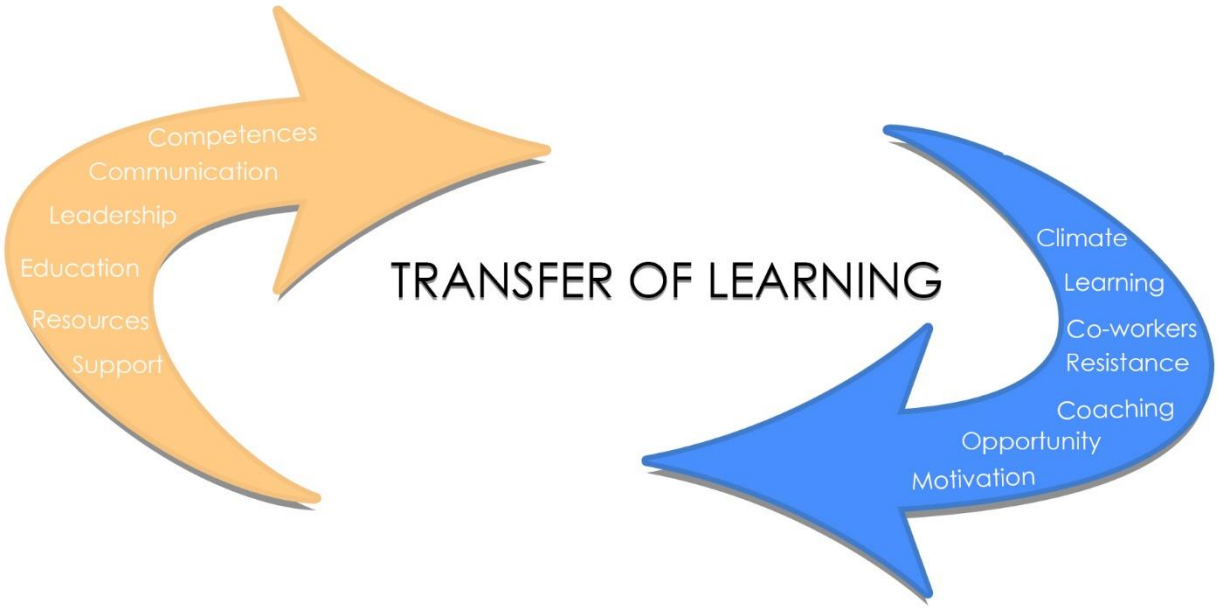
AALBORG UNIVERSITET
STUDENTERRAPPORT



What are the barriers to transfer of learning from adult and continuing education in Denmark?

Master Thesis, CCG Stream: Organisational Leadership

Benjamin Høed Nørlev

Date: 30/12-2018

Supervisor: Helene Pristed Nielsen

Abstract

The importance of knowledge transfer, which is a complex process influenced by many factors, has been acknowledged by many researchers (e.g. Phillips & Phillips, 2005; Baldwin & Ford, 1988; Baldwin, Ford & Blume 2009; Ford & Weissbein 1997). In Denmark, the subject of knowledge transfer is highly relevant, as Denmark has one of the highest participation rates in the world with regards to adult and continuing education (Kristensen & Skipper, 2009). It is therefore understandable that a huge amount of resources is spent on adult and continuing education in Denmark, and according to the Ministry of Finance and the Finance Act of 2012, 1.4 billion Euros are spent annually on continuing education and training in Denmark (Kristensen & Skipper, 2010). The output, however, might not match the input. A study about organisational effects of adult and continuing education conducted in Denmark revealed that the training had no effect on the revenue and profit of the organisations studied (Kristensen & Skipper, 2010). One could therefore argue that knowledge transfer is less than optimal in adult and continuing education in Denmark, at least for the organisation. For that reason, the purpose of this study was to answer the following problem statement: **What are the barriers to transfer of learning from adult and continuing education in Denmark?**

In order to answer my problem statement, one of the most validated knowledge transfer theories was applied to my research: The Learning Transfer System Inventory (henceforth LTSI) (Bates, Holton & Hatala, 2012). In 2017, this American theory was tested in a Danish context in order to see if it was applicable. Based on the results, the researchers concluded that it was highly usable in a Danish context. To answer my research question, I operationalized the factors of the LTSI in order to create a questionnaire with both closed and open-ended questions. In the form of an online survey, the questionnaire was answered by 105 relevant respondents. Based on the analysis of these respondents' answers, it was found that the following factors had the most significant negative effect on transfer of learning: *personal capacity for transfer, opportunity to use learning, supervisor/manager support, supervisor/manager opposition, performance coaching and resistance to change*. The study also found a possible knowledge gap in previous research. Gender might affect the opportunity for transfer knowledge, as the female respondents generally showed more positive scores than the male respondents.

Although these findings cannot be generalized to adult and continuing education in Denmark as a whole, they do show possible tendencies and lead to suggestions for further research.

Table of Contents

Research problem

With globalization, technological advances and disruptions, the world is rapidly changing. The future world of work seems uncertain, with fear that robots will replace humans. A study about the effects of robots on the US labor market estimated that there are currently 1.75 robots for every 1,000 workers, which has resulted in 670,000 jobs permanently lost (Acemoglu, Pascual & Restrepo, 2017). Based on this study, the researchers estimated that by the year 2025, there will be 5.25 robots per 1,000 workers, which would result in the loss of 3.4 million jobs to automation (Acemoglu, Pascual & Restrepo, 2017). This is just one study on the topic of robots and jobs. Other researchers argue that the threat of robots taking over is exaggerated. Without knowing the extent, it is clear that jobs and the workforce will continue to change to some degree. For that reason, it seems more important to continue learning constantly in order to keep up with market changes and not become obsolete.

An obvious way to ensure one's place in the work world is through adult and continuing education. Massive investments have been made for many years in adult and continuing education, as organisations have acknowledged its importance for organisational results (Phillips & Phillips, 2005). However, even though numerous studies and theories on the transfer of learning have been done, the subject is still viewed as a complex process influenced by many factors (e.g. Baldwin & Ford, 1988; Baldwin, Ford, & Blume, 2009; Ford & Weissbein, 1997).

Denmark has one of the highest rates of adult participation when it comes to continuing education and training (Kristensen & Skipper, 2009). In 2012, the Danish Economic Council of the Labor Movement (Pihl & Baadsgaard, 2012) stated that in 2010, a fifth of all Danes participated in adult and continuing education. Such a large number of people requires many resources, and according to the Ministry of Finance and the Finance Act 2012, 1.4 billion Euros are spent annually on continuing education and training in Denmark (Kristensen and Skipper, 2010). One might argue that as long as the output is equal to or larger than the input, this is not a problem. A study about the organisational effects of adult and continuing education conducted in Denmark, however, revealed that the training had no effect on the revenue and profit of the organisations studied (Kristensen & Skipper, 2010). The disappointing effect of adult and continuing education in

Denmark is a serious issue, considering how many resources are used. The complexity of knowledge transfer might be the reason behind the difficulties with it and the missing effects of adult and continuing education within organisations. For that reason, this paper will revolve around the complexity of knowledge transfer, and how it might affect adult and continuing education in Denmark.

Problem statement

This paper will research knowledge transfer in a Danish context to investigate why knowledge transfer in adult and continuing education is difficult, and how it can be enhanced. With the goal of understanding how it can be enhanced, the barriers to knowledge transfer in adult and continuing education Denmark must first be found. The research question of this paper is therefore: **What are the barriers to transfer of learning from adult and continuing education in Denmark?**

Thesis overview

This thesis begins with a description of the problem, which reveals the theme of this paper. Furthermore, this sheds light on issues related to transfer of learning, which show why the subject is relevant. This leads to the research question of this thesis, shown above. Following the research question, a literature review revolving around transfer of learning is presented. This literature review was completed in order for me to acquire a better understanding of the complexity of the topic, previous research methods and relevant theories. Following the literature review, a theory was selected for this study. The theory was found to be highly relevant and usable for answering the research question of this thesis.

Following the literature review, the methodology of this thesis is presented and argued for. This creates the framework for the collection and interpretation of the empirical data. In order to answer the research question of this paper, I have created a qualitative questionnaire in the form of a survey, which was shared throughout my network with help from several consultant organisations. The survey ended up having 105 respondents. The questionnaire contains questions based on the 16 factors of the theory I selected, the Transfer of learning System Inventory (Bates,

Holton & Hatala, 2012). The questions were created though an operationalization of the 16 factors of the LTSI. These questions were all closed in order to acquire an overview of possible barriers to transfer of learning in adult and continuing education in Denmark. The questionnaire also contained demographic questions, as these might display possible tendencies within groups of the population sample. The questionnaire ends with two open-ended questions, as this allowed me to get a deeper understanding of why these possible barriers exist.

Following the methodology, I analysed my survey results. First, I analysed each of the LTSI factors in order to find possible barrier tendencies and to understand where there might be knowledge transfer enhancement opportunities. Furthermore, I investigated the possible connections between demographic elements and these factors. After that, I coded the respondent answers to the open-ended questions in order to categorize and analyse them. Following the analysis of the open-ended questions, I compared the closed and open-ended answers, in order to find possible coherence or incoherence among the answers. The paper ends with a conclusion of the results and a discussion of possibilities for further research, and the applicability of the American theory of Transfer of learning System Inventory in a Danish context.

Throughout the paper I will refer to the phenomena studied as both transfer of learning and knowledge transfer, as the two terms are, in my opinion, interchangeable.

In the following section, the literature review is presented, as well as the deselection and selection of certain theories revolving around transfer of learning.

Literature review

This literature review is based on the most important studies of transfer, referring to the last 100 years of international studies on the subject. This literature review belongs to the category of a "conceptual review", in which the literature is chosen in order to "(…) produce a better understanding of the issue" (Jesson et al., 2011:15). The purpose of this literature review is therefore to display an understanding of transfer from different theoretical perspectives. I go all the way back to 1901 because today, some of the theories from the beginning of 1900 are viewed as fundamental for the later theories on transfer (Aarkrog, 2010).

This literature review is produced using a search through Aalborg University's Library and Google Scholar. The following words were searched: ´Learning Transfer´ & ´Knowledge Transfer´. Through this broad search, a set of published academic papers on the topic were chosen in order to get an overview of the previous research on transfer of learning. This gave me a nuanced overview of the different theoretical perspectives of transfer.

Early theories on knowledge transfer

Thorndike & Woodworth

Some of the first researchers to study transfer of learning were Edward Thorndike, a professor of educational psychology, and Robert Woodworth, a psychologist (Thorndike & Woodworth, 1901). One of Thorndike's studies of transfer of learning was the examination of students who studied Latin, as he thought the study of Latin would result in better performance in other subjects (Thorndike, 1923). He found, however, that that the study of Latin had no advantages for performance in other subjects.

Through a series of empirical and context-dependent experiments, Thorndike & Woodworth sought to verify that transfer can only occur if the learner is affected identically in two performances. In other words, if the educational situation is not identical to the learner's actual work situation, the learner will not be able to transfer the knowledge or skills learned. Based on their study of transfer, they introduced the term "transfer of practice" and formulated the theory of identical elements in the article "The influence of improvement in one mental function upon the efficiency of other functions" (Thorndike & Woodworth, 1901). The theory implies that transfer of learning depends on the similarities between elements in performances. In their research, the individual is viewed as a passive agent, while the focus is on creating identical elements in the environment with the purpose of creating successful transfer of learning. In 1913, Thorndike proposed that students should focus on topics similar to those they would meet in their future work (Thorndike, 1913). This suggests that the concept of transfer, according to Thorndike & Woodworth, is limited to a context-bound understanding of learning.

Charles Judd

In contrast to Thorndike & Woodworth, educational psychologist Charles Judd argued that transfer is highly complex, and successful transfer is not simply based on identical elements (Judd, 1908). Judd studied how transfer is possible in situations where there are few similarities between the learning situation and the application situation. In 1908, Judd created an experiment which included two groups of boys who tried to hit a dartboard with darts under water (Judd 1908). One group of boys were taught about the refraction of light under water, while the other group received no education on the matter. The boys who had been taught about refraction were significantly better at hitting the dartboard. Based on his study, Judd concluded that transfer does not simply depend on identical elements, but instead occurs when similar strategies or principles are used. Based on his findings, he created the theory of generalization, which states that theoretical knowledge helps improve transfer (Aarkrog, 2010). Furthermore, Judd's experiment revealed that it is important to use the theoretical knowledge soon after learning in order for the transfer to be successful.

Individual learner perspective

Thorndike & Woodworth focused on identical elements with regards to transfer, which implied that the learner is a passive agent. Judd focused much of his attention on the teacher and the content which was taught. Many years later, a new aspect was introduced to the concept of transfer by Jack Mezirow. Mezirow concentrated on the learner, as he found that the habits, expectations and interpretations of the learner were important with regards to transfer. In 1970, Mezirow did a study on adult women who returned to community college programs, with the focus of studying how successful their return was (Mezirow, 1991). Based on his findings, Mezirow created a transformation process with 10 phases, based on the elements that the successful returning women had in common. Furthermore, Mezirow argued that communication was important, as transfer could only happen through communication and dialogue (Wiberg, 2013:8). Later, Mezirow's theory has evolved "into a comprehensive and complex description of how learners construe, validate, and reformulate the meaning of their experience" (Cranton, 1994:22).

A rise in the interest of transfer

In an increasingly globalized world where geographical borders are becoming less and less important, and production and operating costs are reduced, many companies all over the world seek to gain a competitive advantage by continuously gaining new knowledge and staying intellectually superior (Waller 2011). A way to gain this difference is through continuous employee education, as intellectual capital is viewed as a highly valuable resource. For that reason, the study of transfer has become extremely relevant for organisations, as they naturally seek to gain as much knowledge from their employees' continued education. Researchers within the organisational theory of transfer concentrate on issues with transfer, and how to increase transfer of learning from education and skill development to organisational context (Cheng & Hampson 2008). In the 1970s and 1980s, American public and private organisations spent a lot of resources on skill development, and the unsatisfying results thereof are seen as one of the larger reasons for the rising interest in research on the topic of transfer which began in the 1980s (Baldwin & Ford, 1988).

Transfer Climate Framework

As mentioned above, early transfer studies focused on such topics as individual transfer attention, identical elements, strategies and principles, and the teacher's role. With the rising interest in transfer from an organisational perspective, new studies emerged. In 1993, an organisational transfer study was done which emphasized the importance of a "transfer climate" at the learner's workplace. Thus, the theory of a ´transfer climate framework´ emerged, created by senior scientist Janice Roullier and professor of psychology, Irwin Goldstein (Rouiller & Goldstein 1993). The two researchers argued that the transfer climate of an organisational environment affects transfer of learning and training. They defined transfer climate as the organisational culture, which supports employees in transferring knowledge and skills attained in education (Rouiller & Goldstein 1993). To investigate their claim, Roullier & Goldstein created two types of workplace cues that they claimed were important for successful transfer. An image of the cue description has been added to Appendix 1 of this paper. The first type of cue is called a situation cue (Rouiller & Goldstein 1993). Situation cues are used to "to remind trainees of their training or provide them with an

opportunity to use their training once they return to their jobs." (Rouiller & Goldstein 1993:383). There are four types of situation cues:

Goal cues make up the first type of situation cue. "These cues serve to remind trainees to use their training when they return to their jobs" (Rouiller & Goldstein 1993:383). An example of a goal cue is a manager or fellow employee assisting the learner in setting goals that encourage the learner to use their new knowledge on the job.

Social cues make up the second type of situation cue. "These cues arise from group membership and include the behavior and influence processes exhibited by supervisors, peers and/or subordinates; for example, new managers who use their training supervise differently from the existing managers" (Rouiller & Goldstein 1993:383)

Task cues make up the third type of situation cue. Task cues focus on "the design and nature of the job itself" (Rouiller & Goldstein 1993:383). An example of a task cue is making equipment available that allows learners to use their new skills from training in their job.

Self-control cues make up the fourth and last type of situation cue. These cues concern various self-control processes that permit trainees to use what they have learned (Rouiller & Goldstein 1993:383). An example of a self-control cue would be allowing a learner to handle problems that are relevant to his or her job.

Consequence cues are the second type of workplace cue. These revolve around feedback given to the learner when he or she applies the new knowledge or skills obtained in training (Rouiller & Goldstein 1993).

The first type of consequence cue is positive feedback. Positive feedback is applied when learners are rewarded for use of their new knowledge, skills or behavior, for example through praise or a pay raise.

The second type of consequence cue is negative feedback. Negative feedback occurs when "trainees are informed of the negative consequences of not using their learned behavior; for example, area managers are made aware of new managers who are not following operating procedures" (Rouiller & Goldstein 1993:383).

The third type of consequence cue is punishment. This type of cue refers to the punishment of trainees when they use their new knowledge, skills or behavior. An example of this is a learner being mocked for using skills acquired in training. This has a negative effect on transfer.

The fourth and last type of consequence cues is no feedback. This occurs when "No information is given to the trainees about the use or importance of the learned behavior; for example, existing managers are too busy to note whether trainees use learned behavior" (Rouiller and Goldstein 1993:383). This also has a negative effect on transfer.

The framework with these cues was used to test the importance of transfer climate with regards to how successful knowledge transfer is (Rouiller and Goldstein 1993). Rouiller & Goldstein applied the framework to a study of a large fast-food restaurant franchise which had over 100 fast-food restaurants. Based on their study, the two researchers found that manager trainees in restaurants with a positive transfer climate had a higher usage of the knowledge and behavior learned in training than manager trainees in restaurants with a negative or lower transfer climate. It was concluded that organisational transfer climates affect how much knowledge is learned from training, as well as how much the knowledge learned from training is applied on the job.

These 8 cues are still applied in contemporary organisational knowledge transfer studies, and are therefore still highly relevant (Soerensen, Stegeager, Bates 2017).

Transfer of Training

One thing the aforementioned researchers had in common in their study of transfer was the fact that they all mainly focused on a single element of transfer, be it the individual transfer attention, identical elements, strategies and principles, the teacher's role or the transfer climate of the organisations. In 1988, Timothy Baldwin, a professor of business leadership, and Kevin Ford, professor of organisational psychology, created a model called Transfer of Training (Baldwin & Ford, 1988).

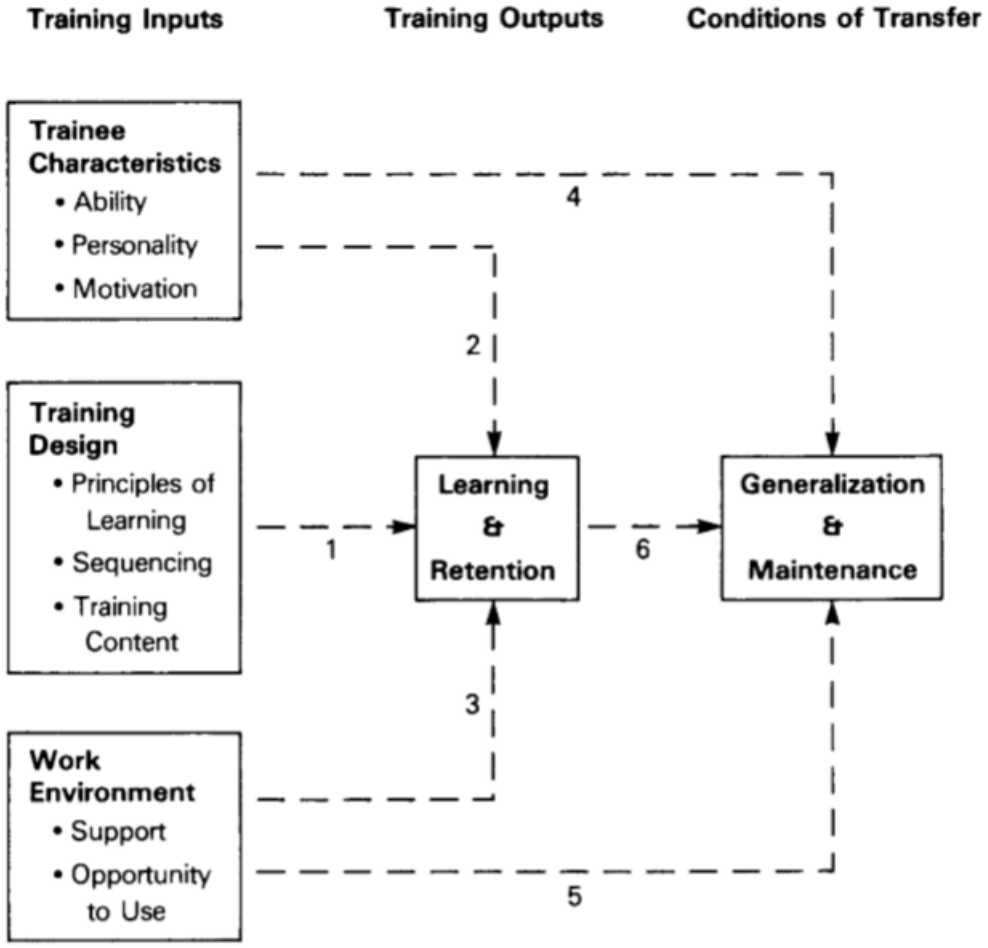


Figure 1: **A Model of the Transfer Process**

The model includes several elements from the results of the previously mentioned researchers' studies. According to the model, transfer of learning depends on training inputs, training outputs and conditions of transfer (Baldwin & Ford, 1988). Baldwin & Ford were there first to conceptualize a model for transfer of learning, and many other researchers in the field base their studies on this model (Bates, Holton & Hatala 2012).

In the following section, the choices behind theory selection are presented and argued for.

Theory

In this section, the chosen theory will be presented, as well as theories which were not selected, in order to account for the choice of theoretical framework for this paper. I start with briefly presenting the theories which were considered but not included, as they were found inadequate for answering the research question of this paper.

Deselections

Kirkpatrick's Four-Level Training Evaluation Model:

Created in 1959, Kirkpatrick´s Four-Level Training Evaluation Model is one of the most well-known and widely used transfer of learning models today (Reio, Rocco & Smith, 2017). An image of the model has been added to Appendix 2. Kirkpatrick argues that four criteria are needed in order to measure transfer of training. These four criteria are reaction, learning, job performance and organisational impact (Kirkpatrick & Kirkpatrick, 2006). The first level refers to the learner's reaction to the training. The learner's satisfaction with the training impacts how much he or she learns from it. This is then connected to how well the learner performs at his job with the new knowledge, which in turn affects how big of an impact the training has on the organisation. Although Kirkpatrick´s model is used and accepted, many have criticized it (Alliger & Janak, 1989; Brinkerhoff, 1987; Bushnell, 1990; Holton, 1996; Kraiger, Ford & Salas, 1993; Phillips, 2003).

The main critique of the Four-Level Training Evaluation Model is the fact that there is a low correlation between the four levels. A positive reaction to training does not automatically result in learning. Learning does not necessarily lead to a change in behavior, just as behavior change might not lead to business contribution. Therefore, transfer of learning could appear to be a bit simplified in Kirkpatrick´s Four-Level Training Evaluation Model, as one cannot predict the outcome of the next level based on the previous one. The causal relationship between the four levels is therefore questionable, and the theory is, for that reason, deselected for my study.

Selection

Transfer of learning System Inventory

Based on a literature review and an analysis of earlier transfer studies. Elwood F. Holton III, Reid A. Bates & Wendy E. A. Ruona (2000) created a conceptual model of instrument constructs or items, called Transfer of learning System Inventory. An image of the model has been added to Appendix 3. This model describes 16 factors that the three researchers found important for knowledge transfer. According Bates, Holton & Hatala (2012:549), "The transfer of learning system inventory (LTSI) is an empirically derived self-report 16-factor inventory designed to assess individual perceptions of catalysts and barriers to the transfer of learning from work-related training."

The LTSI has since been widely used. It has been validated in 17 countries and utilized in 14 languages as a way of detecting transfer factors, and the LTSI has been modified several times (Bates, Holton & Hatala 2012). An image of the latest version of the LTSI's 16 factors has been added to Appendix 4. Each factor has a set of items which allows the researcher to measure the 16 factors that influence the transfer of learning process from training to work.

Based on my literature review, the LTSI therefore appears to be one of, if not the most used and validated organisational transfer theory globally. Furthermore, the LTSI has been studied in Denmark, with positive results that validate the theory in a Danish context. Besides validation, in comparison to other theories, it also appears that the LTSI is the most recently modified transfer theory. Society is constantly changing, and one could therefore argue that it important to apply a theory that is based on contemporary society.

For that reason, I argue that it is the most appropriate theory to use for this study, as it has the potential to allow me to answer the research question of this study.

Critique of LTSI

An issue with the LTSI is the disagreement about how many items are needed to measure transfer of learning, as there is variation in the number of items used by different researchers. Fleishman & Mumford (1989), for example, have developed a set of fifty descriptor constructs for ability characteristics that influence task performance. Rouiller & Goldstein (1993) concluded that a sixty-three-item instrument was optimal for the measurement of transfer of learning. In 2000, Elwood

F. Holton III, Reid A. Bates & Wendy E. A. Ruona modified and changed Rouiller & Goldstein's instrument, which resulted in 66 items in the first version of the LTSI (Holton, Bates & Ruona, 2000). This modification involved the deletion of 14 of Roullier & Goldstein's items, as well as adding 17 new items. In the second version, they increased the number of items to 112, while the number was decreased to 89 items in the third version (Soerensen, Stegeager & Reid Bates, 2017). In the fourth and latest version of the LTSI, the amount of items is 48 (Soerensen, Stegeager & Reid Bates, 2017). Throughout several of the modifications and changes to the LTSI, the 16 factors have remained the same, which indicates that their importance is not questioned. This means that this research does not question the 16 factors, as it is the items which appear to be uncertain.

Another issue with the LTSI is the validity of the items. Since this is a study of adult and continuing education in Denmark, the intercultural aspect with regards to the LTSI must be considered. In 2017, the LTSI was applied in a Danish context, which had mixed results (Soerensen, Stegeager & Reid Bates, 2017). The purpose of the study was to validate the LTSI in a Danish context, as well as studying the LTSI across different types of education. Based on the study, the researchers concluded that the model is applicable to a Danish educational context, and is "(…)a useful tool for Danish companies when investing in training" (Soerensen, Stegeager & Reid Bates, 2017:188). However, the study also resulted in confusion over the validity of the items within the LTSI, as there could be a problematic fit of some items into the Danish context. This suggests that further construct validity research is needed. (Bates, Holton & Hatala, 2012:549). Soerensen, Stegeager & Reid Bates further state that "the comments that we have received from the respondents after they have completed the survey suggest that the LTSI would benefit from linguistic modifications. Modifying the inventory would probably strengthen the reliability and validity of the data, whereby the entire inventory would be strengthened" (Soerensen, Stegeager & Reid Bates, 2017:188)

Based on the uncertainty of the necessary number of items in the LTSI, as well as the validity issues of the items in a Danish context, I will be applying the 16 factors of the LTSI, but not the items. Instead, I will operationalize the 16 factors, creating questions based on each of them, in order to answer the research question of this paper as comprehensively and validly as possible. Using the 16 factors will help display which factors might have a lower score, which could indicate the barriers for transfer of learning in Danish adult and continuing education.

In the following section, the methodological approach of this thesis is presented and argued for. The methodology section contains ontological and epistemological considerations, research design, research method, an operationalization of the LTSI factors, language translation considerations and arguments for the administration of the survey choices.

Methodology

Ontological and epistemological considerations

Ontology

According to Bryman (2016:28), "Questions of social ontology are concerned with the nature of social entities." Ontology revolves around whether or not social entities are objective entities that have an external reality to social actors, or whether they are and should be considered as social constructs based on the perceptions and actions of social actors (Bryman, 2016). In other words, ontology is connected to our view of reality and how we understand it. According to Bryman (2016), the two most important types of ontological positions are objectivism and constructionism. Bryman states that **objectivism** is based on the belief that "(…) social phenomena and their meanings have an existence that is independent of social actors" (Bryman, 2016:29). Social phenomena are therefore external facts that we cannot influence, as reality is objective. Based on these views, objectivism holds that there is only one reality, and that it is our job to discover it.

Constructionism on the other hand, holds that "(…)social phenomena and their meaning are continually being accomplished by social actors" (Bryman, 2016:29). So, while objectivism asserts that social phenomena are external and not influenceable, constructionism holds that not only are social phenomena created through social interactions, they are constantly being revised. While an objectivistic researcher studies a social phenomenon in order to discover one reality of it, a researcher with a constructionist position argues that his or her own specific views of the social world affect their research and results. Therefore, there can never be one reality, as everything is based on our version of reality and on social construction.

I argue that my views will affect the results of this study, as everything I do is based on my views and experiences, which in this case are partially influenced by my internship in a consultant organisation called Macmann Berg, from the 20th August 2017 to the 20th December 2017. At my internship, I was introduced to the concept of knowledge transfer, and I had the opportunity to work on several tasks that involved knowledge transfer.

Other researchers might choose different methods or get different results based on their analysis, as their experience and views could lead them to observe elements that I might not detect. Different results would produce different conclusions to the question of what constitute the main barriers to transfer of learning from adult and continuing education in Denmark. I therefore argue that there cannot be one definite reality, which is why this study will have the ontological position of **constructionism**. This entails the need for a clear description of and argumentation for every choice I make in this study, as my choices need to be explicit in order for others to understand how I came to my conclusion and my view of the barriers to transfer of learning from adult and continuing education in Denmark. Furthermore, the absence of arguments and clear descriptions of my choices would result in a low validity of the entire study.

Epistemology

Epistemology is concerned with knowledge: how it is obtained, and what is viewed as valid and acceptable knowledge (Bryman, 2016). One might therefore argue that ontology considers what things are, and epistemology focuses on how we know things. A widely used epistemological position is positivism, which has dominated social sciences for decades (Bryman, 2016). Positivism holds that "Science must (and presumably can) be conducted in a way that is value free" (Bryman, 2016:24). Positivism asserts that knowledge comes from the gathering of facts, and that the researcher is separate from the research, that he or she does not affect its outcome and that the results are objective. This epistemological stance could therefore match the ontological position of objectivism. As mentioned before, I believe that there are multiple realities based on our subjective experiences as social actors, and for that reason, I do not adopt a positivist stance in my own research. Furthermore, positivism requires knowledge to be value free and objective, and as mentioned before, I argue that my findings will be biased and based on my views and experiences, as I do not think that values and experience can ever be completely removed from research.

Instead, my epistemological view is that of **interpretivism**. Interpretivism stands in contrast to positivism, as it does not argue that researcher and research should be, or can be, separated. Thus, a researcher cannot be without bias, and the results cannot be objective, according to interpretivism (Bryman, 2016). Interpretivism is concerned with understanding, while the goal of positivism is to explain. I seek to find out what the barriers to transfer of learning from adult and continuing education in Denmark are, in order to understand how transfer of learning can be enhanced. This goal matches the epistemological position of interpretivism. This position coincides with my ontological views, as I seek to gain knowledge through understanding, with research that is influenced by my actions and experiences.

As my experiences and bias will affect my research results, I must be transparent and clearly present my arguments with all my choices and valuations through the entire study, in order to account for my process and results.

With the ontological position of constructionism and the epistemological position of interpretivism, I will hopefully be able to understand the behaviour and actions of those who have participated in adult and continuing education in Denmark and understand what the barriers to transfer of learning from adult and continuing education in Denmark are. For that reason, I argue that these positions are the most relevant for me to answer my research question as comprehensively as possible.

Research Design

It is worth mentioning that my initial plan was to interview several participants of adult and continuing education before, during and after their course, with questions based on the 16 factors of the LTSI. This would have been a longitudinal qualitative study, which could possibly help understand where in the educational process there might be transfer barriers, thereby increasing our understanding of how transfer could be enhanced. This case design would have matched well with my ontological and epistemological positions, as it would have allowed me to get a deep understanding of the social phenomena and to interpret the results based on my experiences. This research design was not possible to pursue, however, as the method of observing and interviewing participants before, during and after education were practically impossible for me to do given the time and resources available.

As will be described in the next section, another research method in the form of a questionnaire survey was chosen. With a survey, I could have chosen a cross-sectional research design, as "The cross-sectional design is often called a survey design" (Bryman, 2016: 52). This type of design would create quantitative or quantifiable data, which would allow me to make generalizations based on my findings. This could be a useful way of understanding transfer of learning of adult and continuing education in Denmark. It would, however, not be in harmony with my research paradigm, as the emphasis would be on explaining instead of understanding.

Another type of research design that could have been relevant is the comparative design (Bryman, 2016). One option with this design would be to compare to educational situations by interviewing participants about their education, or giving them questionnaires on the topic, in order to understand the strengths and weaknesses of each type of education. Based on the LTSI, this might help me understand whether the issue of transfer of learning in Denmark is mostly related to the individual, the education or the organisation. This research design has, however, not been chosen, as I argue that there would be too many independent variables in these complex phenomena which could affect the results.

Instead, I will be using a **single case study** for this research, as it will allow me to create a detailed and extensive study of transfer of learning in adult and continuing education in Denmark, and hopefully help me understand what the barriers to transfer of learning from adult and continuing education in Denmark are. A case study will allow me to understand the complexity of the studied phenomena (Stake, 1995). **A disadvantage of using a single case study** method is the fact that one might not be able to make generalizations based on the results of a single case study, as the wider population might not be represented correctly in the research. For my research, however, I argue that this is not an issue, as I do not try to generalize to broader issues around transfer of learning based on my study; I merely seek to find possible tendencies, in order to understand the barriers to transfer of learning from adult and continuing education in Denmark.

Research Method

As mentioned above, my initial aim was to achieve an in-depth understanding of the subject through interviews with participants in adult and continuing education before, during and after their education. With questions based on the 16 factors of the LTSI, this method could possibly

allow me to understand whether the main issues of transfer of learning are related to the individual, the education or the organisation, and find tendencies as to how and why. Consequently, this could allow me to understand how transfer of learning might be enhanced. This research method was not possible, however, due to time constraints.

Instead, the research method of this paper will be a **questionnaire** in the form of an **online survey**. With the chosen ontological and epistemological positions, one could argue that the natural choice for questionnaire design would be to use open-ended questions, as this would allow for a deep understanding and interpretation of the phenomena. This will not be the approach, however, as I will mainly have **closed questions**. The reason for this choice is that I seek to find tendencies in Denmark regarding the barriers to transfer of learning from adult and continuing education in Denmark. With open-ended questions, I would not have the time or resources to accept too many participants, as this would require a larger effort with regards to analyzing the results.

I could simply attain 10-20 responses to an open-ended questionnaire, and possibly get a deeper understanding of transfer of learning in a Danish adult and continuing education context. However, with this method, one could argue that the independent variables of each participant would affect the results immensely. This method could further an understanding of how these individuals have perceived their knowledge transfer, and what barriers they face with regards to transferring the learning. Unfortunately, it would be difficult to understand transfer of learning in Denmark, as it would be problematic to find broader tendencies based on 10-20 participants. For those reasons, the questionnaires in this study will be mainly closed.

With the choice of a closed questionnaire in the form of a survey, one could question why I do not simply adopt a positivistic approach of creating quantifiable and generalizable results. I argue that this would not cohere with my ontological and epistemological positions, as this method would have a larger focus on causality and generalization than understanding. Furthermore, I would not be able to meet the requirements for the standard approach of this type of research. Although there are different opinions on how large a sample size is required in quantitative research, 1,000 randomly selected participants within the relevant population group is typically the lowest sample size required for quantifiable and generalizable research (Bryman, 2016). As I do not have the time

to gather such a large data set and would thus not meet the standard requirement for a generalizable study, I have opted for a smaller number of survey answers and a survey based on a combination of mainly closed and a few open-ended questions. Furthermore, my aim is to look at tendencies, not quantifiable and objective results.

The questionnaire employs a five-point scale of the degree of the respondents' experience ranging from very high to very low. For example: "To what extent do you feel that the training content accurately reflected your job requirements?" Having a five-point scale provides a balanced set of closed questions (Bryman, 2016). A sixth answer option for my questionnaire is "Don't know". The purpose of this option is to reduce the risk of respondents who are unsure of the question answering untruthfully.

The survey will be developed based on the 16 factors in the LTSI model as described in the theory section above. These factors will be operationalized in order to create questions based on each factor for the questionnaire. The items as developed by Bates & Wendy E. A. Ruona (2000), however, will not be used, as I am sceptical due to the continuous re-quantification of the items. The reason for my scepticism is the fact that each time a new study had been made about the LTSI, the 16 factors appear to be more or less the same, while the items are severely modified. This indicates an uncertainty with the validity of the items, which is the reason for my exclusion of them in my study. Furthermore, this uncertainty shows an inconsistency with the quantitative approach of transfer studies, which is another reason not to continue down this path. I argue that the use of the 16 factors and the discarding of the items is in line with my epistemological position, as I interpret the theory with regards to my method of research. However, one change will be made to the 16 factors of the LTSI for this study. Factor number 11, "Personal Outcomes – Negative" has been excluded, based on a previous study of the LTSI in a Danish context. Through their research on the LTSI in a Danish context, Sorensen, Stegager & Bates (2017) indicated that 15 factors of the LTSI are highly applicable in a Danish context. When researching the applicability of the LTSI, the researchers found that respondents only viewed the factor "Personal Outcomes – Negative" as strange and inappropriate in a Danish context (Sorensen, Stegager & Bates, 2017). For example, one respondent answered (…)" I have completed the questionnaire but most of the questions did not make much sense to me. Who is still talking about being punished if we are not using new skills and competencies learned during a course?" (Sorensen, Stegager & Bates,

2017:187). For those reasons, factor 11 of the LTSI, “Personal Outcomes – Negative”, has been removed from my study of knowledge transfer barriers in adult and continuing education in Denmark. I argue that the choice of excluding the items and factor number 11 coheres with my paradigm choices, as I interpret previous research and based on these findings, construct my research method based only on the elements of LTSI that I find relevant to answering my research question.

The chosen research method can provide me with a broad scope of knowledge about where the issues with transfer of learning appear to be, using the LTSI to locate the matter in terms of the three factors of the individual, the education and the organisation, which were identified as being important in previous literature on transfer of learning as documented in my literature review. A **disadvantage** to my choice of a single survey-based case study is the fact that I will not be achieving as deep an understanding of why transfer of learning in adult and continuing education in Denmark is as effective or ineffective as it is, as I could with methods such as interviews or an open-ended questionnaire. However, I argue that this method is better suited to answering the research question of this paper, as it allows me to focus on understanding the phenomenon in Denmark as a whole, and not simply the answers of 10-20 participants. Furthermore, this method allows for the findings and tendencies to be more valid, as they will be based on a much larger number of participants. With that being said, I am aware that I cannot and shall not try to make generalizations based on my findings, but merely suggest possible tendencies and pointers as to the nature of the barriers to transfer of learning from adult and continuing education in Denmark.

Operationalization

The table below illustrates my operationalization of the Transfer of learning System Inventory, as I operationalize each of the 15 selected factors into questions for my questionnaire.

	Theory	Operationalisation	Question
Learning Transfer System Inventory	1 Perceived content validity	The extent to which the trainees judge the training content to accurately reflect job requirements.	To what extent do you feel that the training content accurately reflected your job requirements?
	2 Transfer design	The extent to which training has been designed to give trainees the ability to transfer learning to job application.	To what extent do you feel like the training was designed to give you the ability to transfer learning to your job application?
	3 Personal capacity for transfer	The extent to which individuals have the time, energy and mental space in their work lives to make changes required to transfer learning to the job.	To what extent do you feel like you had the time, energy and mental space required in your work life to make changes required to transfer learning to your job?
	4 Opportunity to use learning	The extent to which trainees are provided with or obtain resources and tasks on the job enabling them to use the skills taught in training.	To what extent do you feel like you were provided with or obtained resources and tasks on the job enabling you to use the skills taught in training?
	5 Motivation to transfer learning	The direction, intensity and persistence of effort toward utilizing in a work setting skills and knowledge learned in training.	To what extent do you feel like you had the direction, intensity and persistence of effort toward utilizing in your own work setting, skills and knowledge learned in training?
	6 Learner readiness	The extent to which individuals are prepared to enter and participate in a training program.	To what extent do you feel like you were prepared to enter participation in the training program?
	7 Supervisor/manager support	The extent to which managers support and reinforce the use of learning on-the-job.	To what extent do you feel like your manager(s) supported and reinforced the use of learning on-the-job?
	8 Supervisor/manager opposition	The extent to which individuals perceive negative responses from managers when applying skills learned in training.	To what extent do did you perceive negative responses from your manager(s) when applying skills learned in training?
	9 Peer support	The extent to which peers reinforce and support use of learning on-the-job.	To what extent do you feel like your peers reinforced and supported the use of learning on-the-job?
	10 Personal outcomes – positive	The degree to which applying training on the job leads to outcomes that are positive for the individual.	To what extent did you feel like applying training on the job leads to positive outcomes for you.
	11 Personal outcomes – negative	The extent to which individuals believe that if they do not apply new skills and knowledge learned in training that it will lead to outcomes that are negative.	
	12 Performance self-efficacy	An individual's general belief that they are able to change their performance when they want to.	To what extent do you generally believe that you are able to change your performance when you want to?
	13 Transfer effort – performance expectations	The expectation that effort devoted to transferring learning will lead to changes in job performance.	To what extent do you expect that effort devoted to transferring learning will lead to changes in your job performance?
	14 Performance – outcomes expectations	The expectation that changes in job performance will lead to outcomes valued by the individual.	To what extent do you expect that changes in your job performance would lead to valuable outcomes for you?
	15 Performance coaching	Formal and informal indicators from an organization about an individual's job performance.	To what extent did you feel like you received formal and informal indicators from the organization about your job performance, based on your training/education?
	16 Resistance to change	The extent to which prevailing group norms are perceived by individuals to resist or discourage the use of skills and knowledge acquired in training.	To what extent did prevailing group norms discourage you from using skills and knowledge acquired in training?

Language translation:

At first, I created a pilot study for this paper. I translated the LTSI factors from English to Danish, with emphasis on deviating as little as possible from the original description of each of the 15 factors, in order to preserve the original content as much as possible. The actual questions were therefore translated as precisely as possible from the description of each factor. My reason for doing so was that a direct translation would allow for as similar a similar language, which in turn could heighten the validity of my findings. As this was a pilot study, I did not send out a survey with these questions. Instead, I sent the questionnaire to 15 people in my network who had attended adult or continuing education in Denmark. The results were clear: all 15 respondents found one or more of the question phrasings "odd", and some even said that they did not understand some of the questions. Based on my pilot study results, I decided that my research should contain a translation of the questions with a larger emphasis on the receiver, in order for the Danish respondents of my survey to have a clear understanding of the context. What would be the point of having a direct translation, if the receiver does not understand the questions clearly? For a detailed insight into how I phrased the survey questions in the pilot study, see Appendix 5.

Administration of survey

As previously mentioned, the research method of this study will be a survey, containing a self-administered questionnaire with mainly closed questions. There are a few ways in which this survey can be presented to possible participants. It can be **supervised**, delivered via **postal** service or through the **Internet** (Bryman, 2016). This survey will be administered using the Internet, as this will allow me to reach a much larger population sample than would be possible with postal or supervised survey approaches. Furthermore, supervised or postal surveys would require a larger amount of resources not available to this study. There are two types of online surveys: email and web (Bryman, 2016). For the sake of anonymity, this study will use web. With the use of a web survey, the level of anonymity is higher, as it is harder to stay anonymous through email surveys, as well as the excluded options of a supervised or postal survey. With an email survey, the lack of anonymity could result in biased answers, which would affect the validity of the research. Dishonesty is of course also a risk with web surveys, but since my survey does not require personal information, participants have less incentive to lie. For that reason, it is important that I assure participants that their privacy is valued. Besides reducing the risk of biased answers, there are

several other **advantages to online surveys**, such as being cost-efficient, practical, and allowing for fast results. Furthermore, they give the participants all the time they want to consider their response, a possibility that face-to-face or telephone interviews do not have.

This type of sampling method unfortunately also entails some **disadvantages**. One possible disadvantage is not knowing how well the respondents have thought through their answers. If questions are long or imprecise, respondents might not spend a lot of time considering their answer. In order to reduce this risk, I must ensure that my questionnaire is short and that the questions are precise.

Precisely formulated and easily answered questions are also important to reduce the risk of misunderstandings and misinterpretations, as this is also a disadvantage of this type of survey.

Finally, a possible disadvantage is the fact that respondents might simply skip some of the questions. In order to remove this option, my survey will disallow the opportunity to see the next question before the previous one has been answered.

Sampling type

This study will use a **convenience sampling** method. "A convenience sample is one that is simply available to the researcher by virtue of its accessibility" (Bryman, 2016:187). Convenience sampling is a non-probability sampling technique, which, as opposed to probability sample types, does not result in a random sample (Bryman, 2016). Convenience sampling is a realistic approach to answering my research question, as it does not require time and resources not available to me. However, there are certain **disadvantages to using a convenience sample**. One issue with this type of sampling is the risk of bias, as the views of some groups might be over-represented and others under-represented. This risk must be considered with regards to the reliability and validity of this study's results. As a result of this bias risk, the results cannot be generalized to the wider population, as a study that might not be based on the equal participation of all parts of a population cannot apply to everyone. However, in my opinion, this is not an issue in this paper, as I do not seek to generalize and create rules or laws based on my research. Instead, I seek to find tendencies and trends, which might increase our understanding of the issues of knowledge transfer in adult and continuing education in Denmark. For those reasons, I find that a convenience sample is the most appropriate method for this study. Furthermore, Bryman

(2016:187) states that, “It perhaps ought to be recognized that convenience sampling probably plays a more prominent than is sometimes supposed. Certainly, in the field of organisation studies it has been noted that convenience samples are very common and indeed are more prominent than are samples based on probability sampling.” As this study is an organisational study, to some extent, a convenience sampling method seems appropriate.

As mentioned previously, a **probability sampling** method was also an option. However, “Probability sampling involves a lot of preparation, so that it is frequently avoided because of the difficulty and costs involved” (Bryman, 2016:187). As previously mentioned, time and other resources are limited for this study, and for that reason, a probability sampling method was not chosen.

The specific approach to my convenience sample will be to promote my survey on as many platforms as possible, such as LinkedIn, Facebook and Twitter. Furthermore, I have a number of relevant contacts within the adult and continuing education business who will help distribute my survey through their education email **databases,** allowing me to acquire valuable insight into the field.

Survey tool

The samples will be collected using the web survey **SurveyXact**. SurveyXact is a well-known tool for opinion polls and it has several advantages. It is free, which is a relevant matter for a student such as me with a low disposable income. Based on earlier usage, it is also my opinion that SurveyXact is highly user-friendly as it is easy to use, with simple yet effective ways of comparing and analyzing survey results. Another web survey option was **Surveymonkey**, which I have also used in the past. Surveymonkey, in my opinion, offers fewer tools for analysis and cross-question comparisons are difficult to attain. For those reasons, SurveyXact was chosen for this study.

The survey will include the 15 questions displayed in the operationalization table shown within the methodology section above, as these will allow me to find possible tendencies within those factors which might cause the low transfer of learning in adult and continuing education in Denmark. The survey will also include some relevant demographic questions about the respondents, as this could perhaps show how prevalent certain behavior and attitudes are in different groups of the population. The survey will also include two open-ended questions, which will hopefully help me

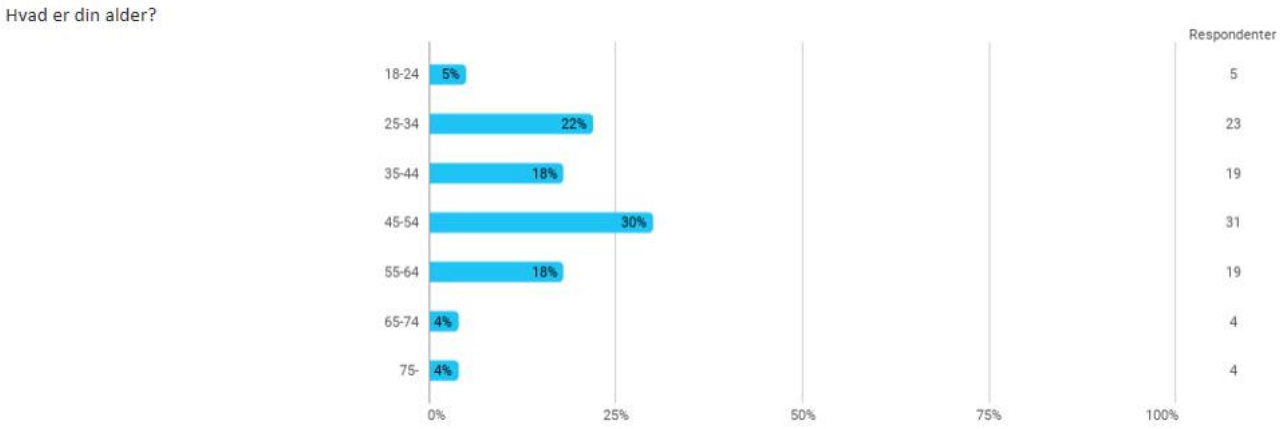
answer my research question. For a full overview of the survey questions that the 105 respondents answered, see Appendix 6.

Analysis

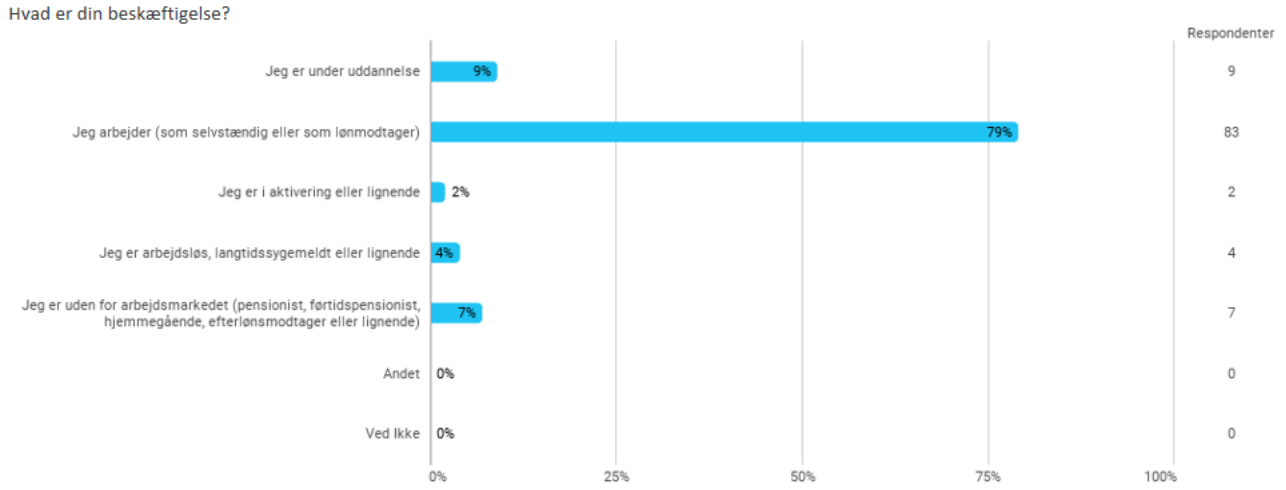
I will analyse each of the 15 factors in order to find possible tendencies and understand where there might be knowledge transfer barriers and enhancement opportunities. Furthermore, I will investigate any possible connections between demographic elements and the 15 factors. This means that I will be looking for patterns with regards to gender, age, employment and education, in order to understand how these demographic factors can possibly influence knowledge transfer. The analysis of each factor will include a sub-conclusion for the specific factor, linking the factor with the overall research question, which is: What the barriers of transfer of learning from adult and continuing education in Denmark are. Finally, the chapter ends with a thematic, more qualitatively inspired analysis of the open-ended questions: ”What is, in your experience, the biggest reason why knowledge transfer from education to work can be difficult?” & “Did you find any of these questions odd? Please elaborate.”

I have copy-pasted some of the diagrams from my SurveyXact results in order to illustrate my points and results, but not all, as this would be too substantial. However, the full data set is available at request. All diagrams within the analysis are from my own SurveyXact study.

With regards to the demographic questions, there was almost an even amount of male and female respondents, as 49 males and 56 females partook in the survey. The diagram below shows that a great deal of variation in the ages of the respondents.



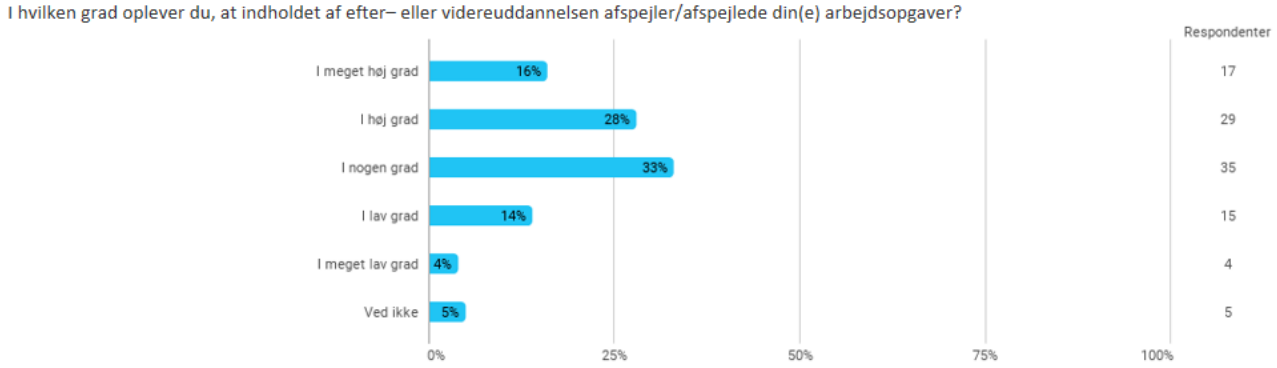
With regards to employment, the diagram below displays that most respondents are employed, which also makes a lot of sense considering that the aim of the survey was to obtain knowledge about adult and continuing education.



One of the first questions of this survey was whether or not the respondent has acquired training or education during their jobs. A few respondents answered no, and their answers have therefore been deleted. Furthermore, some respondents dropped out of the survey halfway through the questionnaire, and their answers have therefore also been deleted. This results in a total of 105 participants who completed the questionnaire.

Factor 1: Perceived content validity

To what extent do you feel that the training content accurately reflected your job requirements?



Based on the LTSI, the connection between training content and job requirements is important for transfer of learning. 35 of the 105 respondents feel that the training content only reflected their job requirements “to some extent.” This is an indicator that there is room for improvement with regards to enhancing transfer of learning. However, almost as many respondents feel that the training or education they attended actually reflected their job requirements “to a high extent”. This might indicate that this factor is not one of the main issues of knowledge transfer from adult and continuing education in Denmark, at least among the people who answered my survey. A further indication of this is the fact that only 15 of the 105 respondents feel that training content reflects/reflected their job requirements “to a low extent”, and only 4 respondents answered, “to a very low extent”.

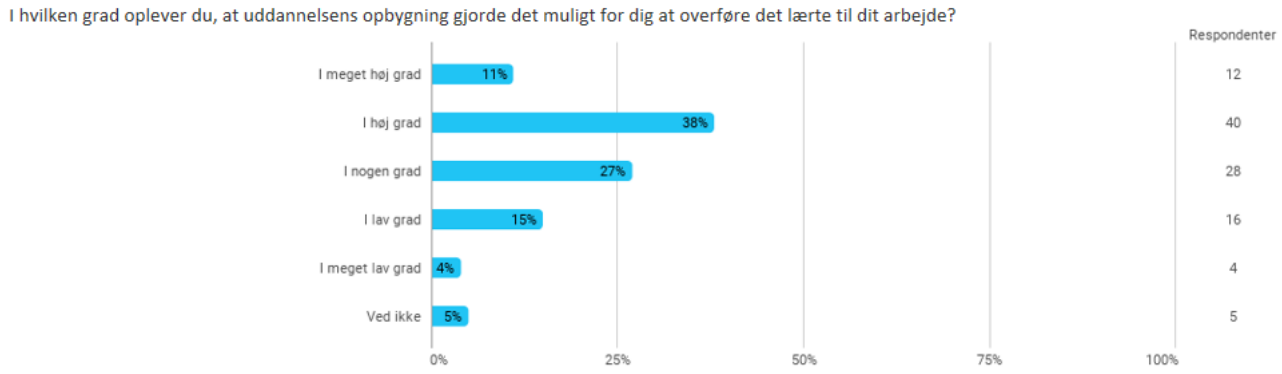
The fact that only 5 respondents answered that they “do not know” might be an indicator that the change from direct translation to an interculturally focused translation was a success. However, I am also aware that some respondents might have been unsure, but still answered something other than “do not know”. Another option is that these 5 respondents found my translation of the question confusing. Based on the pilot questionnaire, I changed the translation from almost direct to a more interculturally focused translation. Therefore, I am under the impression that the respondents might not have misunderstood the question. Instead, it is possible that the respondents simply have not considered the connection between job requirements and training content. If so, this would indicate that some participants in education and training simply do not reflect on the relevance of their training to their work. One might argue that it is hard to be

motivated to learn from education or training if a person does not see the relevance, and this would therefore be interesting to study further. However, with only 5 out of 105 respondents answering “do not know”, this is, most likely, not such a big issue.

With regards to the demographic spread in answers related to this factor, there does not seem to be a connection between the age of respondents and their answers, nor do education or employment seem to have an impact. However, it appears that among the respondents who answered “to a very high extent”, and “to a high extent”, the majority were female. As this study does not focus specifically on gender, the reason behind the gender tendency for this factor is unclear. It would therefore be interesting to study further.

Factor 2: Transfer design

To what extent do you feel like the training was designed to give you the ability to transfer learning to your job application?



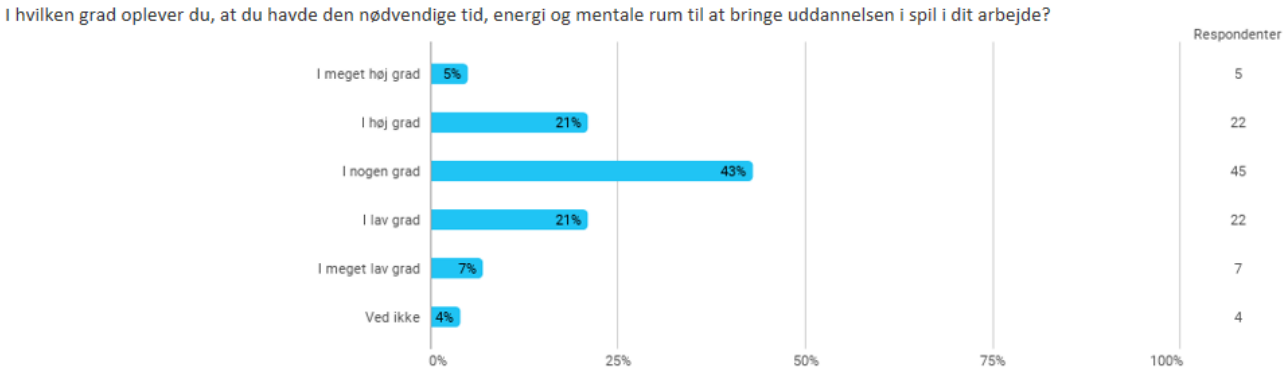
This diagram indicates that most of the respondents are pleased with the education’s training design, as 40 respondents feel that the training design gave them the ability to transfer learning to their job application “to a high extent”. However, quite a lot of respondents are displeased with the training design, as 28 answered “to some extent” and 16 answered “to a low extent”. Although these numbers might not be alarming, they indicate that there is room for improvement with regards to training and educational design in order to enhance knowledge transfer.

With regards to the demographic questions, an interesting tendency was revealed. It appears that almost all 12 respondents who answered “To a very high extent” are in the age range 55-64. Being highly pleased with the design of training or education makes the participants more eager to

transfer what they have learned. Therefore, further study on the topic would be interesting, as it might help improve knowledge transfer. Based on this, the question arises of why it is primarily the older respondents in the sample who are very pleased with the design of the educational programs they have partaken in.

Factor 3: Personal capacity for transfer

To what extent do you feel like you had the time, energy and mental space required in your work life to make changes required to transfer learning to your job?



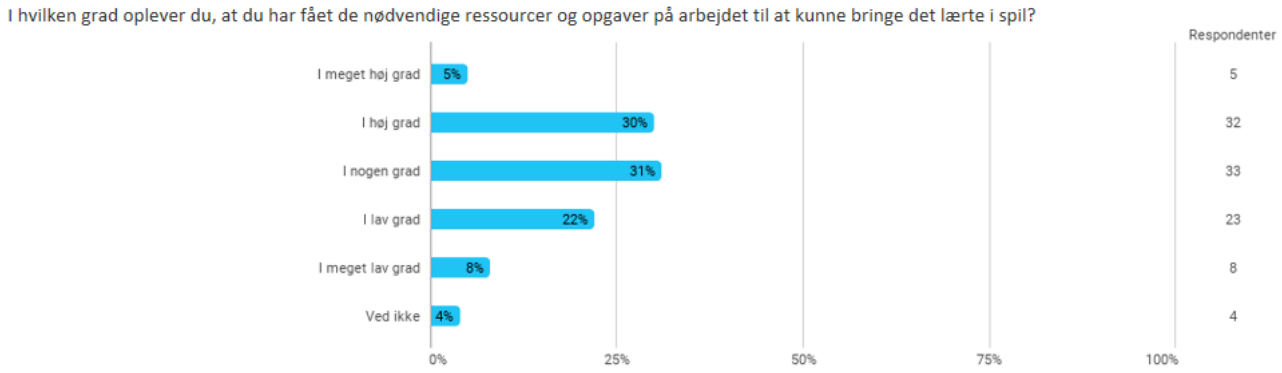
So far, this is the question with the highest number of respondents answering “to some extent”, as almost half the respondents chose this answer. This is a clear indication that there might be an issue with resources, as lack of time, energy and mental space in the work life appears to be a large reason behind the low transfer from education in Denmark. In order to enhance transfer of knowledge, it appears that management should consider giving employees more time to transfer what they learn from education. Furthermore, there is an even number of respondents who answered “to a high extent” and “to a low extent”. This could indicate that the quality of adult and continuing education is consistently less then optimal. If so, it is even more important to study the phenomenon of knowledge transfer in order to possibly create guidelines for adult and continuing education in Denmark.

It appears that there are no clear tendencies with regards to age, gender, employment or education levels among the respondents, which means that the issue of time, energy and mental space can affects everyone attending adult and continuing.

Based on the answers to this question, it appears that lack of time, energy and mental space could be one of the reasons for the knowledge transfer issues in adult and continuing education, as employees do not get the needed time to transfer and embed their new knowledge in their work tasks.

Factor 4: Opportunity to use learning

To what extent do you feel like you were provided with resources and tasks on the job which enabled you to use the skills taught in training?



A large number of the respondents feel that, “to a high extent”, they were given resources and tasks on the job which enabled them to use the skills taught in training. If this reflects the status of adult and continuing education in Denmark, then it appears that management in Denmark focus on giving employees the resources and opportunity to use knowledge gained from their education or training.

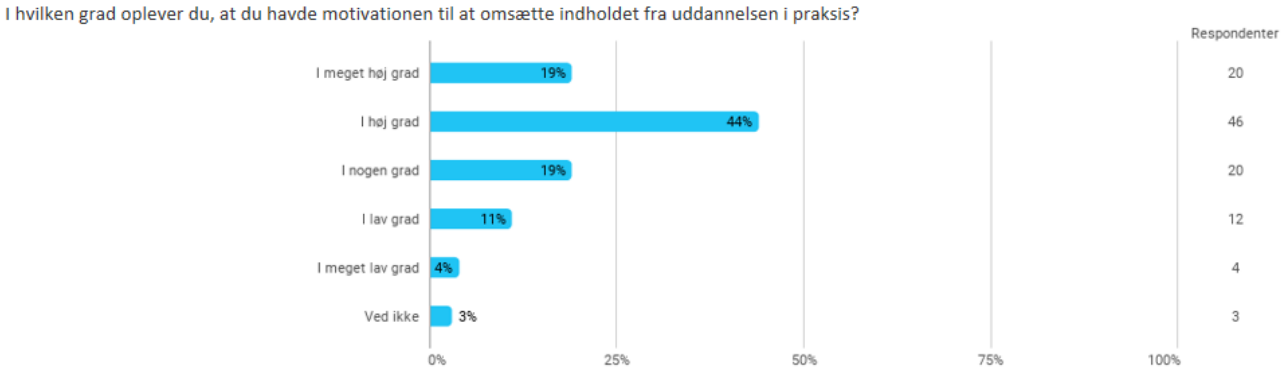
However, a large number of the respondents are dissatisfied with the opportunities they were given to use their knowledge or competences learned from their education. 33 answered “to some extent”, 23 have answered “to a low extent”, and 8 feel that they were given the opportunity to learn “to a very low extent”. This could indicate that there should be more focus on providing employees with the opportunity to use their newly acquired knowledge and skills.

The only demographic tendency this factor displays is that women appear to be much more pleased with the opportunity to use their learning in their job, as most of the respondents who answered “to a high extent” were female. It would be interesting to further study why that is. It is

peculiar that none of the prior theories and research that I have read about knowledge transfer mention gender as a possible factor.

Factor 5: Motivation to transfer learning

To what extent do you feel like you had the direction, intensity and persistence of effort toward utilizing skills and knowledge learned in training in your own work setting?



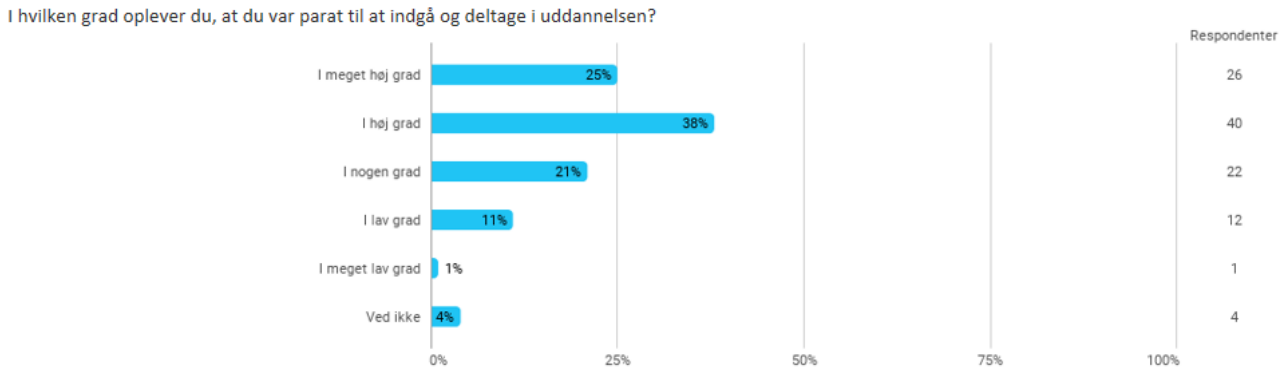
Almost half of the 105 respondents were motivated “to a high extent” to transfer the knowledge from education to work, and 20 respondents feel that they are motivated “to a very high extent”. It therefore appears that lack of motivation might not be one of the reasons behind the knowledge transfer issues in adult and continuing education in Denmark. However, 20 respondents feel that they are motivated to transfer learning “to some extent”, 12 answered “to a low extent”, while 4 feel motivated “to a very low extent”. Perhaps a larger emphasis on the relevance and importance of transferring the learning is needed in order for employees to feel motivated to do so. As mentioned, however, the factor of motivation to transfer learning does not seem to be one of the main causes of knowledge transfer difficulties, at least not for these respondents.

With regards to the demographic elements, sex again appears to be a factor, as almost all the 20 respondents who answered “to a very high extent” were female. Furthermore, there were also a larger number of females who answered “to a high extent”. Congruently, there was a higher number of males who answered “to some extent” and “to a low extent”. Whether the cause of these opinions is based on job type, adult and continuing educational type, mentality or something completely different is unclear, and it would therefore be fascinating to study further.

As with most of the other factors, clear tendencies with regards to age, education and employment are not visible.

Factor 6: Learner readiness

To what extent do you feel like you were prepared to enter participation in the training program?

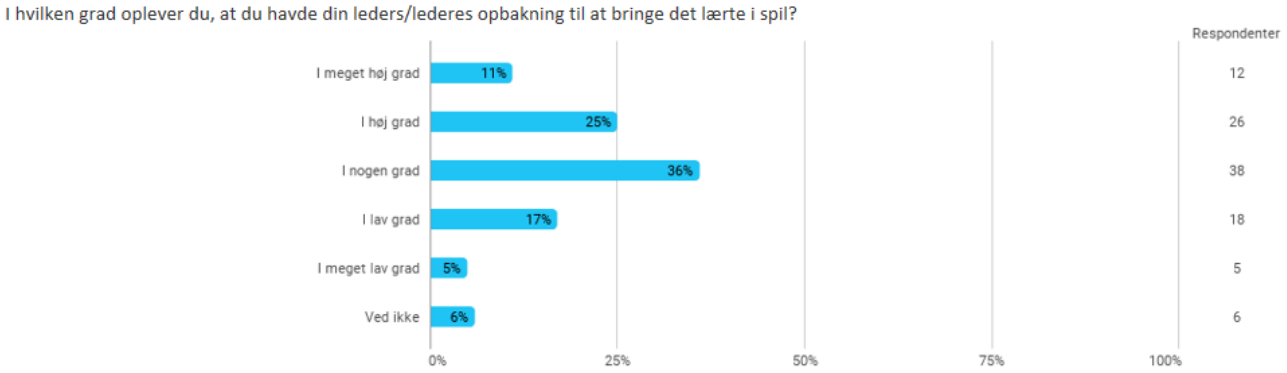


I find it quite positive that 26 respondents felt ready to participate in the training program "to a very high extent", and 40 respondents were ready "to a high extent", as this allows for a good baseline for transfer of learning. With regards to transfer of learning in Denmark, this could be an indication that learner readiness is not one of the main issues. 22 respondents did, however, only feel prepared "to some extent" and 12 only felt prepared "to a low extent". Based on these findings, learner readiness might not play a large role in the knowledge transfer issues in adult and continuing education in Denmark, but there might be room for improvement nevertheless.

A pattern appears to emerge, as the only demographic tendency that appears is once again related to gender. Almost all of the respondents who answered "to a very high degree" are female, while the male respondents dominate the answering option "to a low degree".

Factor 7: Supervisor/manager support

To what extent do you feel like your manager(s) supported and reinforced the use of your learning on the job?



Supervisor/manager support has a high number of respondents who answered, “to some extent”, as 38 respondents feel that their managers support and reinforce the use of their learning on the job “to some extent”. If the general situation in Denmark resembles the findings in this study, it could be an indicator that the lack of management support is related to the issue of knowledge transfer in adult and continuing education in Denmark.

With regards to the demographic factors, the pattern of females being more satisfied continues, as female respondents dominate the answer categories “to a very high extent” and “to a high extent”. Furthermore, it appears that a large number of these female respondents are in the age range 45-54. Consequently, more male respondents of this survey appear to feel that their manager(s) support and reinforce the use of their learning on the job only “to some extent” and “to a low extent”. If the pattern persists throughout this study that females score higher, and therefore have better opportunities to transfer knowledge from adult and continuing education, it would be exciting and perhaps highly relevant to investigate this in a larger study.

Factor 8: Supervisor/manager opposition

To what extent did you experience negative responses from your manager(s) when applying skills learned in training?

For this particular factor, it is positive that the score is so low, and that zero respondents have chosen the category “to a very high extent” and “to a high extent”. However, even though more than half of the respondents chose the lowest possible category, quite a few answered, “to some extent” and “to a low extent”. This could indicate that a lot of managers do not appreciate the new skills, competences or ideas that employees bring back from education. Perhaps a lot of adult and continuing education in Denmark is not tailored enough for the actual work of the participants. Another possibility could be that some of the respondents work in organisations that simply are very rigid with regards to structure and culture, making it difficult to introduce new ideas and skills. It could also be related to the aforementioned issue of resources, as organisations might not have the time or money to implement new ideas, competences or skills learned from education.

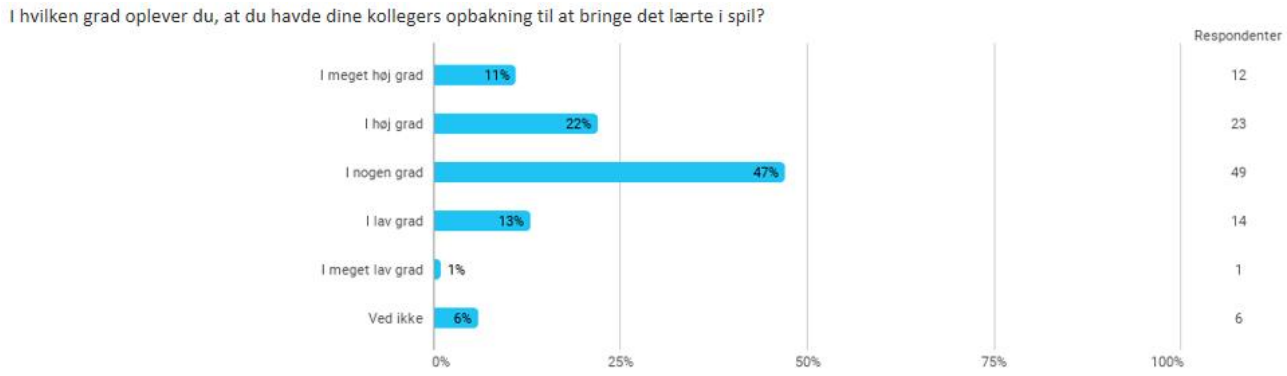
Whatever the reason might be, it is a cause for concern that people experience negative feedback from managers about their new knowledge or skills, as it suggests that the resources which are put into education, such as time and money, are wasted for a lot of people. The method of combining both closed and open-ended questions in this survey is important to further study results. This closed question allows me to understand the degree to which the respondents feel that there is an issue with negative management feedback, while the open-ended question might help me understand why this is. I shall return to this when I analyse responses from the open-ended questions in the section below called “Open-ended questions”.

With regards to the demographic factors, female respondents represented a majority in the category “to a very low extent”, while a larger number of males answered, “to a low extent”. This

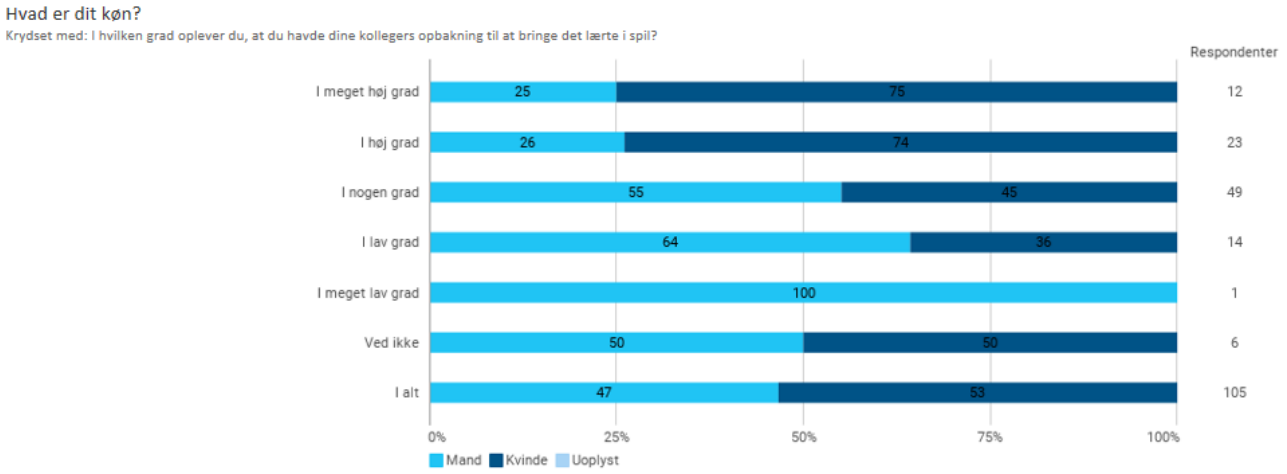
further validates the previous identified tendency that females have a better “score” in terms of fulfilling the criteria necessary for knowledge transfer to be possible.

Factor 9: Peer support

To what extent do you feel like your peers reinforced and supported the use of learning on-the-job?



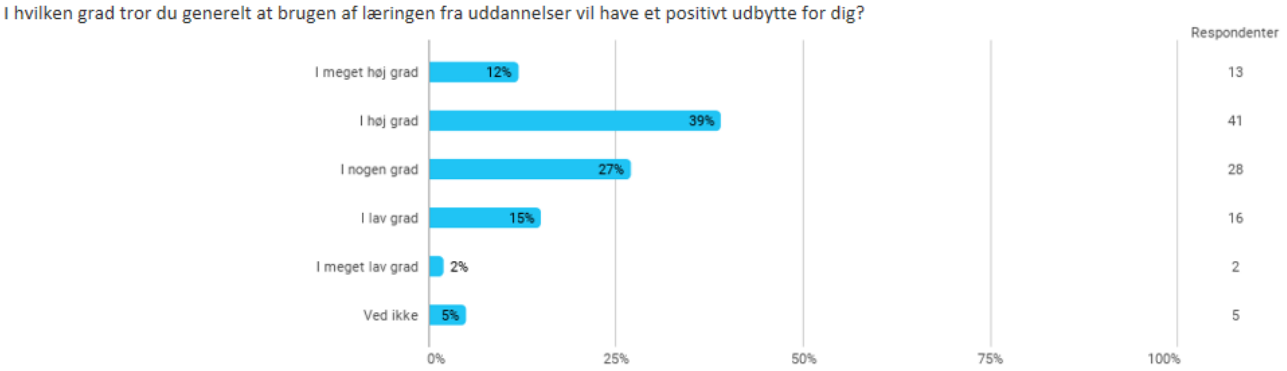
With quite few respondents answering, “to a low extent” and “to a very low extent”, peer support might not be one of the main concerns of knowledge transfer. With that being said, the number of respondents who feel that they had the support of their peers only “to some extent” is rather high. This suggests that attention toward a knowledge sharing culture, colleague curiosity and peer support among employees could enhance knowledge transfer, as this is currently a barrier, at least for these respondents.



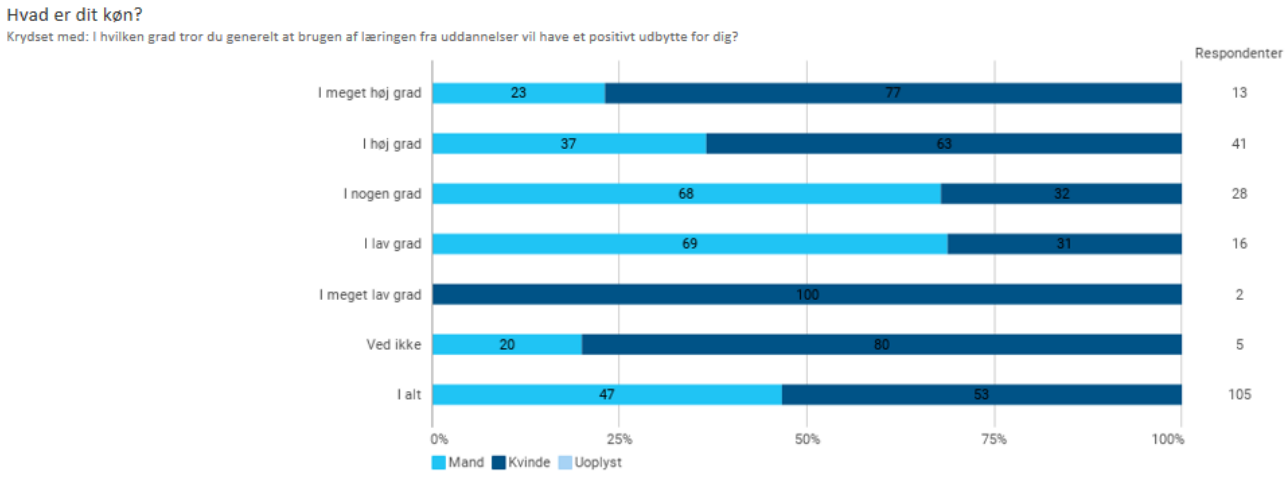
As shown in the image above, the female respondents, again, represent most of those who answered “to a very high extent” and “to a high extent”. This finding once again underscores the tendency identified above that the female respondents participating in this survey have a better opportunity to transfer knowledge than the males.

Factor 10: Personal outcomes – positive

To what extent do you feel that applying training on the job leads to positive outcomes for you?



Based on the answers to this question, it appears that most of the respondents feel that applying training on the job leads to positive individual outcomes. If this is applicable to the general situation in Denmark in any way, this might be an indicator that people are motivated to apply what they learn from training and education. Thus, this factor should not play a big role in the low knowledge transfer among Danish adults in continuing education. In order to know this with more certainty, a larger study would be required. However, this is an interesting finding, nonetheless.



As presented above, female respondents, again, display a higher possibility of knowledge transfer,

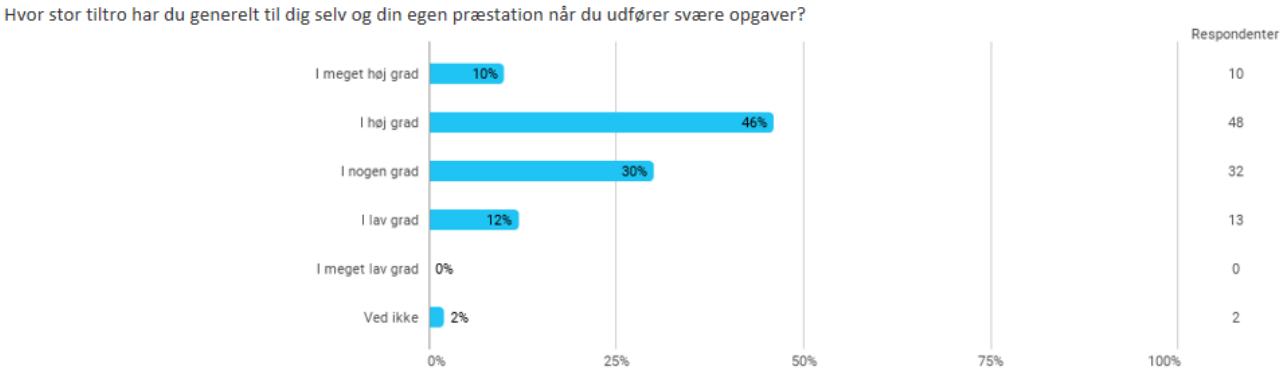
as the majority of those who answered, “to a very high extent” and “to a high extent” are female. None of the other demographic factors tested display significant patterns of variation.

Factor 11: Personal outcomes – negative

As described in the methodology, the factor “Personal outcomes – negative” has been removed from this study because through their research, Sorensen, Stegager & Bates (2017) found that it might be inappropriate in a Danish context. Therefore, there was no question about it in the survey, and it will not be analysed.

Factor 12: Performance self-efficacy

To what extent do you generally believe that you are able to change your performance when you want to?



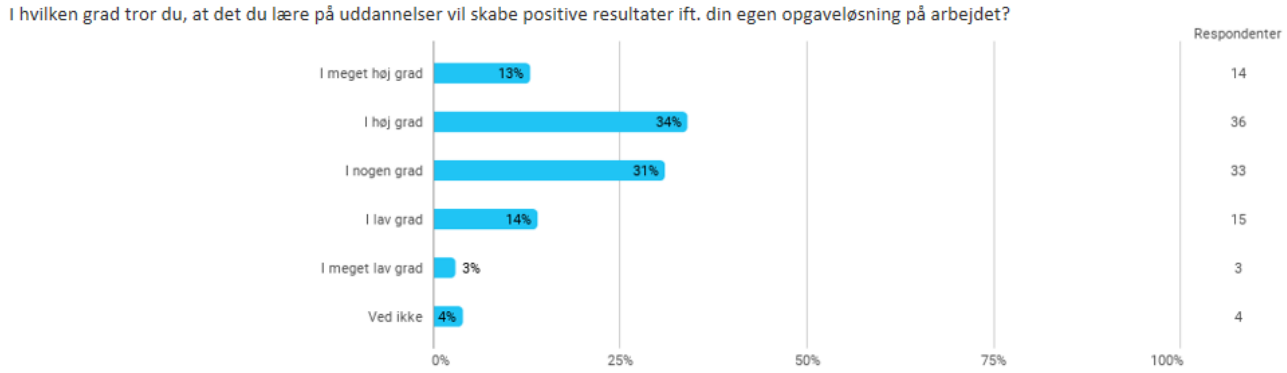
According to the LTSI model, one of the possible barriers to knowledge transfer is low belief in one’s capabilities. This can affect a person’s approach to managing difficult tasks and challenges. It is positive that zero respondents answered, “to a very low extent”, as this heightens the possibility of knowledge transfer. Furthermore, it is notable that more than half of the respondents generally believe that they are able to change their performance when they want to “to a very high extent” or “to a high extent”. With regards to this specific factor, these employees have a great opportunity to transfer their knowledge from education to work. Unfortunately, a fair number of respondents only believe that they can change their performance “to some extent”, while some answered, “to a low extent”. These respondents would have more difficulty transferring skills and knowledge acquired in education to their work, based solely on information related to this factor.

Even though this might not be an indication of a generally major issue in Denmark, it is certainly worth mentioning, as there appears to be a transfer of learning barrier within this factor.

It appears that neither gender, nor any of the other demographic factors, have a clear impact on the respondents' answers, which suggests that gender might not affect performance self-efficacy, at least for these respondents.

Factor 13: Transfer effort – performance expectations

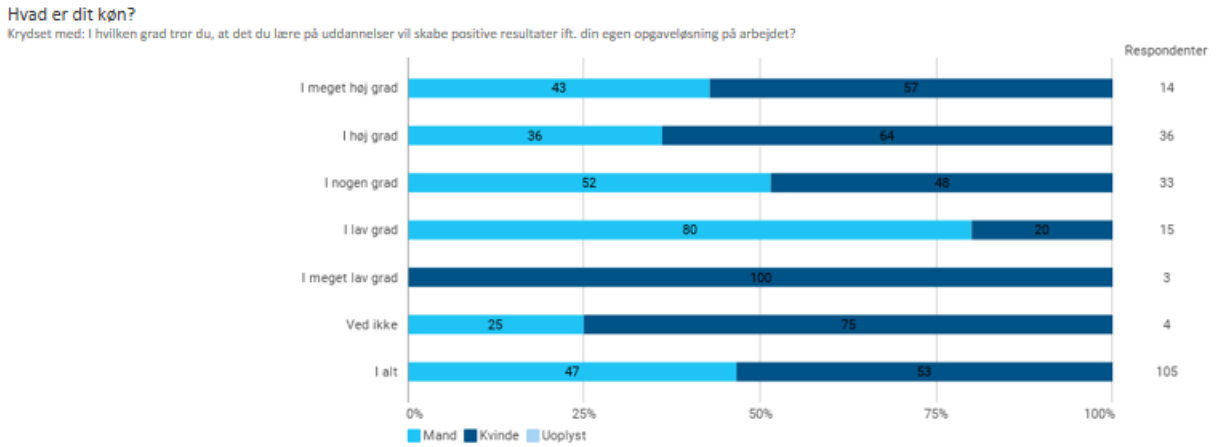
To what extent do you expect that effort devoted to transferring learning will lead to changes in your job performance?



One could argue that as a group, those who answered, "to a very high extent" and "to a high extent" make up a large share of the respondents, amounting to almost half the survey respondents. However, I find it concerning that accumulated, 48 respondents identified with either "to some extent" or "to a low extent". This means that many of the respondents are not convinced that using what they learn in education will have a positive effect on their job performance.

Conclusions from this analysis can only be made about these specific respondents. However, if this is an indication of the general situation in Denmark, I find it troubling. It would entail that quite a lot of people who participate in adult and continuing education are not motivated to transfer their new knowledge or skills. The cause of this is highly relevant, but of course unknown. For results such as this, the open-ended questions could be highly relevant, as they might help shed light on why the respondents answered as they did. This could allow me to better understand what the barriers of transfer of learning from adult and continuing education in Denmark are. This is an

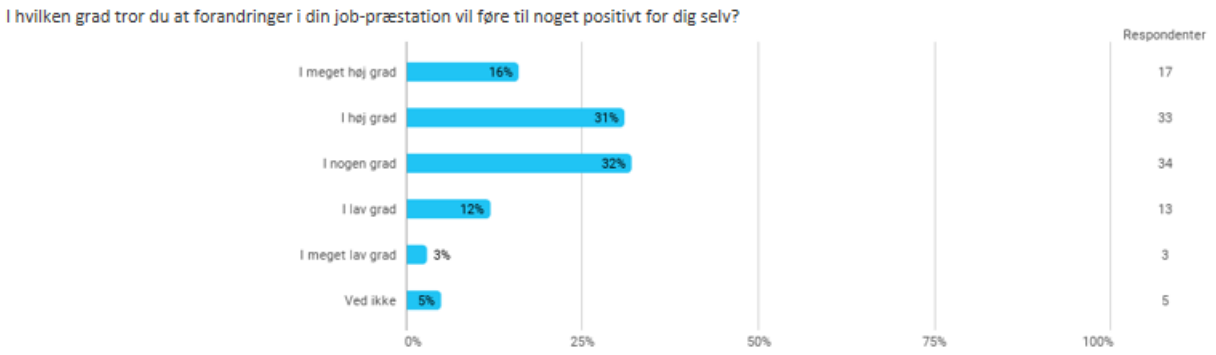
issue I shall return to in the section “Open-ended questions” below, in order to find out if the results of the open-questions cohere with the results of this closed question.



With regards to demographic factors, the only tendency that appears is once again related to gender. Female respondents scored more positively, as the two categories “to a very high extent” and “to a high extent” have a higher number of females than males. Similarly, male respondents dominated the less positive category “to a low extent”. The result of this analysis is another indicator that gender might play a significant role with regards to knowledge transfer in adult and continuing education in Denmark.

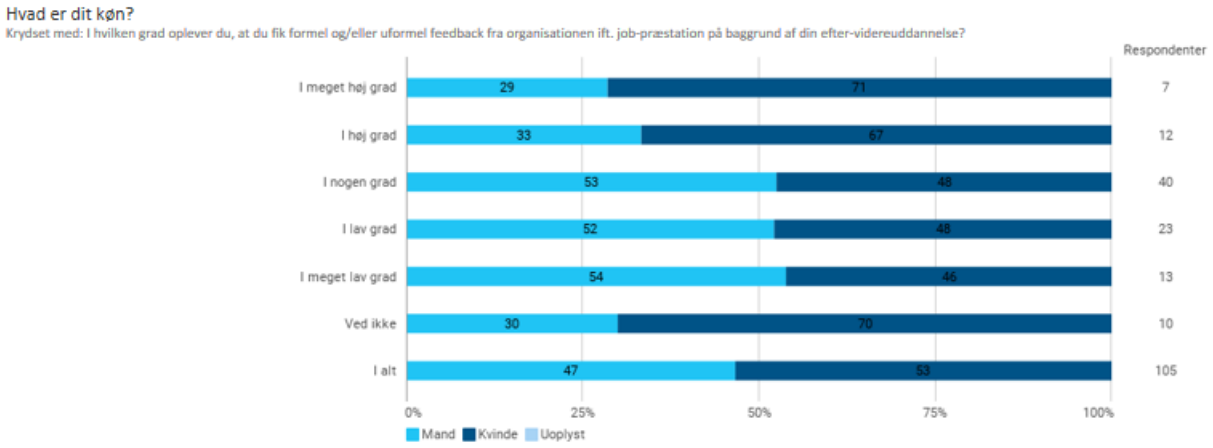
Factor 14: Performance – outcomes expectations

To what extent do you expect that changes in your job performance would lead to valuable outcomes for you?



As described above, factor 13 revolves around whether respondents can make changes to their job performance if they make an effort to transfer what they learn. Meanwhile, factor 14 puts emphasis on the degree to which respondents think such performance changes leads to individual valuable outcomes, and one could therefore argue that the two factors are related. This explains why the results of factor 13 and 14 are so similar, as the scores in all 6 answering categories in factor 14 are similar to those in factor 13.

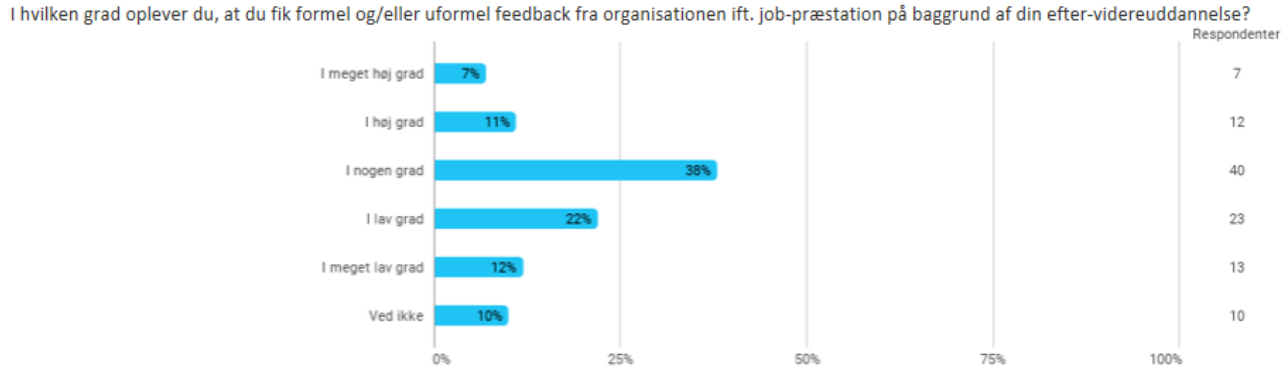
With many respondents thinking that changes in job performance might not lead to valuable outcomes (factor 14), then one can understand why they would not want to make an effort to transfer learning from education to work (factor 13). If this reflects the general situation in Denmark, then these two factors should perhaps be considered together when considering how to enhance knowledge transfer.



Another similarity between the two factors is, again, related to gender. As the diagram above shows, female respondents score higher that male respondents, as the women who participated in this survey are more optimistic about the possibility of attaining valuable individual outcomes based on changes in job performance.

Factor 15: Performance coaching

To what extent did you feel like you received formal and informal indicators from the organisation about your job performance based on your training/education?



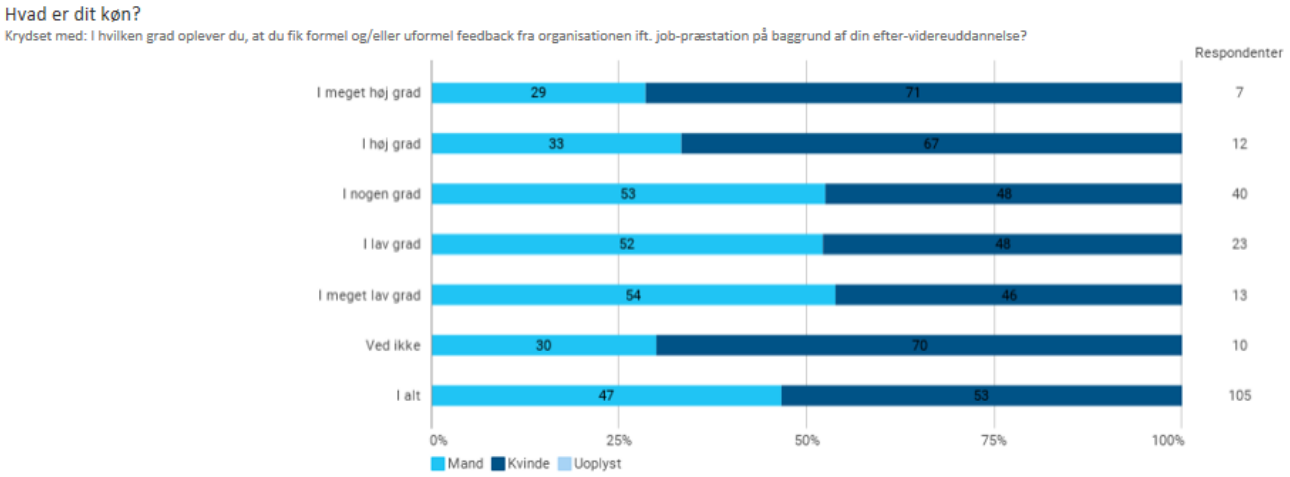
There are a few tendencies to notice in the results of this question. First of all, I find it alarming that, so few respondents have answered “to a high extent” and “to a very high extent”. This suggests that organisations might simply not give enough job performance feedback to employees related to their education.

Second of all, the number of respondents who answered “to some extent” is far from optimal, as 40 respondents chose this category. The fact that 23 respondents answered, “to a low extent” and 13 answered “to a very low extent” only backs up my concerns regarding performance coaching. If management does not offer indicators or clear feedback about employees’ education-based job performance, then the employees will have no clue as to whether or not their performance is satisfying or not. One might argue that it can be transgressive to do something different in one’s normal routine, so to apply new knowledge or skills from education in one’s work can be difficult. In that sense, it might simply be easier for employees to go back to basics and do what they did before their education, because at least they know how to do that job. Meanwhile, they have no clue as to how well they performed using what they learned from education, as they are given too little feedback. If so, this would result in lost resources, as the time, money and effort devoted to transferring knowledge from education would be less than optimal.

Third and last, it is also worth mentioning that with 10 respondents, this factor has the highest score in the category “do not know” so far. This might be a sign that some organisations might need clearer structures in order for employees to know what is going on.

The analysis above is of course in no way a direct reflection of organisations in Denmark as a whole, as it is only based the answers of 105 respondents. Nevertheless, it is worth being aware

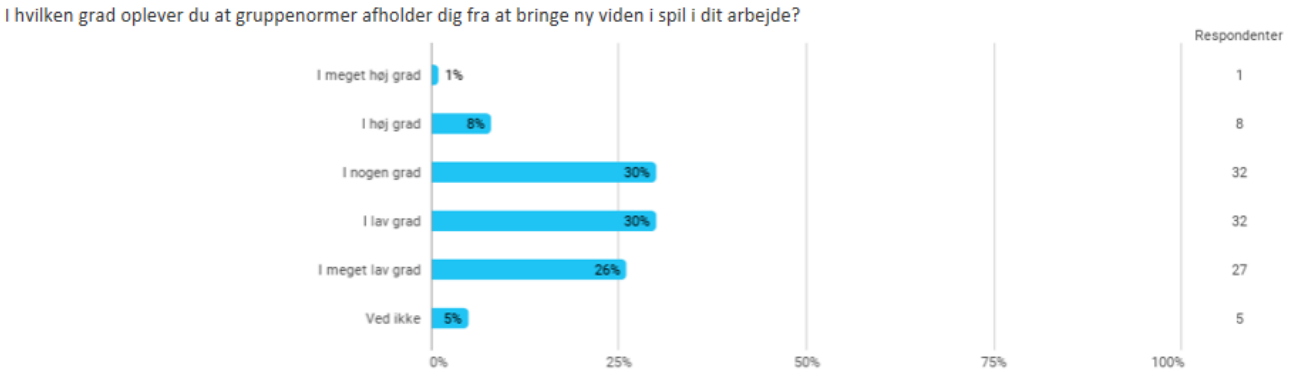
of, as it can possibly indicate reasons for the challenges related to knowledge transfer in Denmark. Emphasis on performance coaching could therefore possibly help enhance knowledge transfer.



Looking at the demographic variation in the answers, the pattern of females scoring higher continues, as the categories “to a very high extent” and “to a high extent” are mostly chosen by females. Furthermore, this, once again, appears to be the only demographic factor that displays noticeable tendencies.

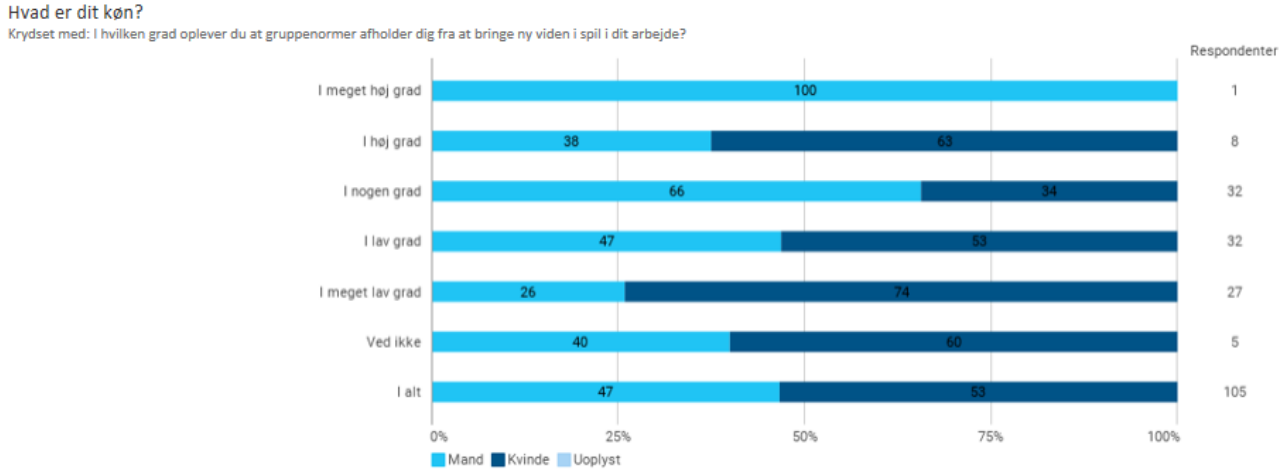
Factor 16: Resistance to change

To what extent did prevailing group norms discourage you from using skills and knowledge acquired in training?



For this, the final factor in the LTSI, it is positive that so few answered “to a very high extent” and “to a high extent”. This means that the respondents of this survey generally do not feel that

prevailing group norms discourage them from applying their knowledge and skills from education at their job. It is, however, unfortunate that 32 respondents answered “to some extent”, as prevailing group norms could clearly affect knowledge transfer from education to work for these individuals. However, with 32, this factor had the most respondents answering “to a very low extent”. For that reason, resistance to change might not be one of the key factors related to knowledge transfer issues in adult and continuing education in Denmark. This is of course not certain, as this study cannot generalize; however, the results of this factor’s analysis could suggest that resistance to change is not one of the central factors to tackle in order to enhance knowledge transfer.



As shown in the diagram above, there are more female respondents who answered “to a high extent”, which is contradictory to the pattern seen throughout this study, as it indicates that women feel that group norms discourage the use of new skills and knowledge. However, 8 respondents chose this category, so it would be hard to conclude much based on that. On the other hand, a look at the “to a very low extent” category shows that most of the 27 respondents were women. The analysis of the LTSI factors therefore ends with gender once again playing a possible role in the success of knowledge transfer.

Sub-Conclusion

According to the results, only few respondents felt that they were not motivated or ready to engage in education. This is evident in the analysis of factors 5 and 6, which are “Learner

readiness" and "Motivation to transfer learning", as a large number of respondents had scores that indicate a positive opportunity to transfer knowledge based on these two factors. One might argue that it would be easier to blame others for one's knowledge transfer issues than reflecting on whether or not one put in a great effort or not. With that being said, I must presume that the respondents have answered as truthfully as possible. For that reason, the findings suggest that these two factors might not affect knowledge transfer negatively, at least for the respondents of this study.

It does, however, appear that a lot of respondents chose the answer "to some extent" for most of the other factors. This indicates that there are factors that might need attention in order to enhance knowledge transfer.

One of the reasons for knowledge transfer issues in Denmark might be related to the lack of resources given to the employees participating in education. This was displayed in the negative responses to factors 3 and 4, which were "Personal capacity for transfer" and "Opportunity to use learning". Based on the rather negative results of these two factors, it seems that employees might require more time in order to transfer what they learn from education.

Another possible barrier to knowledge transfer could be related to coaching and support. Factors 7 and 15, "Supervisor/manager support" and "Performance coaching", both had disappointing results, as many respondents felt that they did not have a high degree of management support or feedback about their job performance. Therefore, these two factors could possibly affect the knowledge transfer from adult and continuing education in Denmark negatively. For that reason, they might also be highly interesting, as attention toward them could enhance knowledge transfer.

A third option is that colleagues have a negative impact on each other's knowledge transfer, as peer support and resistance to change, which were factors 9 and 16, showed some cause for concern. Perhaps the lack of support from colleagues and prevailing group cultures and norms prevents successful knowledge transfer from education for some people.

Finally, one issue which has consistently appeared in many of the factors analysed above is that of gender. The fact that this pattern has been consistent in almost all factors calls for further research on the matter. The fact that none of the studies I read about knowledge transfer have

emphasized gender makes this pattern even more interesting, as it could be a sign of a possible knowledge gap in the research on knowledge transfer.

In the next section, the open-ended questions will be analysed, and it will be interesting to see whether the findings from the closed survey questions in the factor analysis resemble or differ from the findings of the open-ended questions. Furthermore, the usability of the LTSI in a Danish context, and my success (or lack thereof) with the cultural translation of the LTSI factors, will be analysed based on answers to the question, "Did you find any of these questions strange? Please elaborate."

Open-ended questions

I ended my survey with two open-ended questions, namely "What is, in your experience, the main reason why knowledge transfer from education to work can be difficult?" and "Did you find any of these questions odd? Please elaborate."

In Appendix 7, I included an overview of all the answers provided in the original Danish language, and in Appendix 8, I include an overview of my translation of the data. In these appendices, answers to the first open-ended question are sorted into 7 and answers to the second open-ended question are sorted into 3 categories based on a content analysis. When translated into English, the grammatical errors of the respondents' Danish answers were corrected. Below, I discuss each category in turn, starting with the open-ended question "What is, in your experience, the main reason why knowledge transfer from education to work can be difficult?" All quotes in this part of the analysis are from Appendix 8 of this paper.

"What is, in your experience, the main reason why knowledge transfer from education to work can be difficult?"

In order to analyse the answers to this open-ended question, I coded the answers, which led to the creation of 7 categories which all the answers fit into. I read all the respondents' answers, and based on the findings, I created the following categories: resources, management support, work culture, translation between education and work, the education's relevance for the job, see no problem/do not know and miscellaneous.

The categories will be analysed individually, and based on the findings, sub-conclusions to each category will be made.

1. **Resources**

Lack of resources was by far the most commonly mentioned cause of knowledge transfer issues, as many of the respondents argued that they were not given enough resources, specifically time, to transfer their knowledge from education to work. Some respondents gave short answers such as: “Not enough time I think…”, “Lack of time”, “Time pressure, cut-backs”, “We do not get time to implement the new knowledge in our work”, “I think that today we need to run so fast that we do not have the time”, “Lack of time!”, “Limited time in day-to-day work”, ”The necessary time to implement something new at work is not given” and many other similar statements.

Others wrote long answers with elaborate arguments for why they think the lack of resources is the biggest issue related to the difficulties of transferring knowledge from education to work. An example of this is: “I experienced that there was a large managerial wish for us to use what we learned from the education/training, but we really lacked the time to work with the learned material once the education was over. Here, management could probably have done a better job of lowering the priority of other tasks so that, for a period, there was allocated time to incorporate the new knowledge into our routines and the solutions of our work tasks. So, time pressure in the everyday work life after the course has ended is, in my eyes, the biggest barrier to transferring new knowledge to work tasks and colleagues.”

While the some of the short answers simply indicate that time-pressure might clearly be an issue, this respondent sheds light on exactly why that might be. Clear prioritizing of employee tasks, and the lowering of other tasks’s priority for a period might help overcome this transfer of learning barrier. Furthermore, it is noticeable that the respondent mentions colleagues when arguing that time pressure is the biggest barrier to transferring knowledge. It is, of course, an issue if an employee does not have the time to incorporate new knowledge into his or her own work tasks, but the attention to collegial shared knowledge is also highly relevant. If employees do not have the time to share their new knowledge with the relevant colleagues, then it will never become organisational knowledge. This makes it harder to implement new knowledge in the organisation, as the transfer climate is less than optimal. Knowledge would, in such situations, remain with the

individual who attended the education, and the economic and time resources spent on that employee's education would not be exploited optimally, as the new knowledge would not become organisation knowledge.

Another respondent argues for the exact same issue related to tasks when returning to work after education. This respondent argues that "When you come back to the job, there is so much work waiting, so there is not enough time to try and implement something new." Perhaps the accumulated work that does not get taken care of when employees are in education is not taken into consideration by management. This is important to note, as resources spent on education could go to waste if the transfer climate of organisations is not considered.

It is very clear to me that the factor of time may be highly relevant to focus on when looking for ways to enhance knowledge transfer from adult and continuing education in Denmark. Other examples that support this evaluation are: "Time is a scarce resource at my work. So, the most difficult part is to find the time to use the knowledge in day-to-day work", and "As soon as I get back to the job, I go into operating mode, which makes it hard to implement something new in the daily work."

It seems that the conclusions to the LTSI analysis cohere with these open-ended answers with regards to the factor of resources, as both the quantitative and qualitative data indicate that the lack of resources, especially time, appears to play a crucial role in the knowledge transfer issues in Denmark. These findings are based on the respondents of this survey, and in order to make generalisations about the situation regarding knowledge transfer in Denmark as a whole, a larger study is naturally needed.

2. Management Support

Based on the analysis of the respondents' answers to this category, I think that many of the respondents are calling for much more support from management. Indications of this are answers such as: "Lack of organisational support" and "Lack of management support."

This category is closely related to the category of resources, and the two are connected in many of the answers, such as: "Definitely time pressure in the daily work after completed course/education. My own experience was that, despite a large managerial wish for us to apply the new knowledge in our work, there was not allocated the necessary time to incorporate the

new knowledge in our work tasks and routines. I think that management can do a lot about this by lowering the priority of certain tasks for a period, so that you get time to use the new knowledge in your work." This indicates that the actions of some managers might deviate from their intentions, as they do not give employees time to apply the new knowledge, even though they wish for them to use it.

Another respondent also argues that managers prioritize other areas higher than knowledge transfer, as he or she writes "Lack of interest and support by manager and colleagues. Lack of prioritizing that there is need for time, room and collaboration when new knowledge needs to be implemented." This frustration with management not giving the time to transfer the new knowledge is a consistent factor in this category, and another respondent argues that "Managers do not put aside time to bring the knowledge into play after completed education. I think that managers should allocate time to transfer the new knowledge."

Other answers within this category indicate that the lack of prioritizing time for knowledge transfer might not be the only issue related to management support. It appears that some managers might simply not care about the education and knowledge acquired by employees. An example of this possible tendency is the following respondent's answer: "There are not enough resources, will or time to apply the learned material. You get the thought that employees get the opportunity to attend continuing education just for managers to be able to check that task as complete. The entire implementation part is missing. The will and time to apply the new knowledge. The new knowledge is not being talked and asked about." Other examples of possibly disinterested managers emerge when analysing the answers to this category, as another answered the following: "There is not enough time to implement new work procedures. There are not any expectations from management that you actually come back with anything. Therefore, it is not taken seriously. For me, courses are therefore a nice break from the daily work – and actually nothing else." To me, this does not sound like a management strategy that motivates employees to engage in education and make an effort to transfer and apply the new knowledge to their work. Another indication that some managers might be disinterested in their employees' education is this answer: "Management is not aware of what you can accomplish after the education has ended." Furthermore, an indication that management support might be one of the reasons for knowledge transfer issues in Denmark is the fact that, according to one respondent, some

employees have no say in which course they attend, as this is chosen by management. Said respondent states that, “You often do not choose what type of course/education you are going to attend. This is often done by management.” This argument is also made by another respondent who writes that, “Miscellaneous courses and education are irrelevant and picked by the manager, not the employees themselves.”

These answers cohere with the conclusions to the related factors 7 and 16 in the LTSI, which were Supervisor/Manager Support and Performance Coaching. The analysis of the two factors showed that many of the respondents felt that they only received supervisor/manager support or performance coaching to some extent. One could argue that this validates the suggestion that management support could require attention, in order to enhance knowledge transfer in adult and continuing education in Denmark. This is of course uncertain, and further study is required to say anything with more certainty.

The management support findings of the open-ended question might also have given a deeper understanding to the results of the closed question related to factor 13 in the LTSI, transfer effort. By analysing the results of the question related to transfer effort, I found that some of the respondents only expected that effort devoted to transferring learning would lead to changes in their job performance to some degree. Perhaps they do not expect any changes in their job performance, because they feel that their managers would not support the knowledge transfer anyway.

3. Work Culture

Many of the respondents´ answers to this open question fit into the third category, which is work culture. Just as with the two first categories, some respondents answered with short and precise answers, while others gave elaborate responses. Examples of the brief answers within the category work culture are: “Underlying power structures can hinder employees from daring to “blossom”, “Work culture. You do what you have always done”, and “Personal preferences and lack of openness to new initiatives.” Answers like these indicate that work culture can in fact affect knowledge transfer greatly. More specifically, the process of introducing new knowledge to companies might be difficult because of strong existing work cultures. This suggestion is supported

by even more respondent answers, as one person mentions “The difficulty of breaking down old cultural patterns”, while another states that “New knowledge can be hard to merge with old technology”, and a third respondents writes, “I have experienced that a strong culture at a workplace can make it hard to integrate new initiatives learned from education.”

These answers clearly suggest that work culture might hinder knowledge transfer from education to work, at least for these respondents. It does not, however, give an understanding as to why or how a strong work culture might affect knowledge transfer negatively. Instead, the more comprehensive responses appear to give suggestions to this. One respondent states that, “Because it can be difficult to come and ‘demand’ things/work tasks from colleagues who do not want to hand them over. Or share because they are scared that they might become ‘worth less’ by giving them away. Then there is also the famous one: that is how we have always done it and ‘you’ are not going to come here and change that just because you learned something new.” Based on this person’s experience, the competitive aspect of a work environment can create a harmful work culture with regards to knowledge transfer. The last part of the response suggests that some employees might react with pessimism to new knowledge gained from education, as they have always done things in a particular way and do not wish to change that. This suggestion is also mentioned by other respondents, as one person states, “You are very focused while the course is ongoing. But it is not received well at the workplace. Don’t think you can do more now than before”, while another writes that the main issue with knowledge transfer is “Busyness and ‘as we usually do’.”

It is my opinion that knowledge transfer from education is hard to embed into work if the knowledge is not received positively and shared within an organisation. Without an optimal transfer climate, any new knowledge stays with the individual who gained it from education, which results in unexploited knowledge transfer potential and ineffective use of resources. Subsequently, you might simply forget the newly attained knowledge, if you do not share or use it at the workplace. One respondent argues for exactly this, as he or she states “That you fall back to your routines quickly. That you do not get to share the learned material with your colleagues. That you do not have anyone to share ideas with during education.”

These results appear to cohere with the results of the analysis of the 15 LTSI factors to a great extent. Particularly the results of the analysis of factors 9 and 16, which were Peer Support and Resistance to Change, resemble the answers to this open-ended question, as these two factors scored somewhat poorly. This indicates that work culture and prevailing group norms might affect knowledge transfer significantly. A hostile work environment with regards to introducing new knowledge, skills, ideas or competences might therefore be one of the reasons why knowledge transfer from adult and continuing education in Denmark is difficult. It is of course, as mentioned earlier, not possible to determine this based on my study. However, this research might work as a pilot study for a larger investigation into the matter.

4. Translation from education to work

Not quite as many respondents find the actual translation between education and work to be difficult, according to the LTSI factors analysis and the answers to this open-question. However, some do find it difficult, as the theoretical education can be hard to convert to practical knowledge. An example of this is a respondent who states that "It is incredibly difficult to 'transfer competences' from education and courses to workplace, because many companies do not have a climate that is geared for it. The structure is too rigid to change." Once again, company transfer climate is mentioned as a probable cause for knowledge transfer difficulties. Another respondent elaborates a bit more on the matter, as he/or she argues that "There are many daily tasks that you do not learn to manage in education, the more simple and concrete skills are not always something you learn in education. The heavy theory is rarely used in the daily work life in the business world." The respondent goes on to state that "(…) you move in two parallel worlds where there should be a lot more focus on bridge building then the case is today." Within the three first categories, attention and issues have been related to the organisational culture and management. With the emphasis on theory and practice issues that this respondent describes, the focus shifts toward the educational institutes. Perhaps the educational institutes need to make their content more relatable to everyday work situations in order to shorten the distance between theory and practice. Another respondent argues for exactly this, as he or she states that "There is too far a gap between the educational situation and the daily work situation." One way to shorten this gap is perhaps to make the education lead to concrete actions, because as one respondent states, "If continuing education cannot lead to concrete actions, then theoretical continuing education will

always be hard to convert into practical knowledge." As mentioned, fewer respondents argued that this was biggest cause of knowledge transfer difficulties in their answer to this open-ended question. This correlates with the findings in the LTSI factor analysis, as the respondent scores to factor 2, which was Transfer Design, were mainly positive, while some felt that the training was designed to give them the ability to transfer learning to their job application only to some extent. In my opinion, the fact that the two analyses cohere with one another validates the findings in this study further.

5. **The education's relevance for the job**

This category is, to some extent, related to the category above. Category 5 is related to the relevance of the education to the learners' work tasks. Education that is not highly relevant to work tasks is harder to transfer, as it makes the distance between education and work greater. There are not quite as many answers that fit into this category as the first 3. An interesting observation is, however, that the answers that are related to the relevance between education and work are described in highly similar ways. The following responses display the similarities of the respondent answers: "Mismatch between work and education. The courses and educations many people attend simply do not match their daily work"; "Sometimes the courses I have been on do not fit my daily work at all"; "Participation in non-relevant education"; "Lack of relevance"; "If the job and the education do not fit together"; "If you find it difficult to relate the educational content to your job"; "Clarity about what the education specifically will be used for"; and "Lack of motivation. I, at least, do not feel very motivated, which is probably because the workshops and courses lack relevance for my work."

As established earlier in the analysis of this open-ended question, some employees have experienced managers choosing which courses the employees must attend, and perhaps this has resulted in employees receiving an education that is not directly relevant to their daily work. If so, a possible way to enhance educational relevance and thereby motivation to transfer knowledge is to give employees more freedom to choose educational courses for themselves, instead of management picking them on their behalf.

With regards to the LTSI factors, the dissatisfied answers about missing relevance might cohere with the findings of factor 1, which is Perceived Content Validity. 35 of the 105 respondents stated that the training content only reflected their job requirements “to some extent.” Perhaps these respondents need clarity about the relevance of their education.

It is clear that some of the respondents are dissatisfied with the lack of educational relevance to their daily work tasks. It is, however, difficult to say whether the problem lies with the organisation or the educational institute. Perhaps managers require some employees to take certain courses even though employees might find them irrelevant to their job. Maybe the content that is produced at educational institutes is too general, making it hard to apply to specific tasks at work. Alternatively, maybe it is a combination of both organisational and educational issues. Regardless, based on these findings, content validity might be an interesting factor to study further, as it might contain some real transfer of learning barriers.

6. **See no problem/do not know**

Only three respondents answered that they did not have an opinion as to what the main cause of knowledge transfer issues might be, and one respondent did not find knowledge transfer from education to work difficult. In hindsight, it might have been more appropriate to make this open-ended question contain the possibility that respondents might not find knowledge transfer difficult at all, instead of assuming that they all do. With that being said, it does appear that most respondents have difficulties transferring knowledge from adult and continuing education to some extent.

The respondents who answered that they do not know might either simply want to finish the survey or have not reflected enough upon the topic. For that reason, it is hard to conclude much from these findings.

7. **Miscellaneous**

The last category contains three responses, one of which is, “Sometimes humans are incompetent.” Although this might be true, it hardly seems like a constructive answer, and I find it difficult to take anything productive from this answer. Another respondent answered that, “The competition in society is a factor that pushes for development and effectiveness. All of it measurable for documentation and statistics reasons.” As this response revolves around

effectiveness, it relates to the category of Management Support, as some respondents felt that their managers do not give them enough time to transfer knowledge. In this case, however, focus lies not on the manager, but on our business culture as a whole. Perhaps the structure of our business society discourages knowledge transfer. If so, knowledge transfer difficulties would be insurmountable, as something that complex would be extremely hard to change.

The factors found in the closed-question analysis that affect transfer of learning were: personal capacity for transfer, opportunity to use learning, supervisor/manager support, supervisor/manager opposition, performance coaching and resistance to change. All in all, the results of this open-ended question analysis appear to cohere with the findings to the closed-questions. It especially appears that lack of resources and management support cause knowledge transfer difficulties for the respondents of my survey.

In the next section, the answers to the second question are coded and then analysed.

"Did you find any of these questions odd? Please elaborate."

With my first translation, emphasis was on creating as direct a translation of Soerensen, Stegeager & Bates's (2017) original 15 LTSI factors as possible. Based on the feedback from 15 respondents, attention to the intercultural aspect of translating parts of an American theory to Danish became clear to me, as all 15 respondents found some of the questions odd. For that reason, I made a new translation, were I focused on the receiver. The success of this second translation will now be analysed, as respondents have answered the last question of my survey, which was "Did you find any of these questions odd? Please elaborate." The answers to this question have been placed in one of three categories. These categories are: "No, I did not find any of the questions odd", "Yes, I found one or more questions odd" and "Lacking questions". The total of these answers does not add up to 105, as some respondents gave incomprehensible answers, such as "xx", "…" and "---", and these will not be used. In the next section, the results of the first category will be analysed. Appendix 9 shows the Danish version of the coding, and Appendix 10 contains the translated coding. All quotes in this part of the analysis are from Appendix 10 of this paper.

1. **No, I did not find any of the questions odd**

There are 75 respondent answers that fit into this category, most of which simply answered "No." The fact that almost all respondents answered that the questions were not weird to them

indicates that these factors might be quite transferable to a Danish context. However, as my pilot research showed, if the factors are translated directly, some might find them highly inappropriate in a Danish context.

There is also the possibility that some respondents wish to finish the survey fast, to which a quick "No" would be preferable. This is, however, just speculation, and impossible to know for sure.

Another possible reason for the high number of respondents answering "No" could be my research method. Because of the limited resources available for me, I used my network to share my survey, and my network is filled with people who know me well, and some of them might not want to give negative responses to my questionnaire. This possible bias is, however, unknown, and it cannot be concluded whether it affected the results or not. The only thing that is certain is that a large majority of the respondents answered "No", and I therefore must assume that my second translation of the questions, based on the LTSI factors, is to some extent successful.

One of the respondents who answered "No" followed up with an interesting suggestion. He or she stated, "They were so good and relevant. But maybe it is valuable to ask if you're in the public or private sector." I find this to be a good observation, and a demographic factor that my questionnaire might have missed, as this could have displayed knowledge transfer tendencies within the two sectors. As mentioned many times earlier in this paper, this paper can act as a pilot study about knowledge transfer in Denmark, and in further studies, drawing attention to the public and private sector could perhaps be beneficial.

2. **Yes, I found one or more questions odd**

12 respondents gave answers that fit into this category, for different reasons. Some state that they find the question "Did you find any of these questions odd? Please elaborate" weird. This is displayed by the following answers: "Yes – this point is weird", "Yes, this! Choice of words with regards to 'odd'" and "Yes, this question." Perhaps, the reason for this is that all the other questions are related to demographic factors or knowledge transfer, which makes this question stand out and look like it does not fit into the questionnaire.

Others find the question related to Factor 8, "Supervisor/Manager Opposition", inappropriate. One person wrote, "I think the one with negative feedback was a little weird", and another stated

“Yes, I have not experienced negative feedback about not using something from a course”, and a third answered, “I did not quite understand the one with negative feedback.” This is interesting, as it could indicate that factor 8 of the LTSI is not completely transferable to a Danish context. Perhaps my translation was not appropriate, which caused confusion for some of the respondents. Another possibility is that the management styles in USA and Denmark are too different, which makes this factor less transferable to a Danish context.

3. Lacking questions

One respondent gives an in-depth explanation as to why he or she thinks it would have been relevant to know whether respondents work in the field in which they are trained. The respondent states, “It can have relevance whether you work in the field that you are trained in. If you are, for example, trained to be an office assistant and work with marketing, even small courses can make a difference to both performance and your career. But with regards to courses and continuing education within one’s subject, there is often a need for very precise and tailored offers if they are to create value for the employee and company.” I find this to be a good point, as it seems likely that it could affect knowledge transfer factors, such as motivation, perceived content validity, opportunity to use the learned material if your work tasks do not reflect your training. It would therefore be valuable to have a direct question about this in further knowledge transfer research. It also makes me questions whether the 16 factors of the LTSI are comprehensive enough, as it seems there might be some knowledge transfer elements that the LTSI factors might not cover, at least not distinctively.

Another respondent states, ”Yes, I find it odd that you do not need to know whether it is continuing or adult education, as I think it has a great deal of importance for how you answer the questions.” I apply the LTSI for this study, and because the LTSI does not make a clear separation between adult and continuing education, I have chosen not to do so either. Based on this respondent’s answer, it could, however, be questioned if I should have. By questioning participants using a survey structure, one could also consider whether or not the LTSI should distinguish between adult and continuing education, at least in Denmark. It is of course not possible to say anything with certainty about the structure of the LTSI in a Danish context, but this respondent certainly makes an interesting point.

Discussion and Conclusion

In this study, I examined what the barriers to transfer of learning from adult and continuing education in Denmark are. First, I analysed the results of the closed questions and the open-ended questions individually, and afterwards I compared the findings. After examining the respondents' answers to the closed questions, I concluded that the respondents had less than optimal scores in factors 3, 4, 7, 8, 15 and 16. These factors were: personal capacity for transfer, opportunity to use learning, supervisor/manager support, supervisor/manager opposition, performance coaching and resistance to change. Future attention to these factors could therefore possible help overcome these barriers in order to enhance knowledge transfer from adult and continuing education in Denmark. More specifically, these findings suggest that the difficulties connected to transferring knowledge from education to work mostly lie with the companies. This is indicated by the fact that most of the factors mentioned above are related to the organisations of the respondents, and not the individual nor the educational situation. For that reason, further knowledge transfer research with emphasis on the organisation might result in valuable findings.

After examining and comparing the results of the first closed question, these results further validated the findings from the closed questions of the questionnaire. Lastly, the final open-ended question in the survey revealed that most of the respondents found the questions related to the LTSI factors to be appropriate, which further validates my findings.

Although previous research about the LTSI in a Danish context indicated that the LTSI is applicable in a Danish context, my study attempted to draw more attention to cultural differences. As my results were to some extent consistent with earlier findings, this research further validates the cultural transferability of the LTSI in a Danish context. In order to apply the LTSI in a Danish context, attention to translation, however, appears vital. For that reason, further research is perhaps needed in order to find the most appropriate translation of the LTSI to Danish. Furthermore, my findings suggest that there might be a knowledge gap regarding whether and how gender might influence knowledge transfer. With 105 respondents, my research is preliminary, so I suggest that future researchers should consider investigating the topic of gender influence on knowledge transfer.

As previously mentioned, the limitations of this research mean that it does not provide a basis for direct conclusions on knowledge transfer in Denmark. It does, however, offer possibly relevant tendencies which call for further research. Due to the limited resources available to me, the use of my network to share my survey could have impacted the questionnaire answers through possible bias. This is not certain; however, it is important to note. Because of this possible bias, I suggest that further research should place more emphasis on which platforms are used for research. I also recommend that the private and public sector are considered in future research, as respondents in my survey suggested that this might be relevant to the topic.

By combining the open and closed questions, I got a deep understanding of knowledge transfer in adult and continuing education in Denmark. Through the closed questions, I obtained an understanding of where there might be knowledge transfer barriers and thereby enhancement opportunities, based on the factors of the LTSI. The open-ended question allowed me to understand why these issues might exist. Together, these two types of questions in my survey have made it possible for me to make a qualified answer to my research question.

Reference list:

Alliger, G. M., & Janak, E. A. (1989). KIRKPATRICK'S LEVELS OF TRAINING CRITERIA: THIRTY YEARS LATER. *Personnel Psychology, 42*(2), 331-342. doi:10.1111/j.1744-6570.1989.tb00661.x

Brian D. Blume, J. K. F. T. T. B. (2009). Transfer of training 1988–2008: An updated review and agenda for future research. *International Review of Industrial and Organisational Psychology, 24*, 42-70.

Brinkerhoff, R. O. (1987). *Achieving results from training*. San Francisco, CA: JosseyBass.

Bryman, A. (2016). *Social research methods* (5. edition ed.). Oxford: Oxford University Press.

Bushnell, D. S. (1990). Input, process, output: a model for evaluating training. *Training & Development Journal, 44*(3), 41.

Baadsgaard, M. D. P. M. (2012). Hver femte dansker deltager i voksen- og efteruddannelse *Arbejderbevægelsens Erhvervsråd*.

Christensen, K. B. (2009). Efteruddannelse af ufaglærte får hug. *Ugebrevet, A4*(39), 3-5.

Cranton, P. (1994). *Understanding and promoting transformative learning: A guide for educators of adults*. San Francisco, California: Jossey-Bass.

Daron Acemoglu, P. R. (2017). Robots and Jobs: Evidence from US Labor Markets *NBER Working Paper, 23285*(March).

Ford, J. K., & Weissbein, D. A. (1997). Transfer of Training: An Updated Review and Analysis. *Performance Improvement Quarterly, 10*(2), 22-41. doi:10.1111/j.1937-8327.1997.tb00047.x

Ford, T. T. B. K. J. (1988). Transfer of training: A review and directions for future research. *Personnel Psychology, 41*.

Hampson, E. C. I. (2008). Transfer of training: A review and new insights. *International Journal of Management Reviews, 10*(4).

Holton, E. F. (1996). The flawed four-level evaluation model. *Human Resource Development Quarterly, 7*(1), 5-21. doi:10.1002/hrdq.3920070103

Holton Iii, E. F., Bates, R. A., & Ruona, W. E. A. (2000). Development of a generalized transfer of learning system inventory. *Human Resource Development Quarterly, 11*(4), 333-360. doi:10.1002/1532-1096(200024)11:4<333::AID-HRDQ2>3.0.CO;2-P

Janak, G. A. E. (1989). Kirkpatrick´s levels of training criteria: Thirty years later. *Personnel*

Psychology, 42, 331-342.

Jesson, J. K., Matheson, L., & Lacey, F. M. (2011). *Doing your literature review : traditional and systematic techniques*. Los Angeles, Calif.: SAGE.

Judd, C. H. (1908). The Relation of Special Training to General Intelligence. *Educational Review, 36*, 28-42.

Kihrer, R. (2018). Why invest in adult learning? . *European Association for the Education of Adults*. Retrieved from https://eaea.org/2018/03/15/why-invest-in-adult-learning/

Kirkpatrick, D. L. K. J. D. (2006). *Evaluating training programs* (3 ed.). San Francisco: CA: Berrett-Koehler Publishers.

Kraiger, K., Ford, J. K., & Salas, E. (1993). Application of cognitive, skill-based, and affective theories of learning outcomes to new methods of training evaluation. *Journal of Applied Psychology, 78*(2), 311-328. doi:10.1037/0021-9010.78.2.311

Mezirow, J. (1991). *Transformative Dimensions of Adult Learning*. San Fransisco: Jossey Bass.

Olsen, H. f. (2006). *Guide til gode spørgeskemaer*. Kbh.: Socialforskningsinstituttet.

Phillips, J. J. (2003). *Return on investment in training and performance improvement programs* (2nd ed. ed.). Boston: Butterworth-Heinemann.

Phillips, J. J. P. P. P. (2005). Measuring ROI in Executive Coaching. *The International Journal of Coaching in Organisations, 3*(1), 53-62.

Reid Bates, E. F. H. I. J. P. H. (2012). A revised transfer of learning system inventory: factorial replication and validation. *Human Resource Development International, 15:5*, 549-569. doi:10.1080/13678868.2012.726872

Reid Bates, E. F. H. I. J. P. H. (2012). A revised transfer of learning system inventory: factorial replication and validation. *Human Resource Development International, 15:5*, 549-569.

Reio, T. G., Rocco, T. S., Smith, D. H., & Chang, E. (2017). A Critique of Kirkpatrick's Evaluation Model. *New Horizons in Adult Education and Human Resource Development, 29*(2), 35-53. doi:10.1002/nha3.20178

Rouiller, J. Z., & Goldstein, I. L. (1993). The relationship between organisational transfer climate and positive transfer of training. *Human Resource Development Quarterly, 4*(4), 377-390. doi:10.1002/hrdq.3920040408

Salomon, D. P. G. (1992). *Transfer of learning* (2nd ed.). Oxford, UK: Pergamon Press.

Skipper, N. K. L. (2009). *Effektanalyser af voksenefteruddannelse: Analyse af individeffekter samt cost-benefit-analyse*. Retrieved from Copenhagen

Skipper, N. K. L. (2010). *Effektanalyser af voksen efteruddannelse: Analyse af private virksomheders brug af offentlig medfinansieret voksen efteruddannelse og effekterne på virksomhedernes udviklin*. Retrieved from Copenhagen:

Stake, R. E. (1995). *The art of case study research*. London: Sage Publications.

Thorndike, E. L. (1913). The psychology of learning. *Educational Psychology, 2*.

Thorndike, E. L. (1923). The influence of first year Latin upon the ability to read English. *School Sociology, 17*, 165-168.

Waller, L. (2011). *FROM THE CLASSROOM TO THE WORKPLACE: Enhancing the transfer of learning* Berkhamsted, UK: Ashridge Business School.

Woodworth, E. L. T. R. S. (1901). The influence of improvement in one mental function upon the efficiency of other functions. *Psychological Review, 8*, 247-261.

Aarkrog, V. (2010). *Fra teori til praksis – Undervisning med fokus på transfer*. København, Danmark: Munksgaard.