which traits do you believe is important in an E-learning environment?

Additional questions
How would you do if the E-learning system was removed?
Can you describe an optimal E-learning?
How would you change your process?
<table>
<thead>
<tr>
<th>Initial comment</th>
<th>Condensed meaning</th>
<th>Sub theme / Category</th>
<th>Theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>#C “I remember when it was these eight hour e-learning before a course. So I was working with it one evening and it was a test that I absolutely couldn’t pass so then I asked some colleagues that also made the test, so I got the answers from them so I passed”</td>
<td>Failing test led to seeking answers to “be done” with e-learning.</td>
<td>Help seeking undermines SRL</td>
<td>External support in e-learning</td>
</tr>
<tr>
<td>#B “There you can basically write and ask about anything, we have very open discussions. Then we have this privilege of knowing each other since before. Therefore in the beginning when I was insecure I mainly turned to the ones I knew.”</td>
<td>Easy to seek help when feeling comfortable with colleagues.</td>
<td>Help seeking supports SRL</td>
<td>External support in e-learning</td>
</tr>
<tr>
<td>#D “There are benefits in doing them but it’s not enough for me right now, because it will benefit me in the future and I could take them to advance within the company but it’s so far away so I haven’t done them yet.”</td>
<td>Seeing distant benefits during onboarding is not enough motivation.</td>
<td>Distant goals</td>
<td>Goals for skill acquisition</td>
</tr>
<tr>
<td>#B “The first time I got in contact with these e-learnings was when I needed to do a work task. Then I learned what I was supposed to do next you know. And then after a while I took other parts.”</td>
<td>Navigating which e-learning to conduct is impacted by task-related problems.</td>
<td>Proximal goals</td>
<td>Goals for skill acquisition</td>
</tr>
<tr>
<td>#A “I don’t set any time schedules, everything is a little ad-hoc but I have sometime booked time for myself in my calendar, to sit down an evening and look at something because I was interested in it.”</td>
<td>Hard to plan ahead of time when task-related objectives changes constantly.</td>
<td>Time management</td>
<td>Planning the e-learning process</td>
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