Towards simplicity by trusting the process

Making learning visible

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Abstract

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Title: Towards simplicity by trusting the process – Making learning visible
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Summary: We live in an age of fast changes, where updating has become a way of living; constantly forcing ourselves to change as we try to make sense of our existence. Thus there is a need for openness to the kind of learning which is incorporated with the individual’s process of change; a constant becoming through continuous forms of lifelong learning. In this qualitative study I explore and present two documented projects; involving Tetra Pak and Paradigm Strategic Communication. By using selected accounts from these documentations together with a theoretical framework I examine and try to illustrate how pedagogical documentation of various activities can make learning visible. Highlighting that by documenting activities new knowledge can be accumulated and can enable the participants to re-visit, reflect and grow with qualitative feedback. Although this study has its limitations, it will exemplify that by documenting various activities we can recognize moments of learning which can be found in daily interruptions. Thus it illustrates the relevancy of further studies.

Key words: Pedagogical documentation, lifelong-learning, organizations, work, learning journal, aesthetics, interactions, reflectiveness
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Preface

Nobody can build the bridge for you to walk across the river of life, no one but you yourself.

(Nietzsche, Schopenhauer as Educator)

I have kept an ongoing learning journal throughout the past seven years in; my studies, my work as a music teacher as well as a consultant in numerous projects and companies with focus on HR issues, and on my personal life. In my journal I have written about experiences and reflections from interactions and discussions with colleagues, students, professors and family. I consider these experiences meaningful as they are part of my being and learning process. By continually writing personal reflections on my practices I have perceived through the lens of my own accounts and learned more about my values, interests, priorities, my career aims, and myself.

I am grateful to have completed this Master’s thesis. I have gained new knowledge and discovered that this work has inspired me to further continue exploring how learning can become visible. I wish to thank the employees at Tetra Pak and at Paradigm Strategic Communication. Furthermore, I would like to thank Rolf Viberg for his support and faith in me and my abilities. A special gratitude goes to my supervisor Professor Bosse Bergstedt who has guided and supported me with valuable and inspiring advice and feedback to my ‘mixed mind’.
Introduction

We live in an age of fast changes, where updating has become a way of living; constantly forcing ourselves to change as we try to make sense of our existence. The more intricate society becomes, the more questions we seem to have, and the harder it becomes to answer these questions (Bauman, 2005; Biesta, 2006: 58-63). Current times can be described through Zygmunt Bauman’s metaphor liquidity. Just as liquids ‘undergo a continuous change in shape’, we too have to be constantly ready for change (Bauman, 2000: 1-2). This idea of constant change is one of the certainties that challenge individuals and organizations in their professional and personal lives, since adaptability and understanding seems to be part of our societies. This also challenges each one of us with the need to take new roles and responsibilities as we try to redefine our place within our own various circumstances. For Bauman liquid life is like sequence of new commencements and therefore we need to be ‘empowered’ or ‘enabled’ through continuous forms of learning if we are going to make conscious choices and engage efficiently and creatively within our professional and personal lives (Bauman, 2005:124-125). Meaning there is a constant need for individuals not only to learn new skills and acquire knowledge in order to be able to adjust themselves to these changes, but also to reflexively recreate one’s-self. Consequently, there is a need for openness to the kind of learning which is incorporated with the individual’s process of change.

With this in mind I ask; isn’t then learning part of our being and becoming? Isn’t learning a lifelong process? I am aware that these are multifaceted and extensive questions, and it is not my intention to answer them. Rather my purpose is to explore how learning can become visible and recognized through documenting daily actions; as my own process of writing journals has been part of my own method for learning.

Thus, in this master’s thesis I will present two documented projects; one involving Tetra Pak and the other Paradigm Strategic Communication. By using selected accounts from these documentations together with a theoretical frame I will examine and try to illustrate; how pedagogical documentation of various daily activities can make learning visible.
**Research aim**
Thus by selecting some accounts from two documented projects which include Tetra Pak and Paradigm Strategic Communication I will examine and exemplify together with a theoretical frame, how pedagogical documentation of various daily activities can make learning visible.

My study will focus on describing and interpreting these documentations (Rienecker, 2010: 21-22). Yet, I am mindful that learning processes are practically impossible to really comprehend and keep track of (Jarvis, 2012: a: 107) as well as there are various aspects and perspectives I need to be aware. Therefore, I will delimit my study by focusing on:

- How can learning become visible?
- In what way is pedagogical documentation significant for learning?

To be able to answer these questions and to reason my thesis I will first present myself to provide an understanding for my choice of research question and purpose. Furthermore, I will outline my choice of theories as they emphasize how I perceive learning. These theories also reflect contemporary thinking and how there is a need to “expand” the concept of learning as being part of the ‘whole person’ (Jarvis & Parker, 2007:13) and a lifelong process (Jarvis, 2009a). Thus they will provide ground for my choice of methodology as I will also raise some ontological and epistemological considerations since I regard my thesis as a process in its own becoming.
Research background
When I returned and embarked on my academic journey and enrolled as an undergraduate again I was eager, since pursuing an academic platform would enable me to continue to explore and discover ways to improve my work as a pedagogue. Yet there was also a sense of insecurity since it involved the matter of learning to adjust my thinking according to certain academic rules, procedures and most importantly to be able to “split my thinking” by dividing theory and practice. Nonetheless, during this learning process I have realized that I would not be asking these questions if it wasn’t for my practical experiences. Meaning, what is theory worth if it is not implemented? And what is practice worth if it is not verifiable? Thus, I had to attune my thinking in a way of experimenting as Deleuze and Guattari suggest; and try to create new concepts and ways of discerning (2011: 16-23). But where do I begin and how do I articulate my practical experiences? How do I write down my own reflections based on theories and in an informed fashion? As there are some “academic recipes”; there are ways of writing where the personal perspectives and voices are explicitly or separately presented (Ellis, 1993, 1999) while others are intertwined as in a dialogue throughout the text (Gurevitch, 2000), I found the latter more preferably as to the nature of my work.

While I write these lines now, I find this study as a creation in a process and not an end product, and I contemplate; isn’t writing a reflection in its own becoming? (Deleuze & Guattari, 2011: 158) Thus, could we understand this thesis as a journal, as a scholarly diary of sorts? Yet, I understand that I am still confined to a more traditional format even though there is a desire to go beyond the pragmatic or instrumental way of writing to an expressive and artful; suggesting a materialized conclusion of the work; a bottom-up kind of process, trying to find patterns, structures and finally a frame (Gubrium & Holstein, 1997: 147-148, 156-159). Another concern is that as I have become familiar to Karen Barad’s (2007) new concept of onto-epistemology, I find the section of my “methodology” to be rather problematic; as it is usually a limited description of the researchers’ work process and systematically separates theory from practice. Paradoxically, I will try to delineate my work and offer the reader the best possible way to follow my ‘mixed mind’.
To apprehend my aim and my choices I need to give a brief background on some of my professional experiences as they have partly affected and shaped my perception. Or as Nietzsche explained more philosophically, that essentially every man is a unique being and if an individual wants to discover his or her own unique path to live, then he or she must ask the question: what have you up to now truly loved, what has attracted your soul? (Nietzsche, 2008:1-3). He is suggesting that it is in the context of discovering that change becomes possible, which I find to be part of my experiences.

For twenty years I have been teaching music in schools as well as private lessons for children and adults; which has allowed me to experience different and various aspects in learning processes and that age is merely “a number” regarding teaching and learning. During the years I’ve also had the opportunity to engage myself as a singer; signed to a record label, which involved a radio hit in USA. As my own learning process includes a master’s degree in musicology, it has offered me the possibility to run my own business where I employ music as a tool for the purpose of developing people and organizations; as I believe that the inner resources of human beings may be developed and enriched by means of aesthetics. Throughout 2010 and 2011, I was part of few projects at Tetra Pak, a world leading food processing and packaging company with Swedish origin, operating in 170 markets. One assignment was to write a report covering Tetra Pak’s introductory courses for new employees. Rolf Viberg a chemical engineer had facilitated the training during six years and his course evaluations had received high scores throughout the years; a result that was questioned as to what factors could have contributed to these positive evaluations. Thus, I had the opportunity to further examine and study Viberg’s work in my bachelor’s thesis from a constructivist view (Mettälä, 2012); since I consider humans as social beings (Linklater: 2010). Result showed that since it was Viberg’s objective to train the whole person (Jarvis & Parker, 2007:13) he planned and included several activities so that the participants could interact and construct their own experiences and learn by these actions (Jarvis & Parker, 2007; Cooperstein, 2004). Most importantly he provided time for reflection since the experiences which were obtained from the activities needed to be transformed and processed cognitively, emotionally and practically (Gärdenfors, 2005:77-85).
This was done by means of aesthetics and the inclusion of all senses through poetry, music, arts, and play; offering the participants opportunities to process new knowledge and experiences in a stimulating way and from another perspective (Strati, 2007; Bingham & Sidorkin, 2004:12-21; Eisner, 2002: 33-35). Subsequently, since emotions are by nature situational and context-dependent (Illouz, 2007:38; Schurz et al. 2007:3-4; Doan, 2010), they are connected to our daily lives and are inseparable from our rational thinking they do play a part in learning, creating, retaining and reproducing knowledge, as well as to organize our thinking and motivate behavior (Fineman, 1997; Gärdenfors, 2005:77-85; Dreyfus & Dreyfus, 1986:29; Illouz, 2007:2). Viberg has pointed out several times that as his trainings have become visible (Mettälä, 2012), he has had the possibility to review his own work-process as well as to reflect on the participants’ engagement, with a theoretical base which has enhanced his own learning and teaching skills (Kline, 2008: 73; MacDonald, 2007:235).

Two other significant experiences were the two projects I was assigned during 2011 and 2013; one at Tetra Pak and the other for Paradigm Strategic Communication. Besides being part of organizing the activities I was asked to collect and document the projects as reports; describing in a linear and summative way the process and results. Consequently, I cannot precisely say when the process of this thesis started; a process that would lead to my research inquiry; how learning can become visible and recognized in various daily actions. However as a result of my mentioned experiences and by documenting as well as writing journals I have learned that measurable evaluations alone cannot provide the “whole picture” as they only cover parts of it. Therefore a new understanding has emerged in me and has allowed me to grasp the importance of documentation and a desire to explore how documenting activities and processes involving the individual as well as the group; learning is altered from summative and standardized measures of achievement to towards more qualitative, formative understanding (Turner & Wilson, 2010:6; MacDonald, 2007). In sum, it is based on my own practices and method together with the following theories that I continue to explore how pedagogical documentation can make learning visible and recognized in various daily actions.
Theoretical framework

In this section I will first give an account on the research review, followed by a discussion on learning by referring to scholars and theories that I find relevant for my empery and my research aim which is to explore how pedagogical documentation of various daily activities can make learning visible.

Research review

In order to get a better theoretical framework I have turned to Lund University’s internet search engines, accessed by the library website. There I have had access to academic peer reviewed research publications. The literature I have used in this study has been selected by its academic validity. The theories and scholars that will be presented have influenced my way of thinking and are therefore part of my framework. My main inspiration derives from Hillevi Lenz Taguchi’s book Going beyond the Theory/Practice Divide in Early Childhood Education: Introducing an Intra-active Pedagogy (2012). Lenz Taguchi proposes a methodology of making learning visible through pedagogical documentation, inspired from the Reggio Emilia approach. I find this method to be applicable to my own way of practicing documentations and learning journals. This is an approach which is the opposite of the more common theories that include the child and the adult as part of a collective knowledge- and learning processes (Lenz Taguchi, 2012: 18). Pedagogical documentation can be defined as the practice of observing, recording, interpreting, and sharing, by visualizing the learning processes and products in order to enhance learning (Krechevsky et al. 2010: 65; Given et al. 2010: 38; Lenz Taguchi, 2012: 18). A new practice based on new scientific theories, which focuses on recognizing and acknowledging the needs of the individual (Lindgren, 2012:329). However, as this approach will be part of my methodology I will discuss it in the method section.¹

¹ Though a literature review is not the purpose; here are some publications that can illustrate a better understanding about pedagogical documentation, its purposes, and how it is undertaken. The hundred languages of children; the Reggio Emilia approach (Edward et al. 1993) is a comprehensive collection of essays. This approach has been widespread and includes studies and discussions of documentation techniques and approaches. Following are examples of thesis written in Sweden recent years that examine this method: Åhrlin, 2013; Söderström, 2008;Svensson & Sungquist, 2012; Schmidt & Westergård, 2011; Hansson, 2013; Palmqvist, 2011; Johansson & Roos, 2010; Stadling, 2012; Hed, 2011. The project Zero (for further info.www.pz.harvard.edu) collaboration between the Harvard Graduate School of Education, American preschool and elementary teachers, and teachers from Reggio Emilia, Italy, who explored the role of pedagogical documentation.
Thus, pedagogical documentation does not replace standardized test, it is rather a tool which alters focus from summative and standardized measures of achievement towards more qualitative, formative understandings of learning (Krechevsky, et al. 2010: 64-65; Kline, 2008: 73; Suarez, 2006; Turner & Wilson, 2010:6; MacDonald, 2007). In sum, it is based on this methodology and philosophy that I explore the possibility to make the individual’s as well as the group’s learning visible and recognized in various daily activities. To understand the significance of this question I wish to first highlight some theories that discuss learning and the learner.
**Theory of human learning**

Drawing mainly from one of the renowned experts in the field of lifelong learning Peter Jarvis (2009, 2006), Professor of Continuing Education at the University of Surrey, I will try to outline a theoretical frame on learning and the learner. Peter Jarvis’ theory of human learning has been essential in my studies. However, other scholars who emphasize a holistic and constructivist perspective have also influenced my thinking as I have tried to conceptualize my theoretical view based on my empery (Illeris, 2009; 2003; Biesta, 2006; Bauman, 2005; 2000; Dewey, 2005). Further by studying some thoughts from eastern philosophy, mainly from Confucian thinking (Tu, 1997; Sun, 2008; Zhao & Biesta, 2011) I have tried to expand my perception; as I believe my thinking to be colored in Western way of perceiving the world since “our mind is a cultural product”, meaning we attain the culture of our environment (Jarvis, 2013).

We know that people learn in different ways; some learn better visually, others orally while others by listening or by actively being engaged (Mettälä, 2012: 4). Many would also agree that an individual never stops growing and developing in – body, mind and emotions, (Jarvis & Parker, 2007: 13). Thus, perceiving learning from this view involves seeing the individual in a constant process of becoming (Jarvis, 2009a). This notion is part of how I perceive learning as it suggests that learning is part of our being and becoming, and a lifelong process.

Following are scholars who highlight that learning is a process which involves the whole person (Jarvis & Parker, 2007). Knud Illeris, Professor of Educational Research, defines learning as any process that in living organism leads to permanent capacity change and which is not solely due to biological maturation or ageing (Illeris, 2009:7). That learning will always have three integrated dimensions; the cognitive with knowledge, skills, understanding, resulting; meaning and functionality, the emotional with patterns of emotions and motivation, attitudes, resulting; sensitivity and mental balance and finally the social-societal with potentials for empathy, communication and cooperation, resulting; sociality (Illeris, 2009: 12; Illeris, 2003). His outline signifies that the learner actively constructs his/her learning.
An experiential learning view which John Dewey (1859-1952) paved way for. Dewey adopted a philosophical pragmatism which focused on a learning that fosters interaction, experience, reflection, democracy and community (2005). He directly asserted that “an ounce of experience is better than a ton of theory simply because it is only in experience that any theory has vital and verifiable significance” (2005: 86). Dewey described that the experiential process demands keeping track of ideas, activities and observed consequences. Which is a matter of reflective review and summarizing; in which there is both discrimination and record of the significant features of a developing experience. To reflect is to look back over what has been done so as to extract the meanings which are the capital stock for intelligent dealing with further experiences (Dewey, 1997:6-13). Reflection, then, is critical to Dewey’s view of learning as it is a continuous process of reconstructing experiences. As stated, Dewey’s thinking from a holistic approach has developed further amongst many scholars, e.g. by Peter Jarvis (2009; 2006), Knud Illeris (2009; 2003), David Kolb (1984) and Donald Schön (1983) to experiential learning; which recognizes that we learn more than we consciously know since it is acquired in the process of our everyday lives (Jarvis, 2011). Its commitment is person-centered learning, believing that all human beings have a natural propensity to learn; a continuous lifelong learning which is central in Peter Jarvis theory of human learning (2009). Jarvis says this is in a sense tacit; as living involves very complex processes of experiences and interactions which include complying with norms and values, a process which results an accumulation of implicit knowledge that expands with age and experience (Jarvis, 2013; 2011).

Learning is a complex process of human experiences (Jarvis, 2012a:109) and although Peter Jarvis points out that it is impossible to have a theory that explains this process in every detail (Jarvis, 2009b: 33) he can offer an overall description of how learning takes place and eventually also changes the person. Once the person is changed, the next social situation into which the individual enters changes also, since there is a need to give meaning to experiences as one reflects upon them. As this is done emotions are transformed which affects beliefs, attitudes and values. Thus, we can conclude that learning involves three changes: the sensation, the person and the social situation (Jarvis, 2009b:29).
Jarvis proposes a theory of human learning as part of lifelong learning where individuals become more experienced as a result of engaging in social situations throughout life. Over the years, his understanding of learning processes has evolved (Jarvis, 2012a: 103; 2009b:23-25) thus he defines learning as following:

the combination of processes throughout a lifetime whereby the whole person – body (genetic, physical and biological) and mind (knowledge, skills, attitudes, values, emotions, meaning, beliefs and senses) – experiences social situations, the content of which is then transformed cognitively, emotively or practically (or through any combination) and integrated into the individual person’s biography resulting in a continually changing (or more experienced) person (Jarvis 2009a:25).

Jarvis enables an understanding of how the social context and the individual’s past experiences over the course of his/ her lifetime influence the learning that occurs; the perceived content of which is integrated into the person’s biography. The concept of biography is important for Jarvis (2009a: 61-63, 89) as he defines it as ‘the outcome of a lifetime’ (Jarvis, 2006; Jarvis, 2012a:111). He further explains that we are constructing our own biography when we learn since our life story is an ongoing process constantly changing and developing, thus it is through experiences that we become (Jarvis, 2009a:25). One’s life story influences the way an experience is perceived and what an individual may choose to learn (Jarvis, 2009a:199). Hence we are becoming as long as we are learning (2009a: 192, 208).

To understanding the person or the learner is a philosophical perspective according to Jarvis. But it also recognizes the intersubjectivity of social living and human learning (Jarvis, 2009a: 32) as the “person makes his appearance by entering into relation with other persons” (Buber, 1937:76). A view that Gert Biesta supports as he reminds us that there is significance when we approach learning that involves our ‘coming into the world’ as unique beings (Biesta, 2006:40). Biesta asks; what would happen if we would treat the question, what it means to be human, as a completely open question and acknowledges that learning cannot be brought about by deliberate or technical means; but by creating occasions for intersubjective ‘spaces’ characterized by pluralism and difference (2006). As the subject comes into presence as a unique being, as ‘oneself’, when it experiences itself as irreplaceably claimed by another (Biesta 2006: 50-52).
Consequently, while it is the individual who learns, and not the group as whole, we still learn in social contexts. As a result, when more than one person is in the same place at the same time their experiences are similar but not the same. Since social interactions involve discovering differences and changing behaviors to enable the interactions to evolve; learning will always be part of these processes (Jarvis, 2012b). Therefore, to be a person is to be a social person; as humans are part of social and organizational contexts where they work and learn (Jarvis, 2009; Hodkinson, 2005). Meaning the individual does not exist in a vacuum but is to a great extent a product of the social and cultural “attitudes, intensions, dispositions and habitus” (Brante, 2001, p. 181).

However, for 300 years ago René Descartes’ (1596-1650) concluded that because he could think, he must exist – Cognito ergo sum. He argued that he could always be sure of his existence when he was thinking thus he separated the body and the mind. Since Descartes, there has been a tendency in the West that it is in the mind that human identity is thought to reside with regard to learning; that the subject is basically logical and rational (Hodkinson, 2005; Biesta, 2006). This concept should be challenged since it is becoming clearer that both body and mind are not separate entities, they are interrelated (Jarvis, 2009b: 31). Therefore as Jarvis argues since people are alive, they think and therefore “we can reverse Descartes’ claim and say that ‘I am therefore I think’, or within our present context, ‘I am therefore I learn’ “(Jarvis, 2012a: 104-106;). Or as Sartre said; when we say I ‘think’ we are attaining to ourselves in the presence of the other, and we are just as certain of the other as we are of ourselves. Thus the man who discovers himself directly in the cogito also discovers all the others, and discovers them as the condition of his own existence (Sartre, 2007: 52-53). I agree with Jarvis’ statement that it is not that contemporary theories based on logical understandings including all forms of cognitive theories are not valid, it is simply that they do not go far enough (Jarvis, 2009:32; Jarvis, 2012a: 110). Jarvis explains that in the West, we have traditionally assumed that processes and its interpretations are universal as we have assumed the universality of human nature. But if we move away from individualism and recognize that all people live in universal systems there is a need to question the process of becoming selves. This insight has prompted me to broaden my view by looking from West to East.
A wider view on learning
As I have turned to East I have learned more about Confucian educational philosophy and its practices and am fascinated how it can provide us with a holistic view on lifelong learning (Sun, 2008). Confucianism which originated in China over 2,500 years ago is one of the key philosophical schools in human history. It has shaped and continues to shape the outlook such as ideas, norms and values that underlie the moral fabric of East Asian societies which includes a large number of people around the world. Although the disruption in the last century has declined the influences of Confucianism in China, its principles are still, although subtly, influencing modern China’s culture and people (Zhao & Biesta, 2011; Sun, 2008:573). Confucianism articulates ideas about self-cultivation, regulation of the family, social civility, moral education, ethical relations, the wellbeing, governance of the state, and universal peace. And it starts from the assumption that the human being is part of the universe and inseparable from everything else; suggesting a modest attitude for human beings in their relationships towards nature (Zhao & Biesta, 2011). The Confucian idea of self does not present the self as a finished entity but constantly developing and changing; suggesting an ongoing lifelong learning process (Tu, 1997: 113). Although this position of the self might be viewed as being outdated in the context of late-modern settings, its legacy on the moral and relational dimensions of self still deserves our attention as it provides an additional and different outlook for lifelong learning (Zhao & Biesta, 2011).

This philosophy maintains that; learning is to learn to be human and that one becomes fully human through continuous interaction with other human beings (Tu, 1997: 19-20, 55) and proposes that human beings are harmoniously part of nature (Zhao & Biesta, 2011). According to Qi Sun, this concept; to learn to be human which is manifested in relationships is rather the opposite of Western thinking (Sun, 2008: 571-575), as it characterizes a continuous process of inner illumination and self-transformation. At the same time, Wei-Ming Tu questions how Confucians can assume that learning to be human, a process which varies according to country, history, culture, social class, and other factors, is a universally valid conception? And how can we study its meaning without altering its original intent in order to make it relevant to us here and now? (Tu, 1997: 53-54)
However, as I have looked from West to East and allowed my thinking to go beyond my traditional conceptualized views and have become aware of some differences, I am inclined to agree that lifelong learning and becoming is interrelated. In this sense, Gilles Deleuze’s and Félix Guattari’s work, which I got better acquainted through Lenz Taguchi’s book, as well as the physicist Karen Barad’s work; have expanded my thinking as they also claim that learning and becoming is interconnected and that everything is related (Deleuze & Guattari, 2011; Barad, 2007). While Barad focuses on our ontological and epistemological views and how they too should be understood as interconnected; meaning we cannot produce knowledge and learn about the world if we do not understand this interrelatedness between all beings and material (Lenz Taguchi, 2012: 4). Deleuze and Guattari propose the need to create new concepts to help us with the experimental work of thinking the world differently (Deleuze & Guattari, 1994: 5).

Barad claims that the only thing that does not seem to matter anymore is matter (Barad, 2003:802). Her view is that given the rapid pace of technological developments that apply the basics of quantum theory, one is almost forced to take a closer look at what it all signifies for our beliefs about the world. It is Barad’s new epistemological, ontological and ethical framework, that provides a foundation for “agential realism” (Barad, 2007: 32). This outline among many things is an account of the materialization of all bodies, ‘human and nonhuman’, where it is possible to acknowledge nature, the body, and materiality in the fullness of their becoming (Barad, 2007:25; 2003:812, 822-824). Barad explains that we are in touch with the ontology of the world not by way of interaction, but rather what she calls “intra-action”; a new word which she defines as “the mutual constitution of objects and agencies of observation within phenomena.” (Barad, 2007: 197). The notion of intra-action (in contrast to the usual “interaction,” which assumes the prior existence of independent) represents a new conceptual idea, and requires a broader view and a holistic dimension of being and learning (Barad, 2003:815-17). Barad explains that the nature of reality is not merely a matter of human experience or human understandings of the world but goes beyond the issue of how the body is positioned and situated in the world (Barad, 2007: 160). This means we become by being connected to something else (Lenz Taguchi, 2012: 43).
Signifying, we are part of the world in its ongoing intra-activity (Barad, 2003:828) and we do not obtain knowledge by standing outside of the world; we know because we are of the world. Therefore Barad sees the separation of epistemology (how knowledge is gained) from ontology (how I perceive the world) as a resonance of a metaphysics that assumes essential differences between human and nonhuman, or subject and object, mind and body, matter and discourse. She proposes a new “onto-epistemological” framework (Barad, 2007:185), which offers a better understanding to how intra-actions matter (Barad, 2003:829), and questions the gap between theory and practice (Barad, 2007:55). Lenz Taguchi questions as well, the traditional dichotomies of subject/object, body/mind, idea/material, and theory/practice and how they influence understandings about learning (2012:23, 42-43). She refers to Deleuze and Guattari; that to be able to explore this gap we need to create new concepts to help us with the experimental work of thinking the world differently (Deleuze & Guattari, 2011). Each concept brings with it an entire system of thought, and different act of things, saying that “the concept is act of thought” (Deleuze & Guattari, 2011:21). Meaning, concepts form how we perceive the world but they also relate back to the material world with other concepts, in its history, in its becoming or its present connections (Deleuze & Guattari, 2011:18-20). Deleuze’s and Guattari’s method does not rely on the absolutes but aims to bring into being that which does not yet exist (Deleuze & Guattari, 2011:58-59). For them, signs that act in the world produce thought; saying something in the world forces us to think (Deleuze & Guattari, 2011:138-139). This is an intuition, a necessary condition for the practical production of meaning, or what Deleuze (1990) called the logic of sense and can happen suddenly according Deleuze and Guattari:

To think is to experiment, but experimentation is always that which is in the process of coming about-the new, remarkable, and interesting that replaces the appearance of truth and are more demanding than it is. What is in the process of coming about is no more what ends than what begins (Deleuze & Guattari, 2011:111)

Hence thinking implies a sort of investigative experimentation, resorting to measures that are not very reasonable (Deleuze and Guattari, 2011:41). Both Deleuze and Barad extend the concept of the other to non-human others. Their focus is on intra-active encounters in which the new emerges, rather than the accomplishment of the illusory autonomous entity or self.
According Lenz Taguchi this perspective is significant as we think of the learner and learning while documentation is conducted and when hypothesizing the content together with the participants of the documentation. In a sense, Peter Jarvis theory becomes clear as learning is a lifetime phenomenon through which the person develops, changes and becomes more experienced (Jarvis, 2012a:111; Jarvis, 2009a:25). Jarvis’ theory on lifelong learning as well as Barad’s *agential realist* account where we acknowledge nature, the body, and materiality in the fullness of their becoming (Barad, 2007:25) complement the Confucian assumption that human beings are part of the universe and inseparable from everything else (Zhao & Biesta, 2011); with the considerations of the social and cultural contexts (Brante, 2001, p. 181).

I have now tried to outline a framework based on theories which emphasize an experiential, lifelong learning from a holistic view; deriving from social constructivist perspective. I have also attempted to expand the concept of learning by presenting perspectives which show that we are part of the world in its ongoing intra-activity (Barad, 2003:828); as we become by being connected to someone or something else (Lenz Taguchi, 2012: 43; Zhao & Biesta, 2011). This is also central to my research question since it shows the importance of how pedagogical documentation can enable us to include several aspects in learning such as; the learner together with the social context as well as an awareness of materiality which refers to the physical qualities of artefacts and elements of nature which connects with the idea of space and context. I now continue with my methodological choices and how I perceive the world as well as science.
Methodology

I have discussed my theoretical choices on learning from a holistic point of view. I have also tried to go beyond the traditional dividing of ontology and epistemology to be able to recognize that learning and becoming is interconnected as well as the learner and other humans and non-human entities. I now continue describing my methodological choices regarding my research design, method and quality matters in accordance to my empery and research question. I also need to clarify some thoughts about how I perceive science, as it affects my ontological and epistemological views and how I perceive the world. Therefore I will begin by discussing; what is science?

Theory of science

The philosophy of science organizes a structure to a specific science; a theoretical framework which the science in question is perceived and understood, and by which scientific criteria is formulated (Brante, 2001:168). This makes research certainly complex. As I have tried to unfold my theoretical frame based on my empery I need to deliberate all the complexities that I must consider in order to engage and present my research. Especially as my study involves creating meaning and deeper understanding from interpretation (Cooper & White, 2012: 3); since there is a belief that when scholars try to draw qualitative conclusions “they often draw on ‘extreme-case’ formulations […] using the extreme points on relevant descriptive dimensions” (Potter, 2012:187). Therefore I find the question what science is very relevant since my methodological choices derive from how I perceive science and in turn affects my perception of the world and how knowledge is gained. Thus it is vital that I recognize my own knowing when I engage myself in scientific work and to do this I need to start by asking; what is science? (Chalmers, 1996:15)

How science is produced has changed during the 20th century. In the earlier period scientific problems were set by academics, solved within disciplines and managed by the norms and processes of independent science. Nowadays science is produced by problems set by context of application, solved often by temporary transdisciplinary combinations of experts, usually outside academia in diverse groups and sites. But is this account true?
Jon Agar refers to scholars who claim that the history of modern science, technology and society is merely part of reality (Agar, 2012:434), as the Second World War played a big role in social sciences in general and its effects stayed for a long time. It created new problems and issues for scholars to investigate; leading to new approaches and methods (Backhouse & Fontaine, 2011:5, 184). Their studies revolved around Enlightenment humanism’s descriptions of knowledge, power, language, discourse, reality, the empirical, the subject, agency, freedom, and so on (St. Pierre, 2013:647). Consequently, together with Descartes’ cogito, ergo sum; ‘the knowing subject’ since 17th century, it is not strange that issues of knowledge overtook issues of being in the humanities and social sciences. Since in this ontology, thinking and living are synchronized, and the nature of being is divided in subject/object, and materiality does not matter (St. Pierre, 2013:648-649, 654). This also brought a need for scientists to emphasize their scientific qualifications by labels such as “positivism”. It was important to aim for objectivity, inquiries that were not discolored by personal opinions or ideology (Backhouse & Fontaine, 2011:189). While the logical positivist searched for a general theory of language and knowledge, Karl Popper who was a post positivist, wanted to understand science through hypothesis (Chalmers, 1996:77-80). This notion would soon be questioned along with other traditional ideas in the scientific communities by Thomas Kuhn (1997[1962]). Kuhn focused on the ideas and activities of and around scientific research (Sismondo, 2010:12, 21) e.g. he argued that to be able to gain knowledge about groups one needs to study the group in its context; a view which paved the way for the social constructivist tradition. He saw scientific change as interplay between the conduct of normal science and scientific revolutions and introduced, paradigm: a set of practices that constitute a scientific discipline (Kuhn, 1997:31-51). Karl Popper rejected this idea since his view was “that the best theories are ones that make all the right predictions” (Sismondo, 2010:4), thus Popper argued for falsification rather than puzzle-solving (Chalmers, 1996:55, 106-108; Sismondo, 2010:14).

Technology is often seen as applied science, as the research process is driven by problems (Sismondo, 2010:94-96). Technological issues as well as the idea of different actors of interest became apparent during the 20th century (Agar, 2012:43). One example is Einstein’s theory of relativity as it was not produced in isolation but was driven by close study of patentable electro-technics.
He was at the center of immense campaigns to coordinate time, for industry and for empire (Agar, 2012:34-36, 39). Another is Actor-network theory (ANT) which has its origins in an attempt to understand science and technology. Just like political allies, scientists create allies with engineers and even artefacts such as machines are actors in these networks. Louise Pasteur’s anthrax vaccine is the subject of an early statement of actor-network theory. He was a single actor but the laboratory was the starting point of his work (Sismondo, 2010:81-84). However he was also supported by veterinarians, farmers and journalist, therefore “we cannot consider Pasteur’s bacteria without considering French society and politics of the 1800s” (Bucchi, 2004:70, 97).

With this in mind I do agree with Sherry Gorelick that “the creation of science is not a procedure it is a relationship” (Gorelick, 1991:460); meaning everything is interconnected and even intra-active as Barad would say (Barad, 2007). Again, I ask; what is then science? How do I recognize it? Science is essential for our understanding of the world and our own knowing. Through various methodologies, perspectives and distinctions it provides ways of systematically and openly collect various facts, both observable and unobservable by presenting and analyzing them (Jackson, 2011:24-26, 193). Or to put it more abstract or philosophically;

Science is the organization of thought […] Science is a river with two sources, the practical source and the theoretical source. The practical source is the desire to direct our actions to achieve predetermined ends…The theoretical source is the desire to understand […] I do not consider one source as in any sense nobler than the other, or intrinsically more interesting[ …] A successful theorist should be excessively interested in immediate events; otherwise he is not at all likely to formulate correctly anything about them. Of course, both sources of science exist in all men […] Induction is the machinery and not the product…when we understand the product we shall be in a stronger position to improve the machinery (Whitehead, 1916: 410).

Signifying, its task is to discover existing relations within varying perceptions, sensations and emotions which form our experiences; by so doing organizing our thoughts (Whitehead, 1916: 411; Sartre, 2007: 93-94). Hence, my outlook is that science seeks facts to create better understanding of existing relations. However, facts do not carry internal meaning (Jarvis, 2011) and so the need for interpretation is essential in every scientific process.
Since I believe that true knowledge is defined not as ‘reality’ but as the best possible representation of reality (Somers, 1995:253) or as Nietzsche’s said;

What we actually have in knowledge […] is not a firm grasp of the way that the world is in and of itself, but a practical and useful way of organizing our experiences. From the ongoing flow of experience we select different lessons to learn by narrating that experience back to ourselves in terms of the language that we have inherited by being born into particular societies and social groups (Jackson, 2011: 124).

Consequently, I believe that there is no actual objectivity; only “possible forms of perception, of all their relations and interdependencies, which may be reducible to certain basic formulae and might represent, in sum, the knowledge of the perceiving subject as a whole “(Sartre, 2007:12-13). Since, “the objective world is the world of the probable”, indicating that “every theory, whether scientific or philosophic, is one of probability” (Sartre, 2007: 89).

In sum, Margaret Wheatley proposes that the linear idea of the universe signifies that all phenomena can somehow be categorized, analyzed, understood, and controlled using traditional scientific methods; has been replaced by a nonlinear, open-ended world of fractals (Wheatley, 2006). And as we enter a new ‘postmodern era’ “a multitude of qualitative research methodologies are developing to address the messy, complex, and dynamic nature of inquiry in the postmodern context within which we live” (Cooper & White, 2012: xiii).
Qualitative research design

Obviously, numerous methods are based on varying assumptions about reality, and there are various traditions and scientific paradigms upon which they are founded. I recognize that I am inclined to agree with Barad’s onto-epistemological view; as I too agree that how we perceive the world and gain knowledge of it is interrelated, and should be studied as such. However, as I am also aware that I need to learn more about this view I will maintain that my ontological view is in the social constructivist paradigm with the assumption that knowledge is created in social situations (Cohen et al. 2011:5, 33; Jarvis & Parker, 2007:107-108). While my epistemological view is interpretative, meaning I believe that knowledge about humans and the social reality can be accumulated through interpretations, and not by using rationalistic approaches (Cohen et al. 2011:6, 33).

From a social constructivist view individuals interact with the world and truth is not a singular fixed quality from which all knowledge of the world derives. Qualitative research is concerned with processes and not results or products since “it is concerned with how that reality is arrived at, than it is what that reality entails” (Cooper & White, 2012: 6; Jarvis, 2011). Which means that in the nature of qualitative study is the element of subjective interpretation. This includes that I cannot make any pretenses of understanding the whole truth about the issue at hand. The interpretative approach is continuous and involves a constant understanding of theory and material (Fejes & Thornberg, 2011: 23-24). Qualitative inquiries explore social life in process, as it develops. By way of analysis of the qualities of the social to the ways its processes both enter into and constitute everyday life. Since there is an understanding of the social world as fluid and changeable, consideration is given to the working definitions and procedures by which the world is given meaning. Hence, as I see people as active agents, I will derive my analysis based on the assumption that individuals participate and construct their experience (Gubrium & Holstein, 1997: 12; Cohen et al. 2011: 219). However, those who seek predictive models of social behavior often reject qualitative studies as “merely descriptive”.
I agree that before I can try to explain the world I must have a clear picture of the qualities of the world such as the diversities, particulars, discriminations and complexities (Gubrium & Holstein, 1997:12). Therefore this kind of conduct of science is difficult and complex since to be able to comprehend social life and lived experiences, my attempt must be to “understand the total man in his total natural environment” (Douglas, 1977 cited in Gubrium & Holstein, 1997:9). However, because of these complexities I find it difficult to try to do this analysis based on statistics and measurements since it involves human behavior, emotions, and revolves around realism. Measures do not cover the whole of an event. By so doing the method rules out statistical sampling. Although our society tends to treat numbers with respect; since statistics seem to offer certain evidence (Best, 2012:131). Yet, all statistics are also social products; someone’s summary of reality. Implicating, every definition, every measurement and every sample has probably its limitations (Best, 2012: 104, 161-167). Thus I have chosen a qualitative approach since I am concerned with the world of everyday life and I look for consistencies and structures (Patel & Davidson, 2011; 33-34; Cohen et al. 2011: 19, 222; Sjöberg, 2011).

**Observations**

As qualitative examinations as well as the practice of pedagogical documentation involve observations there are some concerns. In qualitative research, observations are considered one of the most influential ways of understanding facts, which has been believed to provide direct access to the world. By systematically looking and noting the individuals as well as the group as whole (Cohen et. al. 2011: 456) this has allowed validation; as if all observations from a certain perspective should look the same way (Potter, 2012:20). Yet, how can I assert that observations can be systematically collected? Isn’t then systematical observation merely “seeing” from a “scanning tunneling microscope”? (Barad, 2007:52-53) In other words, is there not a need to question ”the ideal of the detached observer”? (Barad, 2007: 172) According the physicist Niels Bohr (1885-1962) objectivity “is not a matter of being at a remove from what one is studying […] but a question of the unambiguous communication of the results of reproducible experiments” (Barad, 2007: 174).
In an agential realist account, there is no external observational point, saying “we are not outside observers of the world […] rather, we are part of the world in its ongoing intra-activity” (Barad, 2007: 184). Suggesting, we as observers will always be part of the pedagogical documentation (Lenz Taguchi, 2012: 62-63). We are part of the apparatus that produces knowledge as “matter itself entails entanglements” (Barad, 2007:160). This performative understanding takes account that knowing does not come from standing at a distance but from a direct material engagement with the world (Barad, 2007: 49). A view which is central while observing and documenting activities and actions.

**Pedagogical documentation**

Pedagogical documentation is a methodology that can be found in numerous schools across the globe were they are engaged in processes of documentation (Turner & Wilson, 2010:5). The approach evolves in its own distinctive and innovative way with philosophical and pedagogical traditions and methods, as well as cross-disciplinary learning strategies to be able to observe and document the children’s learning processes (Turner & Wilson, 2010). However *I wish to emphasize that this study focuses on how pedagogical documentation can make learning visible for adults in various activities and settings.* Through systematic focus on symbolic representation participants can be encouraged to express themselves through expressive, communicative, and cognitive languages, using words, drawing, painting, building, play, drama or music (Edwards et al. 1993:7; Turner & Wilson, 2010: 7;Willis & Leiman, 2013: 666, 669). Pedagogical documentation may include concrete artefacts such as photographs, transcribed conservations, graphic arts, audio and film recordings. Usually includes also samples of the participants’ work, both completed as well as work-in-progress, written comments and so on. The organized physical milieu is also crucial to the approach since it is designed to inform and engage the participants, acting as “the third pedagogue” (Yu, 2008: 127; Lenz Taguchi, 2012: 19; Buldu, 2010; MacDonald, 2007). This awareness of materiality refers to the physical qualities of artefacts and elements of nature and thus partly connects with the idea of space. Attention is directed particularly to the relation between humans and things as expressed in the formation and the influence of the artefacts.
Space is experienced through the senses involving the whole body and thereby opens and limits experiences and actions for the individual and the group (Lokken & Moser, 2012:303-304). Through documentation, the participants are able to revisit their work and their words, and are provided time for reflection. This kind of reflection is encouraged collectively and encompasses feedback on learning experiences. The process involves the use of content as a means to promote dialogue and to reflect through re-visititation and interpretation (Buldu, 2010). Which is a significant part; both in supporting the individual and group learning as well as building a collective identity (Krechevsky, et al. 2010:66-67; MacDonald, 2007); a tool for continuous reflection while making the learning process visible (MacDonald, 2007: 232). This process also provides a kind of debriefing of experiences during which new knowledge can evolve (Buldu, 2010). However, pedagogical documentation is not about reconstructing a linear event and finding answers, it is rather a narrative track with arguments that seek to make sense of the events and processes by generating questions (Turner & Wilson, 2010: 9); leaving visible traces that captures what the participants did and said during interactions.

**Qualitative data**
The qualitative data consists of two reports, each with its own descriptions of a project including activities, which were conducted and documented during the period of spring 2011 and fall 2013, for Tetra Pak and Paradigm Strategic Communication. As I was assigned to document these projects I collected the material during the processes such as; photographs, personal notes from the participants and my own notes from observations and dialogues with the participants covering propositions, ideas, feedback and reflections from and during the activities as well as after the workshops. Additional comments and discussions are notes from meetings when the documentations were presented and I had a “sharing back” (Suárez, 2006) with the participants to get further reflections as they partook of their own and the groups process and activities. Subsequently, it is from these two reports which consist written text and approximately 50 photographs each and additional illustrations that I will select some accounts.
The research process
As the two reports were already collected in a summative manner with some analysis and theoretical reflections based on what was performed and the outcomes, I found it challenging to extract some of the material. Still I initiated my inquiry, by focusing on how learning can become visible and recognized through documentation. I was advised by my supervisor, Professor Bosse Bergstedt to study Lenz Taguchi’s work on Pedagogical documentation. The following act was to learn more about the approach including its purpose and origin. I soon realized that this was an obvious methodology to describe my own work experiences and practice. Once the research design was agreed my work commenced. I started by outlining the theories, a process that gave me a better overall picture of how I could continue with my thesis. By organizing and selecting the accounts I will exemplify how pedagogical documentation can make learning visible.

Quality
Designing a qualitative research study the way I have done involves implementing a critical attitude toward it since it is inclined to produce qualitative result which means that validity needs to be high. This can be attributed to the fact that material collection and analysis is focused on attaining as much as information as possible to analyze and provide clarification to the research question (Patel & Davidson, 2011:106-107). In qualitative research there are many different types of validity and it is defined in different ways. One is internal validity which seeks to demonstrate a particular event or issue that can be sustained by the presented empery, for instance by following and keeping information clearly (Cohen et al. 2011:185). Validity can be described as the amount of precision with which research accounts impart and how a researcher has conducted their research and has drawn conclusions, “validity, then, should be seen as a matter of degree rather than as an absolute state” (Cohen et al. 2011:179). This allows the reader to draw own conclusions as to whether the research is credible or not. I have tried to apply this in my work and hope that my awareness has been the key to my work in terms of producing quality.
Ethics
There are some ethical aspects that need to be addressed in documentation practices. Today, digital technology such as digital cameras, mobile phones, and computers make it easy to create visual documentation; while, webcams, and USB-sticks, can be used to share documentation. I am aware of the ethical concerns such as to have informed the participants that records would be collected such as texts, images and photographs, for documentation and further inquiries. But also when I selected and included the photographs and material I was mindful that these objects would not express any misinterpretations (Lindgren, 2012:334-339).

Methodological discussion
As I have reflected on my methodological choices I realize that this study has required that I as the researcher have been the most important instrument for collecting and analyzing the documentations (Cohen et al. 2011). This means I have needed to be mindful of the scientific knowledge which I produce since it is somewhat specific because of the social nature of the process and because we do not have identical experiences or purposes for learning. This does not mean that we do not, and cannot have similar understanding of scientific knowledge; what it does say is that knowledge creation is somewhat an individualized process and that situational factors influence how we come to understand scientific knowledge (Mettälä, 2012:20). As I am concerned with the world of everyday life and look for consistencies and structures (Cohen et. al, 2011:19; Sjöberg, 2011: 11, Gubrium & Holstein, 1997: 7-9) there is a possibility that the research focus has been adjusted to the empery; suggesting that the process is constructed as it has proceeded (Sjöberg, 2011: 67, 164-165). However, I agree with Lenz Taguchi’s description that in everyday life it would be difficult to divide practice from theory from pedagogical contexts as theory and methods are interrelated (2012:27). Another obvious concern is that my empery covers selected accounts from two reports which were collected and compiled in a traditional manner, each with a linear process description and analysis, which is not the purpose of pedagogical documentation. Therefore, I am aware of its limitations as both projects had their own purposes and processes the main objective was not to make learning visible.
However these accounts will merely exemplify how pedagogical documentation can make learning visible through my own observations and studies of the selected accounts. I am also mindful that using photographs is always “context-specific” (Rose, 2012:300, 305), still the photographs have been visual representations and valuable tools since they express an enormous amount of information; something that can be limited by words (Rose, 2012:298-299). Thus photographs can be helpful when exploring “taken-for-granted” matters (Rose, 2012:306). In sum, interpretative methods are always running the risk of being colored by a researcher’s previous knowledge and prejudices since it is in the nature of the research methodology (Sjöberg, 2011:11-12, 15). A researcher is, just like the respondents, a subjective individual who constructs and interprets the reality based on his or her previous understanding. By taking methodological, ethical, and quality concerns into serious consideration and by making a thorough account for these processes I hope that readers will be well equipped to make their own judgment considering the trustworthiness and authenticity of the research outcome.
Analysis

I will now proceed with my analysis of the empery which consists of selected accounts from the two mentioned reports. These accounts will cover activities that involve Tetra Pak and Paradigm Strategic Communication. Though both documentations had their own purpose and process, the overall significance of these presented accounts will be to describe and illustrate the participants’ own reflections as well as my own analysis based on my research inquiry. By so doing I will try to illustrate how pedagogical documentation can make learning visible.

Two central ideas were included in both projects as well as the documentations. First, to get a better understanding of the individual’s as well as the group’s creating processes. Secondly, to plan all activities from the artistic approach which seeks to capture lived experiences and gain understanding and knowledge perceived through our senses; hearing, sight, touch, smell, and taste as well as intuition and imagination (Bingham & Sidorkin, 2004: 12-21). Therefore I am aware of its limitations since pedagogical documentation is a method that generates observations in forms of notes, agendas, photographs or recorded films. It is not about describing in past tens the learning process with; what, why and how a learning situation occurred and not a way to evaluate and compare results with set goals; but an active documentation of what is happening now. In other words, the documentation makes learning visible when participants have opportunities to reflect on what actually occurred and study their own learning process; which enables them to reaffirm their knowledge and experiences (Lenz Taguchi, 2012: 59-60, 87-91).

Since the purpose of these documentations as mentioned where not to make learning visible at the time I will not be able to provide a correct description on how pedagogical documentation can make learning visible. However, in this analysis I will describe how the participants had opportunities to reflect and re-visit their engagements. I will also be the “participant” who has the opportunity to re-visit and reflect on what actually occurred, to be able to enhance my own learning; exemplifying the importance of making learning visible and recognized.
**Documentation one – Tetra Pak**

First an overall description of the first documentation which covers a project that was conducted during spring 2011 at Tetra Pak’s site in Lund. As there is an increasing awareness of the role that art can play to improve the competitiveness of organisations, both in terms of intended outcomes, as well as the nature of the process (Nixon, 2005; Adler, 2006; Strati, 2000; Wolf, 1999; Romanowska et al. 2010); this project was initiated to examine whether art-based stimuli could have beneficial effects on the employees’ creativity and if the artistic process has any value for the company. The process was documented with the purpose to explore and provide ground for further examinations on values that art and the artistic process can provide in workplaces. The project included the creation of a *butterfly garden* at the entrance passage to Tetra Pak Development & Engineering together with Business support and 15 students from the program for Handicraft and Nordic segments at the Glass School in Kosta who were invited to create a *butterfly garden* with their glass craft. The purpose was to design and create a garden full of lavender and glass ornaments shaped as butterflies, swimming fish and one crawling caterpillar that would attract butterflies. This was a constellation to be seen and enjoyed by all employees and visitors, not only during daylight but also in the evening when one can watch the different color reflections through glass light holders. Furthermore, three students from Österlen School of Art and Design, in Simrishamn participated in the creation of “something inspiring in one of the security passages”; as well as four students from Malmö Academy of Music, who were invited to perform mainly folk-music at the final activity in June, 2011; with the initiating of the *butterfly garden*, and the *passage for inspiration*. It was for all employees at Tetra Pak and the purpose was to offer an occasion with different art-based stimuli; hence, an activity for all senses. Six locations with different art-based arrangements were organized and presented at these places.

In my first account a student, from the Glass school explains “that they first worked with different ideas and then they sorted out the shapes and colours they would use”. She also described “that it was difficult to work with complete artistic freedom, only with some guidelines since they were accustomed working with clear instructions".
The group also explained “that at the end of the project it had been a learning experience since they had to reflect and consider various issues simultaneously because of the artistic freedom”. This account describes that to work more experimental requires keeping track of ideas and actions through constant reflections (Dewey, 1997:6-13). Which is done by thinking back on what is seen and heard, contemplating, deliberatively thinking and to be open to opinions and advice of others (Valli, 1997:68); indicating that experiences teach us better ways (Nietzsche, 2008: 59).

I continue with my second account by quoting; “during the final arrangements in the garden, I (this is me describing a process in the documentation) followed the last part of the process which was to observe how a gardener, a technician, an engineer and a glass artist together with colleagues worked and created an innovative butterfly garden. The electrician […] described how his thoughts wondered off beyond his everyday thinking as he started to find a solution to how he could design and propose the garden lights. This required some reflecting and a thinking process since he had never done this kind of work before and he couldn’t find a ready solution somewhere else. The issue was how to draw light on the art of glass. The result was fabulous and very fascinating to watch as he attached fiber optics on the glass butterfly and lit the lights. […] A technology specialist with colleagues needed to solve the matter of holders for the art of glass. He said, ‘the idea of a holder that should be resistant to all kinds of weather, and at the same time be able to hold something very fragile was challenging yet really rewarding’. […] they all agreed that it had been a process with the unknown yet they had been able to solve each problem along the way. […] The electrician said ‘When one sees the details and the phases in the process, each solution seems so easy retrospectively even though it wasn’t at the time”. This account describes a non-linear creating process (Schön 1983; Domer, 1993) and suggests that to be able to simplify and create there is a need for a constant interchange between reflection and construction and requires thinking in a sort of investigative experimentation (Deleuze and Guattari, 2011:41). It also exemplifies that the participants actively constructed their learning through interactions, experiences and reflections (Dewey, 2005; Illeris, 2003). Affirming that reflection consistently leads to a deeper understanding and enables individuals to make meaning of their experiences (Jarvis, 2009).
What is also interesting as I observe the photographs is the collaboration between the technician and the two engineers who are working with the glass holders; trying to place the lights correctly and to get the precise reflection on the butterflies made of glass. This proposes that learning cannot merely be brought about by deliberate or technical means; but by creating occasions for intersubjective ‘spaces’ characterized by pluralism and differences (Biesta, 2006); which offers the possibility to act, to compare, and to choose (Rousseau, 2013 [1911]: 284). One of the engineers who was involved in the work with the holders, came and was curious to see the end result although it was his day off, he said; “this is not magical, simply a project that got us fully engaged[…]to be able to participate, influence and get direct feedback on the results was fun”. An expressive comment that reminds me of how we ‘become’ by being connected to someone and something else (Lenz Taguchi, 2012: 43), and by entering into relation with other persons (Buber, 1937:76). This account also expresses that even though the ‘little’ things do not always matter, it may still be required that we focus on small details of life as they unfold in their repetitions and diversities into the unexpected (Deleuze and Guattari, 2011 [1994]; Nietzsche 1992: 36).

Following account describes how three students from Österlen School of Art and Design who chose to participate were offered merely one guideline; to change a dull and grey security passage on the site to a “passage for inspiration”. I quote; the students initially visited the company for inspiration and sought information as much as possible including the core values and the corporate identity. They chose to work with the impressions they got from the company while visiting […].As we discussed the process before the final display of their ideas they talked about the many adversities they had to face; mainly issues about teamwork, time management and being able to relate to the context. They noticed that these difficulties got resolved during the course of the project. They explained that by being concerned for the outcome and having faith in the idea, they got better discipline and inspiration. During their process, they also had many ideas which eventually were scaled down to few ideas which they could work with. They realized that by so doing they would be able to progress in their thinking. They also talked about the energy they felt from working together as a team in an open process”.
Based on the ideas and inputs they got while visiting the site and from Tetra Pak’s environmental engagement they created different patterns and illustrations. One work was based on the shape of a triangle. I quote; “she was inspired by the idea that Tetra Pak uses the triangle in their profile branding. The different patterns that she designed showed how a simple geometric figure can be combined in various ways, depending on shape and choice of color”. Another illustrated with photographs the vision and the corporate responsibility for environmental awareness. I continue quoting “he said; how can a vision have a starting point if it’s not visualized?” This account illustrates that the students hoped to get a personal understanding by an exploration of the culture at the workplace, which is, the structures, norms, beliefs, and values that underpin certain expectations and behaviors in the organization (Solomon, 2001:48). It also describes how their interactions involved discovering differences and changing behaviors to enable their work to evolve (Jarvis, 2012b). Indicating once more the recognition of experiential learning which focuses on continuous reflecting and refining ones thoughts and work (Dewey, 1997:6-13) in daily processes (Jarvis, 2011). I also believe that the statement about visualizing a vision ignited a spark in my own process of arriving to this point since it got me thinking; if an idea is not visualized how can it be comprehended? Which is an essential part in pedagogical documentation, that by making activities visible through documentation it can provide a way to “look for new pathways of inquiry that we may not have seen before” (Turner & Wilson, 2010: 10).

Another account describes a musical performance from one of the locations at the final activity with the initiation of the butterfly garden. Four students performed folk-music in the cafeteria on the site. The musicians that participated and played explained their process and choice of music that it was not as easy as one would expect as the context for their performance was unfamiliar to them. After long discussions they had decided to play music which they like, commenting “music that makes us happy, sad, desperate and hopeful, music that affects and engages”. This account is interesting for me as a musician since it describes an issue which is not so often considered, namely the role of the milieu and the social context. Since every human society has music and although music is universal, its meaning is not.
Musical situations and the very concept of music mean different things and involve different activities around the globe, as music and all the beliefs and activities associated with it are part of a culture. However, we can all agree that music affects in various ways depending different factors and produce various emotions in different individuals and even different emotions in the same person at different times (Ball, 2010; Schneck & Dorita, 2006; Levitin, 2006; DeNora, 2000; Sloboda, 2007). Therefore amongst several considerations the question of milieu and context becomes important for musicians. Since these issues are part of the musical experience as well, and therefore also part of the musicians learning process; something I have experienced many times as I too have needed to adjust my performances according to milieus and contexts.

Furthermore, another account is from the location which was called Inspiration by nature. It was a constellation with pictures and paintings of, I quote; “how we can learn from nature itself the very design principles that can allow us working in creative processes; simply by observing the animals, insects, birds, tress, grass, weeds, lakes, oceans and all that nature has to offer us”. This quote and the photographs show various illustrations of nature which certainly supports the notion of everything being connected; humans as well as non-humans, signifying the interrelatedness of nature and humans (Lenz Taguchi, 2012: 4; Deleuze & Guattari, 2011; Barad, 2007). It starts from the assumption that human beings are part of the universe and inseparable from everything else (Zhao & Biesta, 2011), constantly developing and changing (Tu, 1997: 113).

My final account at Tetra Pak is some reflections from the final two hour activity with various locations and which started with the initiation of the butterfly garden. I quote; “the employees were invited to stroll around with an artistic designed map. To get a better understanding if and how these different places and arts affected the individual, a questionnaire was also designed. These sites were to be valued by each individual of how well their five senses: sight, sound, touch, taste and smell, were affected. In addition, the participants were asked to provide open comments pertaining if the activity had somehow stimulated their imagination or intuition”. Following are the open comments the participants wrote.
I realize that each sentence has its own significance; however I have chosen to highlight only some reflections. One participant wrote; “others contribution for this kind of experiences inspires me and broadens my imagination”. Another participant wrote; “warm feelings and free thoughts”, while another; “unexpected elements which affected me. I like surprises, birds on the fence, pastel colors in the arcade, flowers as a gift, beach music in the meadow”. Further; “there is so much we can do by simple means to stimulate, energize and inspire – more colors, shape and music is needed. Thank you!”. I continue; “it feels good to be able to see beautiful displays here and there on the site. Do continue with these kinds of activities throughout the year. Music is good, it is energizing and uplifting”. As well as; “The Butterfly garden was just wonderful. Peaceful and harmonious!”. Further; “One gets happier and alert, affected very positively by colors, shape and music”. One wrote; “Absolutely! To create a beautiful and exiting passage to an otherwise sterile and boring environment increases joy at work and motivation”. Another; “A terrific activity; it raises a lot of thoughts concerning environmental issues and even how it is possible to make a difference on the home front”. Finally a participant wrote; “inspiration by nature opened up my mind to that which is yet undiscovered”.

As I also observe several photographs they catch my attention as being very illustrative examples of how people are interacting while looking at the art arrangements at the different locations, illustrating artefacts and the physical milieu which can enhance our perception of the world and enhance learning (Barad, 2007; Strati, 2005). I understand that these open comments and illustrations would have been of value for the participants to take part of which were not provided at the time. However as to my own reflections I do believe that these comments and “action – pictures” show different expressions and thoughts which recognizes moments of learning involving the whole person (Jarvis & Parker, 2007; Illeris, 2003) which would not have been visible in a traditional way of evaluating learning at work. The photographs and comments also illustrate learning from the senses as all learning according to Jarvis begins with the body experiencing through the senses (Jarvis, 2009a: 38).
Documentation two – Paradigm Strategic Communication

Documentation two covers a workshop which was conducted in August, 2013 at the Museum of Public Art in Lund; for Paradigm Strategic Communication, a branding agency from Gothenburg with 12 employees. The objective was “to activate the participants to focus on observations and reflections through non-communicative expressions such as art, symbols, storytelling, music and play”. By so doing provide the possibility to process new knowledge and experiences in a stimulating way and from another perspective (Eisner, 2002:33). As the activities also included the importance of space, place and the inclusion of artefacts the workshop was held as stated at the Museum of Public Art, which is from the 60s and is unique in its striving and collection of public art represented from all over the world as it represents art in process and not as the end result. The purpose for the documentation was “to serve as an echo to their experiences and insights, with the hope that it can enable the participants to grow as individuals as well as to develop and implement a strategy for the future of Paradigm”.

The first account is from the first part of the workshop which was about storytelling, which nowadays is commonly regarded as currency; a means through which we exchange experiences and learn (Brown et al. 2009). I quote; “Hence each one from the team was asked to bring an item with them (from home), something symbolic and to share a story. This was done while travelling by car from Gothenburg to Lund”. This activity followed with; “The participants were asked to draw something they like to do for leisure and something at work and to organize the pictures as they wished on a whiteboard”. This account shows how basic activities such as; telling stories and drawing pictures can enables the individual to learn what it means to be part of a group and interact (Jarvis, 2013). Since the individual perceives the world in terms of what he/she can do with it and in relation to others (Rosenblum, 2010; Pickren et al. 2010) and is part of social and organizational contexts where he/she works and learns (Jarvis, 2009; Hodkinson, 2005).
This account which followed the previous was when the guide at the museum told us stories about different artists and their work and how each creative process is unique in its own way. The guide was asked to also reflect and tell about her own process while preparing the tour she said; “I was offered an assignment with no instructions only a sentence to guide me; the creating process. I needed to reflect on my own process which enabled me a better self-awareness as it helped me to recognize why and how I was performing my work. I wanted the group to get inspired by the artists’ way of working. It has become clear to me that the artistic process is not necessarily linear and the end result does not always have to be a finished work of art. Creating processes have both obstacles and achievements, and sometimes one is required to take several steps back and start from the beginning. In some cases the process can ultimately be more important and valuable than the end result. Artists who work with public art need to think the whole context since public art is not isolated and thus there are several aspects that need to be considered including the place, architecture, the patron and the audience as well”. This account is valuable as it tells us how her self-awareness enhanced through reflection (MacDonald, 2007: 232-233; Buldu, 2010:1439-1440) which helped her to recognize her own way of working and in turn I believe she gained new insights. A description that illustrates once again an experiential learning process which requires keeping track of thoughts; a matter of reflective review and summarizing in which there is both discrimination and record of the significant features of a developing experience.

To reflect is to look back over what has been done so as to extract the meanings which are the capital stock for intelligent dealing with further experiences (Dewey, 1997:6-13). Another consideration is the many associations we bring in and respond to by looking at art comes from the combined potential of our conscious and unconscious mind. Thus we can stimulate our thinking through the countless individual associations that involve our response to a visual stimulus at a specific moment.

Following account is the second part of the day which was to let the group visualize the future of Paradigm and how they imagined they would need to work as individuals and as a group to be able to progress and achieve their future goals. It was done by posing the question; “let’s say in the future, in 2018 you go to a party and you are asked; what did you personally do to contribute to Paradigms success?
What did you do together as a group to reach this success?” Each one answered individually by writing a sentence on a piece of paper starting first one with “I did…” and the next poster with “We did…” . What strikes me as I read these posters in the documentation is that they embrace so much of the individuals’ perception as well as illustrate the like-mindedness which exists in the group. They all include so much implicit information, however I will only give some examples that can provide an overall idea of the outcome. (These comments are past tens as the answers were to represent the future. Following are my own transl. from Swedish). On the posters “I did”, I read one who says; “I learned to collaborate better and evolved in my new role”. Another; “I was able to work with my main proficiencies” and further; “I was driven to create a process that would enable the recognition of each individual”. These lines suggest self-awareness, and an understanding of how one’s own development- becoming involves the other as well. As I continue to the posters, “We did” I read; “We worked as a team and respected each other’s abilities and qualities”. Furthermore; “We found new source of power in each other and in the process. We grew confidently”. These sentences are indeed powerful as they generate confidence in the individual and the group. This activity makes learning visible by showing the necessity to learn to think, to act as if nothing is self-evident (Deleuze & Guattari, 2011: 7) which can enable the group to constantly change and develop in their process (Jarvis, 2009a:25).

The next account is from the ‘creative workshop’ and involved the same question regarding Paradigm’s future success. But this time the group was instructed to create a model which symbolized their process for progress. This account describes the activity from the museum’s creative workshop; “we were instructed by the art teacher to work in two groups, and to create a piece of art; a symbolic visualized future planet of how Paradigm will expand until 2018”. With various materials as well as the choice of visualizing an image on a paper or creating a 3D model, both groups chose to build a model which illustrated an imaginary future plan. […]This activity, (which for some probably brought back memories from pre-school) was really a learning experience”. As I study the photographs I observe engaged and happy interactions between the two groups as they each are building their 3D model illustrating an imaginary future plan.
This example signifies the importance of materiality such as artefacts and the milieu in their becoming (Barad, 2007:25; 2003:812). By creating an “art-work” of their process and future they were able to develop a model into a communicable form which enabled them to make their own concepts and ideas visible and imaginable (Dodgson et al. 2005: 113-114). Hence, while it is the individual who learns, and not the group as whole, we still learn in social contexts (Jarvis, 2012b). Consequently by engaging the group through interactions and sensory experiences it enhances learning by generating meaning and creativity as well (Uhrmacher, 2009; Buss et al. 2009; Pink, 2006; Bohm, 1998).

The final account is from the discussion I had with the group two months after the workshop and the documentation was presented; a “sharing back” (Suárez, 2006). The participants discussed how the activity to visualize and symbolically create Paradigm’s future success enabled them to reflect and think through different options “in a fun and stimulating way”. That by working and creating together it offered them an opportunity to really get a better understanding of what they wanted to create; how and why became apparent and offered new insights. Emphasizing again, how important it is to make processes visible (MacDonald. 2007: 234) as these accounts and posters provide examples of otherwise unspoken thoughts. In their feedback they also recognized that they had learned more than they were aware of (Jarvis, 2011). Consequently, the documentation offered the group means to promote reflections through re-visitation, interpretation and further discussions (Buldu, 2010). Suggesting that learning in the workplace, where flexibility and differences in terms of roles, tasks, processes, and people, may best be achieved by understanding learning as a concept of repertoire; a relational learning that involves dialogues and negotiations (Solomon, 2001:49; Zhao & Biesta, 2011).

These accounts all exemplify a disruptive disjuncture, an interruption to daily routines which can refocus attention and enhance learning (Jarvis, 2009a: 64). As I ponder while studying these accounts, I agree that “there is a unison of becoming among things in the present” (Whitehead, 1979[1929]: 340).
Discussion

Following my analysis based on my empery covering selected accounts from the two documentations together with my theoretical frame I continue with a discussion on making learning visible and the significance of pedagogical documentation.

As stated earlier, science is essential to our own knowing and therefore when conducting science I need to be aware of how I perceive it as it affects my understanding of the world. I see the world from a social constructivist perspective with the belief that knowledge is created in social situations (Cohen et al. 2011:5, 33; Jarvis & Parker, 2007:107-108) and that the social reality can be accumulated through interpretations, and not by using rationalistic approaches (Cohen et al. 2011:6, 33; Jackson, 2011). I believe that scientific knowledge cannot evolve without the constant interactions and connections that take place, in other words; science is about “relationships” (Gorelick, 1991:460). I also believe that even though it is proposed in the scientific world that the universe is linear and that phenomenon can be categorized, analyzed, controlled and understood (Wheatley, 2006), truth cannot be represented by numbers but needs to be understood subjectively and in its context. Subsequently, I do not believe that there is an actual objectivity; only “possible forms of perception, of all their relations and interdependencies” (Sartre, 2007:12-13). This notion suggests the need for open-mindedness when valuing and examining learning by documenting various activities and actions; hence making learning visible in its own context and inter-relatedness.

However, to be able to understand the significance of pedagogical documentation as a methodology to make learning visible I have come to understand that ‘the knowing subject’ has been part of the humanities and social sciences, during the 20th century. Saying that thinking and living are synchronized, and the nature of being is divided in subject/object, body/mind and materiality does not matter (St. Pierre, 2013:648-649, 654; Barad, 2003). This concept of dichotomies should therefore be challenged since it is becoming clearer that the body and mind are not separated entities, nor are humans from material and nature, but everything is interrelated (Jarvis, 2009b: 31; Jarvis, 2012a: 104-106; Barad, 2007).
This view is necessary as learning is a complex process of human experiences (Jarvis, 2012a:109) and although it is impossible to explain this process in every detail (Jarvis, 2009b: 33) I agree that as learning takes place, it eventually also changes the person as there is a need to give meaning to experiences as one reflects upon them and as a result of engaging in social situations throughout life (2009a: 61-63). Consequently, we learn in various ways, and experiential is one way and it proposes that ideas are not fixed but are formed and modified through the experiences we have (Jarvis, 2009). But also through our interactions (Kolb, 1984: 41-42); with the social group as the starting point (Dysthe, 2010). Thus, learning involves the whole person with cognitive, emotional and societal dimensions (Illeris, 2003). Signifying, we need to be aware of the role of emotions (Mettälä, 2012) as emotions are responses to meaningful situations in life; they affect us in our actions, thoughts, beliefs and so on (Schutz & Pekrun, 2007; Olsson, 2007: 131-145; Phelps, 2006; Kahneman, 20011). However, most of our daily knowledge comes across implicit and does not happen in isolation (Gärdenfors, 2005: 77-85; Damasio, 2006), as it is connected to our intuition and thinking (Dreyfus & Dreyfus, 1986: xx, 29). In a sense, Peter Jarvis theory becomes clear as learning is a lifetime phenomenon through which the person develops and becomes more experienced (Jarvis, 2012a:111), an ongoing process constantly changing and developing, and becoming (Jarvis, 2009a:25).

Thus my main objective for this thesis has been to illustrate how pedagogical documentation can make learning visible. I have tried to do this by presenting selected accounts from two reports that I have previously been engaged in; both in terms of organizing the projects as well as collecting material and writing the documentations. This indicates an obvious problem which I am aware of which is, that my qualitative data is somewhat adjusted to my research question and aim. However I still believe that there is a value in these presented accounts as they exemplify how documenting activities can offer reflections and make learning visible. With these accounts I have also highlighted an understanding that shared experiences of groups which are related to each other, sense-making is created (Lenz Taguchi, 2012: 43; Solomon, 2001:41) as learning becomes relational (Zhao & Biesta, 2011).
And as communication is also a cultural repertoire, it is likely to foster cooperation, and to support one’s sense of self and identity” (Illouz, 2007: 21). They have also illustrated the importance of aesthetical elements (Mettälä, 2012); artefacts; milieus (Lenz Taguchi, 2012:18) and the process of reflection (Dewey, 1997).

My study has been based on the notion that as the world changes fast and continuously, so do our lives every day (Jarvis, 2009: 22; Bauman; 2000). These changes bring new opportunities as well as challenges with the need to take new roles and responsibilities as we try to redefine our place within our own various circumstances (Bauman, 2005). Therefore there is a need for continuous forms of lifelong learning (Bauman, 2005:124-125; Jarvis, 2012a:111), as well as being mindful that we live in different societies embracing combinations of cultural practices (Jarvis, 2009:11; Brante, 2001, p. 181), and that we learn from the opportunities which we are exposed to (Jarvis, 2009). I have also suggested that there is a need to acknowledge nature, the body, and materiality (Barad, 2007:25) with the assumption that human beings are part of the universe and inseparable from everything else (Zhao & Biesta, 2011). Hence, living involves very complex processes of experiences and interactions which include complying with norms and values, a process which results an accumulation of implicit knowledge that expands with age and experience (Jarvis, 2013; 2011). It is at the meeting of us and our world that we are presented with opportunities to learn. However as time for reflection has become “a skill from the past” (Bauman, 2006) I ask; what if we would to consider that in this ever-changing world there is a need to recognize moments of learning which can be found in our daily interruptions?

In sum, pedagogical documentation has been implemented in numerous schools for over forty years with the purpose to observe, record, interpret, and share, by visualizing learning processes and products in order to enhance learning (Krechevsky et al. 2010: 65; Given et al. 2010: 38; Lenz Taguchi, 2012: 18). It is done by successful documentation strategies showing daily activities and actions of the learner.
These documentations move us beyond the interest in outcomes towards an exploration of the relationships and feelings that form the context and the learning experiences (Yu, 2008:132; Lenz Taguchi, 2012:18), with an ‘intra-active’ perspective. Which highlights the relationship between humans as well as non-human entities, e.g. objects and artefacts that we surround ourselves in learning situations as well as the space and places we are in (Lenz Taguchi, 2012: 19, 59-62; Barad, 2007). The documentation can include dialogues, activities, written proposals, ideas and reflections; a form of journal keeping for various contexts and processes which can provide a way to “look for new pathways of inquiry that we may not have seen before” (Turner & Wilson, 2010: 10). Even though it is mainly practiced in schools I am suggesting that this methodology can be implemented for various daily activities and contexts and even at workplaces. I am also aware that this concept may indicate that keeping “qualitative track” of processes is another way of reporting and additional work for participants. However I believe that as reality is not a fixed essence and is an ongoing dynamic of intra-activity (Barad, 2007: 206), we need to trust the process and consider new possibilities to generate new knowledge, since humans are part of the ongoing knowledge developments (Barad, 2007). I also consider that knowledge is neither a form nor a force but a function (Deleuze and Guattari, 2011: 215), saying that human beings are part of the universe and inseparable from everything else (Zhao & Biesta, 2011), constantly developing and changing (Tu, 1997: 113). Thus it is through our experiences that we learn, and our experiences influence what we may choose to learn (Jarvis, 2009a).
Concluding reflections

As I now conclude I need to ask myself is this a conclusion or is it a new commencement? Is it in the interaction hoping for new ideas or, is it in the in-between – the reflecting back? Or, is it simply just life continuing on, in an ever narrating web of experiences? As I see this thesis as the beginning of a new commencement I wish to make some conclusive reflections at this time.

By outlining some accounts from the mentioned documentations together with my theoretical frame mainly with Peter Jarvis’ theory of lifelong learning (2009a; 2007) I have attempted to deliberate on how learning can become visible in daily activities through pedagogical documentation. With the intention to question that to be able to move beyond standardized evaluations, we need new ways and concepts to include the whole person rather than the parts (Jarvis & Parker, 2007). I have also suggested that there is a need to go beyond the traditional dichotomies of theory/practice, subject/object, rationality/emotionality (Barad, 2007; Lenz Taguchi, 2012). This is crucial as I believe that the notion of learning must expand through the inclusion of other humans as well as non-humans e.g. artefacts and the milieu (Barad, 2007; Deleuze & Guattari, 2011), since we are all part of a becoming which is intertwined with everything and everyone (Barad, 2003:818).

Implications for future research

Last of all, there is an increasing recognition that the ability of an organization depends on the learning potential of its workforce and where learning is considered to be part of everyday work (Solomon, 2001: 43). This has led to that the call for learning from corporations is growing and so is the awareness of how to manage humans in companies (Nixon, 2005; Adler, 2006; Solomon, 2001:44; Romanowska, et al. 2010). Consequently, if cooperation’s are going to be able to manage the proficiencies of their employees, learning must become visible.
Therefore as to future aims and questions I wish to begin by asking: how can pedagogical documentation be applicable at workplaces? Could pedagogical documentation be the starting point to evaluate long-term learning outcomes? As mentioned earlier, evaluating long-term learning outcomes is rather impossible since I do not consider that there are some common structures to all situations where learning takes place but rather learning involves an unspecified process. On the other hand, even though it is impossible to calculate and quantify most learning outcomes one should still consider learning beyond short-term evaluations; as the individual changes over time and therefore there is a need to consider the learners context, both the social as well as the environmental interactions (Jarvis, 2009a). Also, although we can predict some outcomes of learning processes there is the risk that there are limited number of desired outcomes and less reflective and extensive evaluations (Swann, 1999). Over 250 years ago Jean-Jacques Rousseau wrote in his treatise *Emile*; that the essential conditions of success in learning are beyond our control and practically impossible to reach when we set goals (Rousseau, 2013[1911]: 6). Signifying that all learning that occurs cannot be reduced to recordable data (Jarvis, 2012: a: 107).

To be able to answer such complex questions I wish to furthermore explore the gap between theory and practice which is “complexly entangled” (Barad, 2007: 55). To do this I need to create new concepts to help me with my work of thinking the world differently (Deleuze & Guattari, 2011). It is important to know what my ideas and concepts are as these will guide me towards my goals, hence by outlining them I will be able to create a path that is much easier to recognize and acknowledge as being part of my own learning process. However, concepts form how we perceive the world (Deleuze & Guattari, 2011: 18) so I need to be aware that as I formulate new concepts there is a risk that they will limit my perception of the world (Lenz Taguchi, 2012: 85). But, as Vincent van Gogh (Leeuw, 1996: 370) once said;

People used to think that the earth was flat […]. But that does not alter the fact that science demonstrated that the earth as a whole is round, something nobody nowadays disputes. For all that, people still persist in thinking that life is flat and runs from birth to death. But life, too, is probably round and much greater in scope and possibilities than the hemisphere we now know

Thus, the process of this thesis has made me recognize the importance of making learning visible as it enables us to look for new pathways that we may not have seen before.
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