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DIGITAL STORIES AS A TOOL FOR LEARNING AT WORK

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"Narrative is radical, creating us at the very moment it is being created."
— Toni Morrison

ABSTRACT

This dissertation examines the use of digital storytelling in learning in different types of work environments. The research focuses on representations of identity, agency and positioning in visual narratives. The digital stories are two-to-three-minute-long autobiographical minidocumentaries told with the support of the group and facilitators. Digital storytelling is regarded as both a method and movement that promotes the democratic storytelling of individuals. Digital stories have become more popular because of social media and technological developments in the area of personal devices; hence, it is now possible to produce and share digital stories for anyone, from anywhere.

The research data for the three studies of this dissertation were collected during two digital storytelling workshops. The first workshop was organised in a business organisation, and eight participants took part after a long-term staff development project. In the second workshop, nine university teachers studied the education for sustainable development with digital storytelling while simultaneously considering digital storytelling as a teaching method suitable for their own students.

Study I was a 1.5-hour group discussion. Stories developed from modes of closed, open or ante-narratives when the participants made facilitation or inhibition along the discussion and presented the preliminary ideas of their digital stories. Stories in open and ante-narratives especially tended to be co-authored. Future thinking was equally involved along with reflection of the past and present. In the group discussions, there was collaborative meaning-making and reflection of identities. The visuals of the stories enabled the storytellers to express things difficult to verbalise, allowing the participants to experience that the method of digital storytelling was a creative way to evaluate the staff development project both individually and as a community.

In *Study II,* three digital stories produced in a business organisation workshop were analysed with social interactional narrative analysis (SIA) and with multimodal transcription and text analysis. There were three modalities in agency enhancement at work that differed from each other among others in their timing. Sociocultural agency enhancement was the slowest modality and had its roots in the employee's childhood, studies and earlier work. Transformative agency enhancement showed the changes and renewing of established ways in thinking and in work practices, while situational agency enhancement was found to be the resiliency in the rhythm of daily work and its practices. Different modalities of agency enhancement overlapped, and there was also other things in life outside of work that impacted agency enhancement.

Study III examined education for sustainable development and teachers' positioning as sustainable development educators as they worked through their own digital storytelling process. In the interviews of nine university teachers, the method of digital storytelling was experienced as a challenging method, even though it was noted to be immersive. The teachers learned media skills they could use in their studies. In better understanding sustainable development, the teachers broadened their thinking, and after the course, they included all dimensions of sustainable development under the holistic umbrella concept, including ecological, economic, social and cultural aspects. Before the course, they mostly focused on the ecological aspect.

The three studies of this dissertation help deepen the understanding of the digital storytelling process and the role of group and social interaction when the aim is to enable professional identity, agency and positioning in communities and organisations. To tell a story is a social process, even though the voice and autonomy of individual storytellers is highlighted. Digital storytelling is a suitable method for learning with complex and multidisciplinary items, especially when the aim is to build relational agency among multiprofessional experts.

KEYWORDS: agency, agency enhancement, identity, identity work, professional identity, positioning, relational agency, digital storytelling, narrative research, narrative, work, higher education, pedagogical methods

TIIVISTELMÄ

Väitöskirjassa tutkittiin digitaalisen tarinankerronnan käyttöä oppimisen välineenä erilaisissa työyhteisöissä. Tutkimuksessa tarkasteltiin visuaalisia narraatioita erityisesti identiteetin, toimijuuden ja asemoitumisen representaatioina. Digitaaliset tarinat ovat 2–3 minuutin pituisia omaelämäkerrallisia mini-dokumentteja, joiden tekemisessä ovat tukena ryhmä ja työskentelyn fasilitaattorit. Digitaalista tarinankerrontaa voidaan pitää sekä menetelmänä että suuntauksena joka korostaa yksilöiden mahdollisuuksia demokraattiseen tarinankerrontaan. Sosiaalinen media ja teknologinen kehitys ovat tehneet kenelle tahansa mahdolliseksi omien videotarinoiden tekemisen ja jakelun jopa globaalisti.

Tutkimusten I, II ja *III* aineistot kerättiin kahden työpajan yhteydessä. Ensimmäisessä työpajassa yrityksen kahdeksan ihmistä osallistui digitaalisen tarinankerronnan työpajaan henkilöstönkehittämisprojektin päätteeksi ja toisessa työpajassa yhdeksän yliopisto-opettajaa perehtyi kestävän kehityksen opettamiseen ja digitaaliseen tarinankerrontaan sekä tekemällä henkilökohtaisen digitarinan että pohtimalla digitaalista tarinankerrontaa opetusmenetelmänä. Digitaalinen tarinankerronta on osallistava menetelmä ja digitaaliset tarinat soveltuvat narratiiviseksi tutkimusaineistoksi. *Tutkimuksessa II* digitaaliset tarinat toimivat tutkimusaineistona.

Tutkimuksessa I tarkasteltiin digitaalisten tarinoiden rakentumista aiheista käydyn 1,5 tunnin ryhmäkeskustelun pohjalta. Suljetut, avoimet tai ja vielä esiasteella olevat tarinat kehittyivät eteenpäin ryhmän yhteisessä tarkastelussa, jossa ryhmän jäsenten tekemät erilaiset avaukset joko nostattivat tai sammuttivat tarinankertojien alustavia ideoita etenkin silloin kun käsikirjoitus oli vielä avoin ja jäsentymätön. Tarinoiden suunnittelussa myös tulevaisuus oli vahvasti läsnä menneiden kokemusten ja nykyhetken rinnalla. Tarinoista keskustelu ryhmässä synnytti yhteisöllistä merkitystenantoa ja identiteettien reflektointia. Visuaalisten tarinoiden ansiosta osallistujat pystyivät ilmaisemaan vaikeasti sanoitettavia asioita ja menetelmä oli yritykselle luova tapa arvioida henkilöstönkehittämisprojektin antia sekä yksilöiden että yhteisön tasolla.

Tutkimuksessa II analysoitiin tarkemmin kolme liike-elämän työpajassa tehtyä tarinaa narratiivisen analyysin (SIA) ja multimodaalisen sisällönanalyysin avulla (multimodal transcription, and text analysis). Digitaalisista tarinoista erottui kolme toimijuuden muutosmuotoa, jotka erottuvat toisistaan mm. aikaikkunoiden perusteella. Sosiokulttuuriset toimijuuden muutokset alkavat rakentua jo lapsuudessa ja jatkuvat opiskelujen läpi työelämään. Transformatiivinen toimijuuden muutos on vakiintuneiden ajattelu- tai toimintamallien kyseenalaistumista ja uudeelleenrakentamista ja situationaalinen toimijuus pyrkii mukautumaan työn arjen tapahtu-

miin. Toimijuuden kehittymisen eri modaliteetit lomittuvat osittain toisiinsa ja professionaaliseen toimijuuteen vaikuttavat myös työn ulkopuolisen elämän kokemukset.

Tutkimus III keskittyi yhdeksän yliopisto-opettajan ymmärrykseen kestävän kehityksen opettamisesta ja eri alojen asemoitumiseen kestävän kehityksen edistämisessä samalla kun perehdyttiin digitaaliseen tarinankerrontaan oppimisen ja opettamisen menetelmänä. Haastatteluaineiston perusteella digitaalinen tarinankerronta koettiin haastavaksi, joskin mukaansatempaavaksi menetelmäksi. Opettajat kokivat oppineensa mediataitoja, joita lähtivät soveltamaan omissa opinnoissaan ja töissään jo koulutuksen aikana. Kestävään kehitykseen eri tieteenalojen edustajien digitaaliset tarinat aukaisivat näkökulmia holistisella tavalla ja koulutuksen jälkeen kestävän kehityksen kaikki neljä ulottuvuutta (ekologinen, ekonominen, sosiaalinen ja kulttuurinen) liitettiin kestävän kehityksen opetuksessa edistettäviin teemoihin alun ekologispainotteisen dimension sijaan.

Osatutkimukset syvensivät ymmärrystä digitaalisen tarinankerronnan prosessista sekä ryhmän ja sosiaalisen vuorovaikutuksen roolista tilanteessa, jossa halutaan edistää professionaalista identiteettiä, toimijuutta ja uudelleen asemoitumista osana yhteisöä tai organisaatiota. Tarinoiden kertominen on sosiaalinen prosessi, vaikka yksilön ääni ja autonomia on digitaalisten tarinoiden kertojana korostunut. Digitaalinen tarinankerronta soveltuu tutkimuksen perusteella opetusmenetelmäksi myös monitieteisten ja monimutkaisten asioiden oppimiseen, samoin kuin moniammatillisen ja monitieteisen toimijuuden tukemiseen.

AVAINSANAT: toimijuus, toimijuuden rakentaminen, identiteetti, identiteettityö, ammatillinen identiteetti, positiointi, relationaalinen toimijuus, digitaalinen tarinankerronta, narratiivinen tutkimus, narratiivi, työ, korkeakoulutus, pedagoginen metodi, kestävän kehityksen opetus

Acknowledgements

Narratives – what a wonderful pool of different stories of human life, history and futures. Narrative is something we all seem to know well but rarely do. There is glorification of narrative that comes from the entertainment industry, including books, novels, movies, famous and otherwise successful people and so forth. However, there are also other kinds of narratives, ones that restrict our lives, close doors in front of us and tell us to be something other than what we dream. The gatekeeper is not always what other people say directly but our own minds as part of the complicated social structures and processes where our inner speech reacts to other people's words, gestures, advice and silence, something that starts already before our birth and lasts the rest of our life and onwards. As inner speech, narratives are seen as individual's own creation, but actually, there are many things that can have an impact on what kind narratives we tell about our lives, our work, our identity and our agency, what is meaningful for us and where we are heading. As part of my own life, the current dissertation was not a natural continuation after graduation. Without an academic family background, the reason to continue my studies was mostly based on my own curiosity and ambition. Some people run marathons, and I decided to run a mental one. However, there have been people whose impact has been valuable while doing my PhD studies.

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and it has been a transformative experience for me becoming something else than before my PhD studies.

I am also thankful to live in Finland, where each and everyone has possibilities to study as far as they want without economical, gender or other restrictions. This is why we have to tell stories of different PhD researchers. An academic dissertation is something a single mother of three children can do in Finland, along with a full-time job. This should be possible in every country for every person, and I hope everyone could also have a wise grandmother with excellent future skills who makes you promise to study more.

<div align="right">
Turku, June 2022
Satu Hakanurmi
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List of Empirical Studies

This doctoral dissertation is based on the following empirical publications, which are referenced in the texts by their corresponding Roman numerals.

I   Hakanurmi, S. (2017). Learning to work through narratives: Identity and meaning-making during digital storytelling. In G. Jamissen, P. Hardy, Y. Nordkvelle, & H. Pleasants (Eds.), *Digital Storytelling in Higher Education. Digital Education and Learning.* Palgrave Macmillan. https://doi.org/10.1007/978-3-319-51058-3_11

      Hakanurmi contributed to the study's conception and design, data collection, analysis and interpretations and was responsible for writing the manuscript.

II   Hakanurmi, S., Palonen, T., & Murtonen, M. (2021). Digital stories representing agency enhancement at work. *Adult Education Quarterly, 71*(3), 251–271. https://doi.org/10.1177%2F0741713621989990

      Hakanurmi contributed to the study's conception and design, data collection, analysis and interpretations and was responsible for writing the manuscript. Murtonen and Palonen contributed to the study's conception, data interpretation and revision of the manuscript.

III   Hakanurmi, S., Murtonen, M., & Palonen, T. (2022). University teachers' digital stories of sustainable development: A method for learning to teach. *Ammatti-kasvatuksen Aikakauskirja*, *23*(4), 48–60. https://doi.org/10.54329/akakk.113321

      Hakanurmi contributed to the study's conception and design, data collection, analysis and interpretations and was responsible for writing the manuscript. Murtonen and Palonen contributed to the study's conception and design, data interpretation and revision of the manuscript.

1   Introduction

The aim of the current dissertation is to examine visual storytelling and, more precisely, digital storytelling (DST), which has been simultaneously a research method of this work and a method of learning to be studied. Implementing the DST method was learning at work from the perspectives of identity work, agency enhancement and positioning. The present research provides propositions of digital storytelling and narratives in higher education and work life when the aim is to provide a discussion of identity work and agency enhancement. The introduction explains the background of the study and provides theoretical concepts related to previous studies, and the next chapters continue to introduce *Studies I, II* and *III* of the dissertation.

There is a growing need for pedagogical methods that support identity work and agency enhancement along with the learning of knowledge and information. For example, education for sustainable development demands a holistic grasp, including knowledge, thinking skills, values, worldview, identity, motivation and participation, future orientation, hope and emotions (Cantell et al., 2019). To provide knowledge and information about sustainability is not enough; instead, education for sustainable development calls for methods that allow a holistic reflection of values, worldview and identity, thus enabling agency (Cantell et al., 2019). Digital storytelling is one method under this umbrella, enabling creative identity work, future thinking and positioning in a sociocultural context, as in *Study III*.

In *Studies I* and *II*, digital storytelling (DST) refers to a practice where ordinary people like students and employees participate in facilitated workshops to create short personal films that privilege self-expression (Hartley, 2008). As a community media practice, this cocreative workshop–based method has become the most popular in the Western industrialised world (McWilliam, 2009).

1.1   Learning with narratives and digital stories

Life unfolds as a narrative, one with multiple interlinking storylines (Harré et al., 2009). Stories give people's lives structure, coherence and meaning, and to a large extent, people are the stories about their lives and themselves. Narrative learning, however, is more than learning from stories: it is learning while storying (Biesta et

al., 2011). Narratives also serve as a way to enhance future agency by offering renewed identity, values and agency (*Study II*).

One of the most modern forms of narratives are digital stories: autobiographical minidocumentaries lasting between one and three minutes, during which the storyteller combines their personal experiences and worldview with scientific theories, sociocultural values and practices (*Study I*). Digital storytelling is regarded as both a method and movement to give people a voice through personal devices such as tablets, computers and mobile phones (Kaare, 2012). Digital storytelling arose as a genre with the rise of participatory media and with people's lives becoming increasingly influenced by media; because of this, they needed to see their own stories on screen, along with everyone else's (Hessler & Lambert, 2017). Around the same time as this growth in participatory media, the researchers of teaching and learning were experimenting with the ways to incorporate mass media into college communication classes; from this, multimedia social-epistemic rhetoric pedagogies arose. Scholars such as James Berlin have built upon Marshal McLuhan and Paolo Freire, who argue that responsible pedagogy must train college students to critique media from the inside out because full citizenship in a global society depends on peoples' ability to master the media that most influences their lives (Berlin, 1996). Educators who assign new media projects are engaging students in digital genres not only to build their digital literacy skills, but also to immerse them in a process of interdependent, interactive meaning-making (Hessler & Lambert, 2017). As part of this social-activism movement, digital storytelling has provided teachers with the training, tools, models and communities of practice to realistically assign digital storytelling projects that foster critical digital literacy, civic literacy and greater self-awareness. This is why we can regard digital storytelling not just as a tool for pedagogy, but as a perspective of what teaching and learning can be. Digital storytelling is a participatory media pedagogy, and through guided critical reflection, story sharing and collective making, it gives voice to students, enabling the reflection of identities and a future orientation (Hessler & Lambert, 2017).

Typical of digital storytelling is a workshop-based practice in which people are taught to create short audio-visual stories mainly about their own lives (Hartley & McWilliam, 2009b). Digital stories of everyday life are told by ordinary people in their own words, whether they are children, minorities, criminals or representatives of different professions. In education, digital storytelling is primarily used to increase student engagement and improve media literacies and personal reflection (McWilliam, 2009). Since the early 2000s, there have been almost 300 documented cases of digital storytelling programmes, most of which have occurred in the public sector (261), while only a minority have been run by the private sector (McWilliam, 2009). Out of those in the public sector, 123 were educational institutions, 71 community centres or organisations, 51 cultural institutions and 55 programmes run

by government, business and religious organisations (McWilliam, 2009). In universities, digital storytelling had been targeted mostly for students, while a handful targeted both students and teachers. For teachers, digital storytelling has been presented as one possible method, and in practice, digital storytelling has been used as a part of larger courses (McWilliam, 2009).

Digital storytelling was developed in California (www.nextexit.com) in the early to mid-1990s by Dana Atchley, Joe Lambert and Nina Mullen (Lambert, 2013a). Despite the technical prefix, the emphasis is one telling a story; the increased in popularity of digital storytelling happened when society-wide communication was undergoing a paradigm shift across the range of entertainment, business and citizenship: the one-way broadcasting model of traditional media industries was evolving into peer-to-peer communication networks (Hartley & McWilliam, 2009a). Since then, we have seen the enormous growth of user-created content in digital media, and the role of different kinds of video stories is still growing.

In higher education, making audio-visual products is a widespread activity across a broad range of subjects, and simultaneously, it is a profound way of training students to become literate in new media (Nordkvelle, 2017). In the mediatised society, new skills and competencies in mastering media as producers and consumers open up new communication channels (Lundby, 2008).

Pedagogically, the power of digital storytelling is connected to its ability to support transformative learning and its impact on professional growth and development (Anderson, 2017; Mezirow, 1991). Storytellers become something else when reflecting on their experiences through individual and collaborative meaning-making. The digital storytelling process follows a transformative learning process consisting of a disorienting dilemma, self-examination, recognition, planning a course of action and reintegrating a new perspective into one's life (Merriam & Bierema, 2014; Mezirow, 1991). Digital storytelling encourages the combination of the professional and personal, which Clandinin and Connelly refer to as 'personal practice knowledge' (Clandinin & Connelly, 1987). For example, one's worldview and values have an impact both on one's professional and personal identity and agency. In addition, digital stories have relevance in bringing together visual, auditory and emotional communication (Nordkvelle, 2017). Narratives also position the storytelling self in discursive processes at work (De Fina, 2015). According to Bamberg, the narrator can position themself at three levels: a story world, with a protagonist and antagonist and evaluations of their actions and responsibilities; regarding the audience, which states something about their present self; and according to how they want to be seen more generally, by answering the question, 'Who am I?' (Bamberg, 1997b). This is essential because one of the characteristics of a professional is the ability to reflect on and learn from practice (Hardy, 2017; Schön, 1987).

In summary, digital storytelling is a user-led media offering media production for ordinary people. However, despite the popularity of digital storytelling as a movement and method, more research is needed outside the 'how-to' guides by practitioners, especially now when digital storytelling has been increasing in popularity for over two decades (Hartley & McWilliam, 2009a). What does digital storytelling enable in different contexts, with different contents and in different experiments? The current dissertation provides a deeper understanding of the human way of understanding life, work and different human beings. From its own part, the present dissertation also offers new perspectives on learning with digital storytelling.

1.2   Continuous and dynamic identity construction

A number of previous social studies have explored identity in various contexts. In recent studies, identities have been seen as dynamic, never fully realised and always in a constant process of reformulation (Frost & Regerh, 2013; Glăveanu & Tanggaard, 2014). Identities are socially constructed representations about oneself developed in relation to other people and their own systems of representation, supporting a sense of coherence that is a prerequisite for learning at work (Billett, 2008). There are multiple deeply personal identities, such as gender, race, ethnicity, religion and socioeconomic class, but we are not born with these; instead, identities have a sociocultural basis that is modified according to norms, practices, materials and resources (Frost & Regerh, 2013).

In general, identity work is a complicating process, even though there are competing influences and discourses (Frost & Regerh, 2013). Different experiences receive meaning in an individual's self-assessment, and identity negotiation can also lead to feelings of disconnection (Lyle, 2018). However, in educational practices, the aim is to reflect and internalise those identities that increase one's sense of belonging, self-efficacy and internalised identities that support agency (Vähäsantanen, 2013). Different discourses existing in society and organisations make identity construction a creative endeavour (Glâvenu & Tanggaard, 2014, p. 14). Representations of identities are mediated in narratives; thus, representations of identities in storytelling are a meaning-making tool for constructing one's identity. Indeed, narrative is the language of our identity (Brockmeier, 2015, pp. ix, 119).

Professional identity, in turn, is a constellation of an employee's perceptions regarding how they view themself as a worker or expert (Beijaard et al., 2004; Vähäsantanen, 2013). Professional identity has a close relationship with professional values, beliefs, ideologies, interests, responsibilities and attitudes. Through professional orientation, employees define what they consider important in their work and construct their identities according to this (Vähäsantanen, 2013; Van Veen & Sleegers, 2006). Professional identity work deals with certain questions—for

example, *Who am I as an employee at this moment? What matters for me as an employee?*—as well the intellectual and moral obligations and their beliefs about 'good working' at their position (Beijaard et al., 2004; Vähäsantanen, 2013). Van Veen and Sleegers (2009) offer a complex review of professional identity as a mix of different elements, such as perceptions of self-image, job motivation, core responsibilities, self-esteem and beliefs about one's work (Vähäsantanen, 2013; Van Veen & Sleegers, 2009). They see professional identity as being in a state of constant construction for several reasons. The most obvious reason is the changing professional performance that can come into conflict with daily practices and professional orientations. Changing practices and reforms in work life also require employees' time and energy in renewing their identities (Van Veen & Sleegers, 2006).

To sum up, professional identity regards subjects' conceptions of themselves as professional actors, which are based on subjects' life history and experiences. With professional identity, it is possible to choose professional interests and values, perceptions and meaningful responsibilities. In other words, it is the orientation towards one's own profession (Vähäsantanen, 2013). The role of social interaction in the formation of narratives and professional identity was examined in *Study I*.

1.3   Positioning theory

Positions are clusters of beliefs that people have with respect to the rights and duties to act in certain ways, and positioning refers to the processes of assigning, appropriating or rejecting positions (Christensen et al., 2021). In positioning, the individual is placed in a sociocultural setting by themselves or by others' acts. Positioning theory offers a critical alternative in social sciences. Social constructionism argues that our ways of understanding the world, that is, the categories and concepts we use, do not come from objective reality but are historically and culturally specific (Burr, 2015). Knowledge is constructed of the world through daily interactions between people and the course of social life. Here, the language and speech acts are of great interest, as well as the stories we tell (Burr, 2015).

Positioning theory relates to two other perspectives: the storylines that develops within interactions and the speech acts that are uttered by the individuals. Every social situation is a function of three determinants: the capacities of people to do certain things, the restrictions imposed upon people to do certain things and the intentions that people have to do certain things (Langenhove, 2021). Positioning theory stresses the understanding of what people do and what they do not, and it requires looking at what is permissible to do according to the local moral order that is followed and to the positions that people take in that order. Every position both

opens and closes possible actions, which has been examined in more detail in *Study III,* where the teachers positioned themselves in education of sustainable development thorough their own discipline. In sustainability education, positioning in socio-categorical relationships, such as discipline/teacher/student, is a constant discourse between generations, sciences and society (Hakanurmi et al., 2022). For instance, a higher education teacher has personal agency as a teacher, whether they are a novice teacher or experienced teacher, but simultaneously, the teacher of a certain discipline is positioned depending on their discipline differently in status hierarchies of the university and matters such as education for sustainable development and what the discipline's role in this is. Humans make sense of their social worlds and how they fit within them (Schafer et al., 2011). In conclusion, both identity and positioning have connections to agency, where individual and sociocultural theories of learning are complementary (Eraut, 2007).

1.4   Agency enhancement is sociocultural

When one basic function of a society is to both enable and stimulate the possibilities of human agency (Langenhove, 2021), agency enhancement becomes a challenge for educational institutions and for work life. In normal circumstances, what people actually do is much narrower than what they can do because there are beliefs, rights and duties to act in certain ways (Harré, 2011, 2015). For example expected moral order of different professions varies whether they work with students, patients or customers. In recent years, efforts to understand learning for and throughout working life have moved away from a focus on workplace training to concerns about learning as a component and outcome of engaging in work and work-related activities and interactions (Billett et al., 2006; Eteläpelto et al., 2013; Vähäsantanen, 2013). This shift acknowledges a broader set of workplace factors that shape workers' learning and development. Yet equally important, it acknowledges that this learning through engagement is also necessarily shaped by the diverse ways in which individuals elect to engage or participate in workplace activities. Central here is the issue of individuals' identity and agency and how this is shaped. There are relations among subjectivities, learning and work, and it is possible to advance both the conceptual and procedural bases for understanding learning through and for working life. In this way, the contributions represent something of the emerging perspectives that can elaborate on the complex relations among employees, work and learning, along with the circumstances in which they are played out. There is a need for a critical discussion of agency in learning research, and here, a subject-centred sociocultural perspective has been suggested in previous research (Billett et al., 2006; Eteläpelto et al., 2013; Vähäsantanen, 2013). Similarly, Rom Harré suggests that there are psychologically and sociologically emphasised factors in the agency of individuals'

sociocultural umwelt and the broadening of possibilities that can occur by mobilising 'extended brains', which means unlimited access to knowledge, facilitation and reflection of moral or normative prescriptions (Harré, 2011, 2015). Narratives are one forum to reflect on individuals' concepts in a sociocultural context. Besides sharing and receiving information, people have a need for identity work, agency enhancement and positioning both as employees and as students. Equal and accessible education, together with individuals' agency enhancement and being free from constraints, are key on the way towards sustainable education.

In learning at work, the question is no longer seen solely as a matter of acquiring knowledge or updating skills: developing professional competency and agency are seen as essential processes that support coping at work (Tynjälä, 2008; Vähäsantanen, 2013). In educational practice, the formation of identity and agency have been useful in explaining how to prepare students for work life. Learning at work, in turn, comprises the formation and transformation of workers' identities and social practices (Billett, 2008; Billett & Somerville, 2004). However, workers are not solely autonomous subjects; instead, workplace learning is a dual process in which professional identity negotiations are accompanied by the remaking of social practices (Vähäsantanen, 2013).

In light of recent research on the close connection between identity and agency at work, this issue has assumed greater importance (Eteläpelto et al., 2013; Billett & Pavlova, 2005), but there is a lack of research into the use of narrative in work. Educational research has usually concentrated on the finished narratives of learners, employees or teachers, but the storytelling process itself has elicited relatively little interest. Earlier research reveals qualitative differences in life stories, such as the extent of narrative intensity, descriptive–evaluative quality and differing learning outcomes. There appear to be important relationships between styles of narration, forms of narrative learning and agency (Biesta et al., 2011, p. 110). In closed narratives, the meaning-making and reflection are mostly finished; stories represent the existing identity, and social impact has a minor role. In open narratives and ante-narratives, however, narratives are born during the storytelling process, and identity expressions are more coauthored (Boje, 2001, p. 3; Biesta et al., 2011, 68; Brockmeier, 2015, pp. 125–126).

The idea of agency has been central to educational thinking and practice, at least since the Enlightenment. Kant argues that free human beings could only become human through education, and now, this idea lives in the tradition of adult education as a level for empowerment and emancipation (Biesta & Tedder, 2006). Since then, the concept of agency has had an impact in modern educational theory and practice; social theory deals with questions such as how and when agency is possible and what the empirical conditions of agency are (Biesta & Tedder, 2006; Emirbayer & Mische, 1998). Ontologically, agency is a part of modern educational theory and discourse.

In social sciences, there are several theoretical frameworks about agency where individual emphasis and social context have different roles (Vähäsantanen, 2013). In workplace learning, individuals' agency is a commonly used concept (Goller, 2017; Harteis & Goller, 2014). Human agency has a connection to individuals' renegotiation of work identities, as well as individuals' contribution to transformations of occupational practices (Billett et al., 2006; Eteläpelto et al., 2013; Vähäsantanen, 2013). Agentic individuals frequently exercise agency and, therefore, actively take control of their lives and environments. Less or nonagentic individuals tend to react and comply with external conditions, so they do not actively take control over their lives and environments or do so less often. This does not necessarily mean that nonagentic individuals do not possess agency, but it means they utilise their agency differently (Goller & Harteis, 2017; Harteis & Goller, 2014; Tynjälä, 2008).

Several scholars have recently highlighted additional aspects of agency, such as its future orientation and temporal nature (Hitlin & Johnson, 2015; Mische, 2009; Schafer et al., 2011). Identifying the multifaceted concept of agency, Emirbayer and Mische (1998) argue for placing agency within the flow of time. According to their definition, agency includes an actor's consideration of situations in the past, future and present: agency is a 'temporally constructed engagement by actors of different structural environments through the interplay of habit, imagination and judgment' (Emirbayer & Mische, 1998, p. 970). How people see their futures is an important factor that shapes people's daily decision making over and above the classic focus on personal control. In this sense, hopeful, optimistic outlooks certainly motivate individual action (Kwon, 2017; Mische, 2009). In educational practice and learning at work, the enhancement of agency is an interesting topic for the research. In *Study II*, agency was shown socioculturally as a dialogue between personal and social items.

In the literature, a more socially emphasised concept of agency has settled beside the concept of pure individual agency. Relational agency, boundary objects and communities of practice all see the social impact in agency and define agency as a group quality, for example, in multidisciplinary communities carrying out problem solving together (Edwards, 2005, 2011, 2017). Boundary objects enable collaboration and dialogue among different actors (Enqvist et al., 2018).

R. Harré combines the individual and society in the existence of agency. Society strengthens the agency of people by providing the appropriate knowledge, skills and tools and favourable conditions of society (Langenhove, 2021). Both the facilitating and constraining conditions for agency together form the umwelt of people, and for Harré, it is in the latter perspective that positioning theory has its place because it tackles the question of what the processes are by which the domain of the permissible is extracted from the domain of the possible (Langenhove, 2021). According Harré, the potent things in the human world are not people but those things they say, and

speech acts are the real powers in the social world (R. Harré, 1990, p. 352). The powers of speech acts are enormous because they can let people do things by changing social reality and creating social reality, including persons (Langenhove, 2021).

Luhmann proposes a similar social ontology, writing that society is communication. Society is not built out of human bodies and minds, but it simply is a network of communication (Luhmann, 1990). Speech acts may also include narratives in different forms. Bamberg's small narratives and ante-narratives are on one side of the narrative types, whereas narratives with a clear plot and final output are on the other side. Keeping this in mind, conversations and narratives are both creating the social world and reforming borders of agency at certain times in certain positions. What is common for communication in general and for narratives is the role of boundary object, which is a conceptual tool that enables collaboration and dialogue between different actors while allowing for differences in use and perception (Enqvist et al., 2018). Jamissen and Moulton (2017) investigate digital storytelling as a tool to strengthen collaboration in an interprofessional faculty group; they find that digital storytelling is a potential boundary object for promoting reflection and mediating interprofessional collaboration and the meaningful integration of disciplines (Jamissen & Moulton, 2017). In *Study III*, the aim was to examine how university teachers from different disciplines position themselves regarding education for sustainable development and how the method of digital storytelling was experienced.

Ontologically, identity, agency and positions, when compared with the material world, only exist as verbalised realities and in discourses. On the contrary, the subjects' inner voices, we find in narratives, and the more we discuss, document, explore and learn about these concepts, the more they have existence and material counterparts in our discursive reality of social sciences (Vähäsantanen, 2013). According to social constructionists, language and its usage not only describe reality but in fact produce and create reality through telling and by giving meanings to reality (Gubrium & Holstein, 2002; Spector-Mersel, 2010). Karen Barad goes even further and says that concepts are material and that material is conceptual (Freitas, 2017). With this, she means that it is not simply the material world that thrives and mutates while the mind or conceptual is kept pure; but rather, the concepts and theories are equally implicated in this broad spectrum. The quantum ontology shows how language and discourse are haptic encounters and can touch us, which is Barad's contribution to the question of how concepts occupy and perform the world (Gubrium & Holstein, 2002; Spector-Mersel, 2010; Vähäsantanen, 2013).

The current research refers to Vygotsky's sociocultural theory and the more recent spoken world theory of Rom Harré. Harré stresses that the essence of both the social and psychological realm is conversations and speech acts in conversations and

that speech acts are regarded as the necessary conditions for the emergence of artefacts, persons and fields (Langenhove, 2021). From this viewpoint, digital stories are prolonged, reflected and visualised speech acts and are possible to examine as narratives, here by using narrative research methods.

In Figure 1, the concepts of identity and agency are presented in relationship with each other and neighbouring concepts. The figure is a generalised presentation but includes both individual and social dimensions and the interrelation of concepts and connections between agency and practices of work. Together with digital storytelling and narrative learning, these concepts form the theoretical background for the research questions in *Studies I–III*.
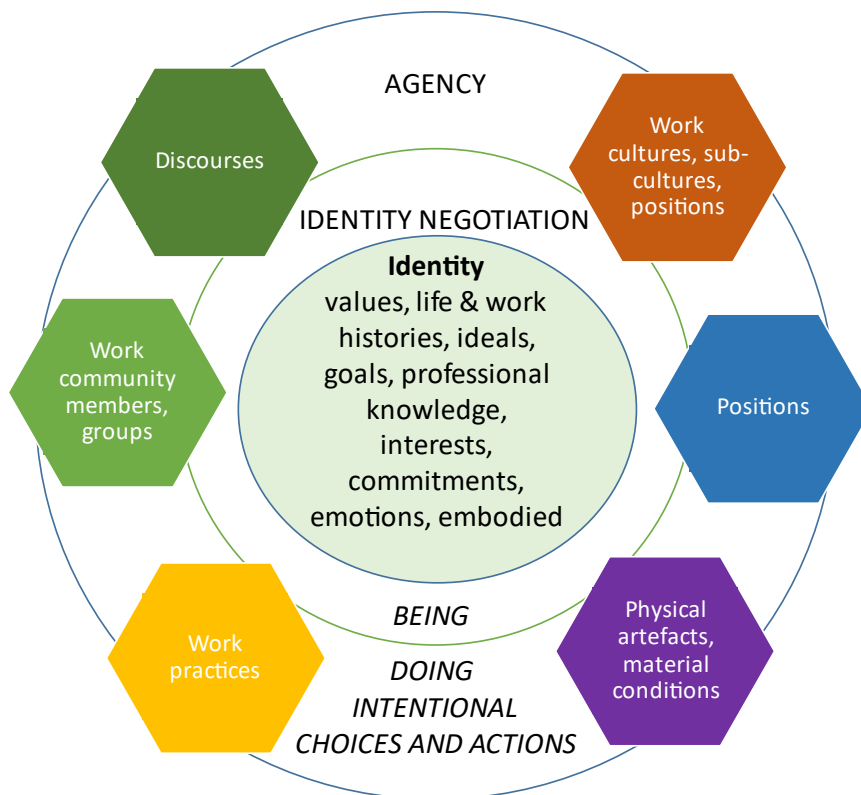

Figure 1. Identity and agency are identified socioculturally (Modified from Eteläpelto et al. 2014).

2 Research Questions

The main research question of the current dissertation was how a method of digital storytelling can be used to enhance the identity and agency of employees. The research interests of the present dissertation were, however, twofold: the first interest was digital storytelling as a method for learning and teaching, and the second interest was the development of the narratives of identity work, agency enhancement and positioning because of the use of digital storytelling. All three studies included parts of both research interests while concentrating on one of the following aspects: the process of storytelling, digital stories as representations of agency and digital storytelling as a method for teaching and learning.

Digital storytelling is a learner-centred participatory method for reflection and meaning-making. Digital storytelling enables the combination of personal experiences and theoretical or professional reflection. One additional value of digital storytelling is the promotion of media literacy when the storytellers learn the media skills needed as both media consumers and producers. Theoretically, digital storytelling is connected to Dewey's learning by doing principle, in which he highlights the importance of collaborative reflection to learn from experiences (Alhanen, 2013; Dewey, 1938). Dewey emphasises that different ways to reflect on things individually and in collaboration with other people are essential. In holistic reflection, the personal and professional content, together with ethical and emotional, are all mixed. Digital storytelling can be seen as a reflection-of-action (Schön, 1987). The aim of the current dissertation was to deepen the understanding of processes activated in digital storytelling and the use of digital storytelling as a teaching method in the following way:

1. How does the method of digital storytelling support learning and teaching?

The first group of research questions concentrated on digital storytelling and its possibilities to express and maintain reflection, meaning-making and coauthoring in a learning context. The practice of digital storytelling in learning was a common research interest in *Studies I* and *III,* which elaborated on the topic from different angles, such as the process of coauthoring during storytelling and reflections of identity represented in digital stories. The research questions concentrated on the

characters of the storytelling process itself through questions such as how the individual experience of storytelling was and the meaning of coauthoring. Special interest was devoted to the impact of visual storytelling compared with written stories. In *Study III,* the research interest was the possibilities of digital storytelling when learning complex items such as education of sustainable development in higher education.

Identity work is a dynamic reality and representation of an identity that is never fully realised but in a constant process of reformulation. Similarly, agency is constantly changing and under sociocultural impacts. Narratives are seen as representations of identities, whereas storytelling is a meaning-making tool for constructing identity (Brockmeier, 2015). The second aim of the present dissertation was to deepen the understanding of processes in identity work, agency enhancement and positioning as represented in digital storytelling in the following way:

2. What kinds of reflections and processes do narrative learning as digital storytelling enable in identity work and agency enhancement?

The second group of research questions concentrated on the processes aiming to enhance agency, such as meaning-making of experiences, reflection of identity and renewing of agency and positioning. *Study II* examined agency enhancement through digitally narrated stories, and the overall aim of this study was to understand how employees could enhance their agency and describe the practices of exercising agency in a work context. In *Study III,* the teachers positioned themselves as educators of sustainable development during digital storytelling training. Narrative learning and digital storytelling both activated and documented the otherwise invisible processes of identity work, agency enhancement and positioning.

3 Methods

3.1 Methodological approaches

Interviews and written stories are the typical methods of narrative research, but visual data have increased in popularity simply because there are more visual narratives available, for example, in social media. Along with the increase of visual stories, there has been a participatory turn in which the researcher no longer defines what kind of data are collected; instead, it is the subjects self that define the quality, amount and moments they want to share in their photos, videos and animations. The participatory method of digital storytelling was able to produce data of life stories suitable for narrative analysis of identities, agency and positioning. Besides digital stories, the method of interviews was used in the collection of research data.

Digital stories are personal video stories, and this means that the stories are meaningful for the storytellers. The challenge for the researcher using digital stories as research data is to work with the data in a way that takes the most out of its meanings and messages. When stories vary a lot, this demands time to listen to the stories deeply and the courage to see the implicit meanings and connotations behind the most obvious level. The researcher has in their hands the 'big data' of qualitative research, and a short story can convey the same amount of information as an hour-long interview. The method to prove the validity of the research is to include authentic text excerpts from interviews or synopsis and present visuals as much as possible, keeping research ethics in mind and without losing the anonymity and privacy of the participants.

To analyse the meanings from visual narratives is different than to analyse written or spoken narratives. First, the spoken story is different with visuals and both deserve a separate and combined analysis. Second, analysing visuals is spatial and immediate compared with the chronological order of spoken or written stories (Hull, 2005). Each picture has its own spatial power, can change the meaning of a previous picture, can change the meaning of a spoken story or add nonverbal information (Pirilä et al., 1983). Also, sound effects and music can create completely new meanings to visuals and the voiceover. Together, all possible dimensions in analysis afford rich research data, so it is often justifiable to limit the media elements of the analysis (Baldry & Thibault, 2006; Cachago, 2015).

In narrative research, things are examined in the light of narratives people tell us. Stories do not offer direct access to lived experiences and the world and do not mirror an independent object reality into the subject's identities. Instead, stories only exist without being totally coincidental or fictional because they have the contacting surface to a lived life, experienced events and storytellers' identities. Subjective narratives are also related to social constructionism, in which knowledge is understood as socially constructed and jointly negotiated in a particular time and context (Vähäsantanen, 2013). The stories people tell are not born in a vacuum: there is connection between an individual's stories that they tell about their lives.
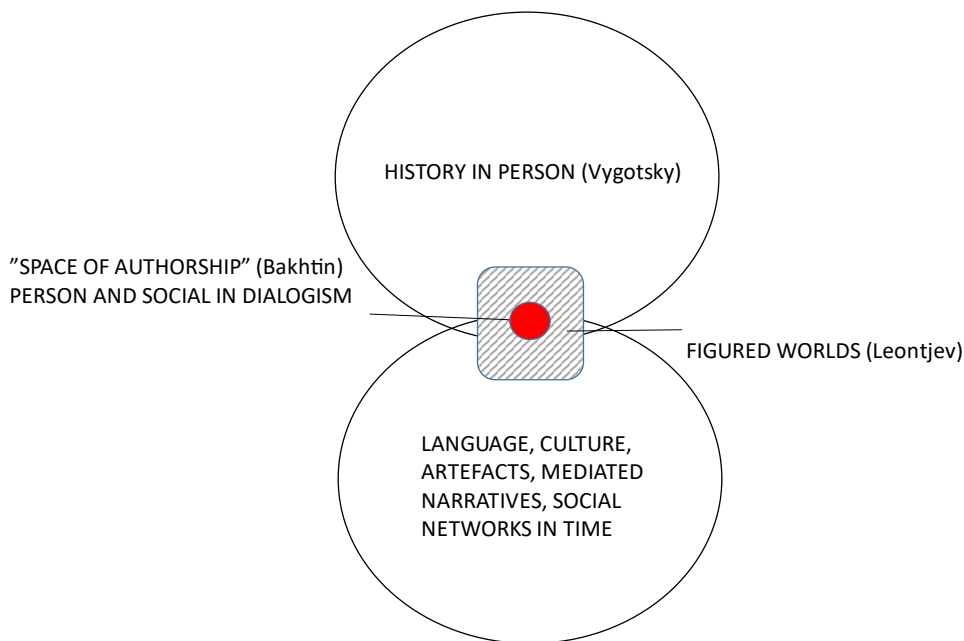
Figure 2. Storyteller's unique position to tell stories at the point of intersection between the storyteller's own life and sociocultural history of humankind.

Thus, the individual point of view is not sufficient in the epistemological explanation of narratives because stories are socially constructed. Storytellers obtain feedback from other participants, the facilitators and the organisers of the workshops, which means that knowledge is connected to these situations and, if repeated again, would end up as different outputs with different storytellers. When reading the results of *Studies I, II* and *III,* the uniqueness of narratives is the epistemological orientation and the context for evaluation of the generalizability, validity and reliability of the results. Narratives provide a unique perspective on the lives of people and communities. Like a photograph, the stories document a moment of life in a certain

socially restricted context. The digital storytelling workshops provide the structure, facilities and theme for storytelling, but otherwise, the participants can express themselves freely like an artist with their own words, motives and, of course, own restrictions, too.

3.2 Settings and participants

Study I

Studies I and *II* refer to the same research context and were part of a development project in a bank and insurance company. The overall aim of the two-and-a-half-year staff development project was to improve customer services and interpersonal and management skills. The company allowed the participants to document their meaningful experiences at the end of the development project. For this purpose, the human resources team chose eight employees to participate in a DST workshop (*Studies I and II*). The meaningful experiences of the stories differed from person to person because the participants had control over their stories, which is aligned with the criteria of participatory research.

The DST workshop started with a collaborative story circle and continued as personal script writing and editing facilitated by Satu Hakanurmi and a professional photographer who gave advice about visual storytelling and technical solutions. One of the eight storytellers did not give their permission to use their story as research data. Therefore, *Studies I* and *II* explored the research data of seven employees. In *Study I,* this included seven personal interviews and the discussions of the story circle between eight people. In *Study II,* the research data were seven digital stories, with each story lasting approximately three minutes and consisting of a spoken storyline and photos.

Study II

For the analyses, the visual data and voiceovers of the digital stories were transcribed into texts and pictures (seven scripts, 116 pictures). Narrative analysis of the digital stories provided a rich source of information about how past events (iterational), current discourses (practical-evaluative) and future perspectives (projective) influenced work agency. Regarding the narratives, the storytellers explored their own lives and configured meanings from them while documenting agency enhancement in various situations at work. All seven stories were analysed, and three were chosen for a more detailed description as typical examples of different modalities in agency enhancement. The authors of *Study II* agreed that the chosen three stories comprehensively worked as samples that could enlighten the modalities,

and excerpts from the stories allowed the reader to get a sense of the narrative analysis and evaluate its validity. The different attributes of all seven stories are displayed in Table 4 of *Study II*. Together, these choices enabled deeper analysis.

Study III

A three-credit-point (81-hour) staff training course, *Video Stories of Sustainable Development*, was held at the University of Turku in the spring of 2021. Of the 10 participants, one did not consent to being interviewed. All the participants were women, and all except one were simultaneously studying the 60-credit-point university pedagogical studies programme. Three were university teachers. The rest were researchers or had other positions at the university, including teaching duties. Participant ages varied between 30 and 59 years, while teaching experience ranged from 1.5 to 20 years. The participants' backgrounds in sustainable development varied based on their earlier or current work. Three participants worked or had worked in industries regulated by environmental legislation. The participants in a researcher position (n=3) reflected on sustainable development when preparing funding applications for the Finnish Academy or supervising their students' master's theses. Participation was voluntary, and the principal motives for attendance were to learn video production and develop ideas for education for sustainable development. A majority (8/9) of the participants assessed their own skills as video makers as non-existent. The participants represented different faculties, thus providing a multidisciplinary forum for discussions of sustainable development. The first part of the course oriented participants towards the goals and pedagogical models of sustainable development. During the second part, the participants collaborated to produce their own digital stories that were facilitated by the teacher support unit. Using the preliminary assignment and self-study materials, the participants were asked to tell a personal digital story about sustainable development as part of their work. Each participant made a stricter circumscription independently. Digital stories documented the teachers' own positioning in the promotion of a sustainable future.

3.3 Procedure

3.3.1 Digital storytelling

Digital storytelling is regarded as both a method and movement to give people a voice through devices such as tablets, computers and mobile phones (Kaare, 2012). DST is an approach to individual and community stories told with authentic voices and digital technology (Lambert, 2013b). Digital stories are short (average two to three minutes), visually mediated narratives created by individual storytellers,

usually with the support of a group or community. Stories include multimodal meanings because they consist of voiceovers, photos/videos, sounds, transitions and movement.

As a practice, digital stories are participant-generated autobiographical films (Li, 2007). Stories do not exist as ready-made narratives in our minds but are subjectively told under the influence of the specific context and audience. In narratives, life is described in the way that storytellers want it to be seen. Self-presentation has certain functions, such as persuasion and communication, and certain motivations, such as the reputation of the individuals, colleagues and organisations involved (Goffman, 1959). When storytellers explain their identities to each other, they exercise transformative power, and the simple format of digital storytelling leads storytellers to construct personal narratives with the shared and collective values of a community (Kaare, 2012; Lambert, 2013a).

When research data consist of digital stories, as in *Study II* and partly in *Study III*, it needs to be recognised that visuals hold a great deal of meaning in addition to the text. Together, these two elements form a multimodal data additive (Baldry & Thibault, 2006) — that is, different kinds of meanings are attached to the same artefact. Hull and Nelson (2005) argue that this idea of entity as being different from its components is the most crucial conceptual tool in understanding the workings and meanings of multimodal texts. A multimodal text can create a different system of signification, which transcends the collective contribution of its constituent parts. Different resources are analytically but not constitutively separable in actual texts (Baldry & Thibault, 2006), which motivates analysis of the multiplying effect. Separating various resources into modalities is an analytical abstraction. The text and visuals can convey the same meaning, but they can also have different focuses. The picture can simply visualise the story in an iconic way, or it may anchor new meanings at symbolic and metaphorical levels. The multimedia toolkit uses both the written and visual meanings of the data, while the verbal text can broaden or curtail while focusing on the meaning of the visuals.

The interpretation of visuals is also a culture-specific issue (Kress & Leeuwen, 2006). Individual stories also narrativise the experiences in the social category to which the individual belongs rather than by telling the particular individual's story; in this sense, the individual stories display collective stories of communities and organisations (Elliott, 2005). The results of *Study I* saw narratives produced with individual perspectives but as coauthored and as the joint product of the narrator and listeners. In *Study II,* individual stories were embedded in large-scale cultures of the business organisation, and in *Study III*, the individual stories have provided a holistic picture of the ongoing discourses and positions the university teachers have in education for sustainable development.

The data collected from interviews in *Studies I* and *II* were classified according to the units of analysis used and classified according to the results. The digital stories as research data in *Study II* were the most challenging. After numerous experiments with different methods of narrative analysis, the social interactional analysis and multimodal transcription and text analysis together made good use of the visual stories as research data.

The analysis of digital narratives in educational sciences provides new possibilities in addition to traditional forms of narratives. As research data, visual narratives require the reading and interpretation of visual montages separately and parallel with written materials. Multimodal analysis highlights that pictures convey meaning in a different way than language. The meaning in images is apprehended by the viewer in accordance with an ordering principle that is spatial and simultaneous, whereas language is organised and apprehended temporally and sequentially (Hull & Nelson, 2005, p. 229).

To research material like digital stories, the suitable methods of analysis are qualitative and come from narrative research, semiotic research or media studies. The rationales for methodological decisions are based on the quality of materials and research questions in the field of educational sciences.

3.3.2 Narrative analysis

The narrative turn in social and educational sciences that has occurred since the 1980s has meant an increase in the amount of narrative research; simultaneously, the approaches in narrative analysis have diversified (Elliott, 2005; Holstein & Gubrium, 2012). Common for narrative research settings is the suggestion that by telling, subjects make sense of and impart meanings about themselves and their actions, experiences and feelings, events in their lives and the social context (Elliott, 2005; Vähäsantanen, 2017).

Narrative research refers to a diversity of topics, methods, analysis and theoretical orientations, and here a researcher is committed to presenting and justifying the chosen perspectives, analytical methods and empirical materials as dependent on each other (Holstein & Gubrium, 2012, p. 6). From the study of the narratives as such, the research focus has been transferred into social connections of the storyteller and listeners and into the practices and processes of storytelling in communities, organisations and different cultures.

Increasingly, contemporary narrative researchers have viewed stories as conditioned by social context, discursive resources and communicative circumstances, which may include large-scale or group culture, organisational or institutional settings and formal and informal interpersonal relationships. In this way, we can approach narratives as interpersonally dynamic, produced in social

interaction for specific audiences and orienting to particular purposes immediately in a workshop or later for other audiences (Holstein & Gubrium, 2012). Common for all theoretical orientations is the interest in hearing and examining individuals' unique experiences, thoughts and acts in the form of different narratives. Narratives are one way of knowing through tighter or looser connections to the narratives of other people or to the data collected otherwise (Kullaslahti, 2011). Narratives are at the one side of knowing, while big quantitative data are on the other side. They are both needed, and narratives tell us how individuals experience the system, while statistics tell us how the system experiences the individual (Hardy & Sumner, 2014).

Narratives and stories are often used as synonyms. A central quality for them is meaning-making through the structure of a plot. Instead, a story or narrative without any meaningful plot is seen as a chronicle or just noise (Czarniawska, 2004). Another way to define narratives and stories is to see them as discourses with a clear sequential order that connects events in a meaningful way for a definite audience, thus offering insights about the world and/or people's experiences (Hinchman & Hinchman, 1997, pp. xii–xxii).
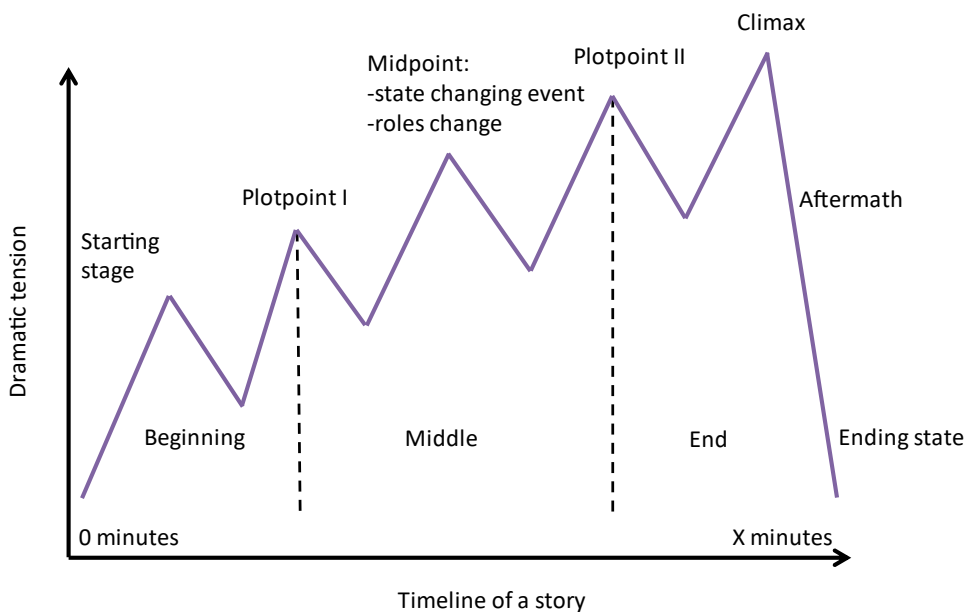

Figure 3. Dramatic structure of a narrative or story (Modified from Hakanurmi & Kantola, 2020, p. 92).

Narrative research provides a suitable method for the exploration of identity, agency and positions. When examining identity, agency and positions, we are interested in

gaining information of the subjects' reasons for their actions, meaning-making, aims, values, social contexts and previous experiences. To get this information, the observation of behaviour is not enough; instead, we need to hear the inner speech of the individuals. Narratives are tools used to outline human life and direct subjects' future actions (Hänninen, 1999). In identity research, researchers often use narrative methods. According Brockmeier (2015), narratives are the representations of identities, whereas storytelling is a meaning-making tool for constructing identity; here, we can say that narrative is the language of our identity. Similarly, the agency and positions as inner speech connected to persons' social reality were studied with narrative data and narrative methods. The research methods of each study will be explained in the following chapters.

Table 1. Overview of the methods used in *Studies I*, *II* and *III*.

	Study I: Learning to Work Through Narratives: Identity and Meaning-Making During Digital Storytelling	Study II: Digital Stories Representing Agency Enhancement at Work	Study III: University Teachers' Digital Stories of Sustainable Development: A Method of Learning to Teach
Tools for data collection	• Case study • Interviews • Group discussion	• Participatory research method with digital storytelling	• Case study • Interviews • Participatory research method with digital storytelling
Data	• 7 interviews • 1.5-hour group discussion	• 9 digital stories	• 2 x 9 interviews • 9 digital stories
Time of data collection	• Spring 2013	• Spring 2013	• Spring 2021
Methods of analysis	• Narrative analysis according functions of episodes, forms and time scales of narratives	• Narrative analysis through a SIA • Narrative analysis with multimodal transcription and text analysis	• Qualitative content analysis with features of narrative analysis

Study I

Content analysis of the individual interviews and group discussion of the story circle were analysed according their stage as ante-narratives, open or closed narratives. From the group discussion, the comments were analysed to determine whether they were facilitating or inhibiting the discussion. Comments like activating new constructs in line with the previous direction and confirming that the previous direction was correct remained the same and became stronger during the episode.

Returning to the previous discussion and changing the direction of the discussion interrupted the previous discussion or stopped the previous discussion without following a new discussion. All comments were classified according to their functions of discussion episodes, as described previously (Iiskala et al., 2011). In the study of the comment's time scale, they were classified according to comments of the past (then and there), comments of the current time (here and now) and future-oriented comments (next in future).

Study II

Elaboration of the digital stories followed multimodal transcription and text analysis, and both the visuals and the script were analysed. From images and videos, the researchers described the icon, index and symbol separately and together with the script. From all the digital stories, three stories were chosen as examples of each of the three categories in the agency enhancement.

The social interactional approach to narrative analysis (SIA)

The context-based narrative analysis of SIA can capture the narratives embedded within local discursive and sociocultural contexts. SIA represents a new turn in narrative analysis and can aid in focusing on social theoretical concerns, here in contrast to the typical structural- and content-based approaches (De Fina, 2015; Squire, 2013). SIA considers narratives to be relational, discursive activities enmeshed in local business through which the storytellers perform numerous reflections. Local meaning-making activities connect with social processes through negotiations, where individuals' positions and roles connect them to the wider social space of society (Fina, 2008). It is logical to investigate agency from narrative data because critical narrative pedagogy (Goodson & Gill, 2014) finds connections between individual narratives and the development of agency. Storytellers manipulate two kinds of self-presentations: an epistemic self, which represents the narrator's beliefs and convictions, and an agentive self, which presents an acting person in the story world (De Fina & Georgakopoulou, 2015). In personal narratives, the storytellers choose, prioritise, highlight and overlook different experiences of meaningful periods and locations of their autobiographical remembering. Through these negotiations, storytellers enhance their future agency.

Narrative analysis with multimodal transcription and text analysis

Although visual narratives have historically played a minor role in educational research, it is necessary to explore this method in detail. First, pictures do not convey

meaning in the same way that language does because their respective meaning-making affordances are different and the meaning in images is apprehended by the viewer with an ordering principle that is spatial and simultaneous (Hull, 2005). As sign makers, storytellers represent objects defined by what is interesting to them (Baldry & Thibault, 2006; Cachago, 2015), and the photographs used in digital stories carry a deeper understanding of the underlying assumptions, predominant cultural beliefs and implicit thinking of the storytellers. Second, pictures represent concrete icons, but they may also refer to symbols and metaphors. Reading images looks beyond the obvious denotations from a culturally sensitive perspective. With one symbolic picture, the storyteller can make the listener understand several things without naming them. Visuals like landscapes or abstract pictures express things that are difficult to verbalise, such as emotions. With synecdoche, it is possible to represent things with parts of the whole, such as a foot representing the whole person or a flag representing nationality. Likewise, verbal images include metaphorical expressions; here, a picture can convey an idea through a metaphor (Löfström et al., 2015). Abstract ideas and concepts become comprehensible through the use of images or metaphors. Metaphorical storytelling is typical in documentaries and can play a central role in a script or in visual details. With metaphors, storytellers can transform meaning from one context into another.

Study III

Data were gathered for *Study III* during nine interviews conducted before (approximately 50 minutes) and at the end of (40 minutes) the course *Video Stories of Sustainable Development* as well as the digital stories produced by the participants. Satu Hakanurmi did the course design, taught part of the course and conducted all interviews. The first interview addressed sustainable development in a university context; the second focused on participants' reflections on the learning process in general and experiences in learning with digital storytelling. The researchers watched the produced digital stories together. All interviews were transcribed verbatim and read by all the writers. The interviews were analysed according to positioning theory (Bamberg, 1997), here by using the methods of qualitative content analysis and features of narrative analysis; the results of the analysis were agreed upon by all the writers. Bamberg's (1997) positioning theory provided a sound theoretical background to analyse the interviews and digital stories both separately and together as a continuation of storylines that described teachers' identities and positioning in the area of interest, here in three parts: 1) how they positioned themselves as teachers of sustainable development before the course; 2) how they positioned themselves regarding the audience in their digital stories; and 3) how they positioned themselves as teachers of sustainable development after the

course. Themes formed according to Bamberg's (1997) theory were tested by all the writers, and discrepancies were discussed in the research group's meetings (Bamber 1997a, 1997b).

3.4 Ethical issues in data collection and data analysis

There are several ethical issues when the research is based on people's told personal experiences and identities (Elliott, 2005; Hänninen, 1999; Riessman, 2008). The ethical principles of the research covered both digital storytelling as a process and research ethics.

Throughout all the studies, consent was asked from all participants who produced content and for data for the research as digital stories or in interviews. It was possible to leave the digital storytelling process or the research process or to deny the research use of one's own story; three participants took this option. The participants were also well informed about the research at an early stage of the digital storytelling workshops, and the participants received both an oral explanation and written message together with their consent. The consent included information that Satu Hakanurmi, as the researcher, together with her supervisors, were allowed to use the data.

The analysis of the data and results were reported in a manner aimed at securing the anonymity and privacy of the participants. The transcribed interviews were reported with pseudonyms, and faces were blurred from visuals. In articles, the minimum amount of background information was given to the participants because the number of people in each substudy was below 10, so it might have been easy to identify individuals by those who knew the workshop or course.

3.4.1 Ethics of digital storytelling

In practices of digital storytelling, the facilitator of the workshop has several ethical principles to follow. When producing and publishing personal life stories with visuals, there are risks to harm the storyteller or other persons involved in the stories. Doing good and doing less harm are valuable principles, especially when working with children, but also with adult storytellers. The telling subject is respected in all phases of the process, and the facilitator and group are there only to support the storyteller's own independent choices. The facilitator has an expert role in copyright and privacy issues, as well as in facilitation, which guarantees the quality of both the production process and outputs (Hakanurmi & Kantola, 2020; Lambert, 2013a).

4 Overview of the Empirical Studies

4.1 Study I: Learning to Work Through Narratives: Identity and Meaning-Making During Digital Storytelling

This study provided insights into organisational storytelling, narrative learning and identity work in a sociocultural context. In particular, the meaning-making process during the story circle was studied, including what the single participant felt and learned through digital storytelling and how the social aspect influenced the individual one. The second set of interest was to observe how participants reflected on the past, present and future while storying.

After a staff development project lasting two and a half years, the employees produced digital stories concerning their meaningful moments at work. At first, it was 11 people who gathered together in a 1.5-hour-long story circle to discuss seven stories for 12 minutes each. The transcribed group discussion of the story circle dialogue was analysed in terms of how the participants' contributions promoted the construction of narratives as being either open, closed or ante-narratives, when communication allowed the coauthoring of narratives, collaborative meaning-making and negotiation of identities. Another analysis was done based on time scale regarding whether the speaker of the story was using then and there (past), here and now (present) or next in future (future).

The narratives provided a rich forum for learning. Moreover, they enabled individual identity work to be carried out while renewing the values and practices of the work. The story circle as a social practice within DST supported the coauthoring of narratives and was also a rich source of data when seeking to understand both the individual and collective learning processes. Interdiscursive groups can provide a forum for joint constructive meaning-making and commitment to find common ground on which to build a shared understanding (Palinscar, 2005). The data comprised transcribed discussions, but it was obvious that coauthoring was more than just spoken words. Laughing together, for instance, meant conforming to the narrative, belonging together as a group and sharing similar values.

Digital storytelling as an experience allowed an opportunity to reflect on one's own work and identity in a fruitful way. There was an emotional atmosphere that

was different compared with other kinds of trainings, which one participant described with greater feelings of intimacy allowing to tell things they don't usually tell to their colleagues. The emotional dimension became natural when things that would otherwise have been difficult to express became part of the stories with visuals. Without the visuals, the storytellers thought an important and powerful aspect would have been missing and that the whole workshop was an emotional learning environment partly because they could use visuals.

Based on the analysis of story circle discussions, the storytellers presented three types of narratives: closed narratives, open narratives and ante-narratives. Closed narratives were finished stories and open narratives were about to find their narrative form. Ante-narratives are attuned to prospective, future-oriented, way of sensemaking and they are like travellers and morph their content from context to context (Boje, 2001, 2008). The narratives were at different stages, and the quality of the coauthoring varied. Coauthoring was heteroglossic, and the participants' comments connected to each other differently—either facilitating or inhibiting discussion (Koven, 2007).

The story circle discussion included a total of 448 comments that were analysed according to their function, that is, whether they intended to facilitate (activate, confirm) or inhibit (slow, change or stop) the discussion. The closed narratives concentrated on individual re-evaluation of the experience. In the story circle, the stories were presented already in a narrative form, with a sequence of events and meaning-making of the experience. Open narratives instead gave space for social meaning-making. The stories had a theme, but they did not have a clear plot. The collaborative storytelling process was creative, and reflections were shared in social interactions. Discussions provided different options for the story, but simultaneously, the participants were able to identify with the storyteller. The reflections opened aspects that the storyteller had not thought of before. Ante-narratives left space for the renewal of the identity with the support of coauthored meaning-making. When the narrative was in a stage of discontinuity, the discussion had multiple changes as new beginnings, points of view, examples and suggested visuals, especially when the participants tried to define the identity of the storyteller's unit as a part of the organisation. At times, it was hard to determine who the primary storyteller was because everybody had their own experiences of this unit and their role. The value of the storyteller and their unit became visible in the story circle, and afterwards, the storyteller created a story about the role of their unit and the responsibility of each individual as a user of information and communication technology.

The analysis of the time scale used in the story circle revealed the connection between narratives and identities and the identity work that the narratives clearly promoted. There were fewer comments of the past (then and there), while most

discussion was around the here and now, with the future being equally present in the reflections. Instead of stories of the past, they defined the future and had a future-oriented mindset, which is natural during the storytelling process. The discussions covered aspects like how one's identity is now and what their identity will be in the future; this provided a basis for agency with an impact on practice. A sense of coherence was represented when the past, present and future were described and reflected on together.

Narratives and coauthored storytelling initiated identity work and agency enhancement and renewed values and practices of work. Besides individual processes, the story circle as a social forum supported the coauthoring of narratives and was a rich source of data when the aim was to understand the meaning-making of the individuals and community. The core of the narrative was social; this was found to be the added value of digital storytelling for learning purposes. At the stage of 'open narratives' and 'ante-narratives', the story circle and discussions challenged existing identities and enabled the discovery of new aspects. Coherence increased when coauthored discovery was allowed as part of the process, which included more than just spoken words like laughing together, being embarrassed, questioning things and so forth.

4.2 Study II: Digital Stories Representing Agency Enhancement at Work

Organisations are constantly seeking new tools to develop their employees' expertise; here, the issue of agency has grown in importance in light of recent expectations for continuous learning and innovativeness at work (Eteläpelto et al., 2013; Goller & Paloniemi, 2017). This study on agency enhancement at work in a business organisation was based on narrative inquiry. The objective of the research was to identify employees' sense of agency and how to enhance this agency. Through social interactional approach (SIA), multimodal transcription and text analysis, we examined how agency was enhanced according to the narratives.

Three modalities were identified in the workers' agency enhancement: agency under sociocultural structures, transformative agency connected to the employees' values and situational agency enhancement in everyday work practices. Each modality used selected iterational elements from the past, practical-evaluative elements and projective elements of a unique life story. Even though the three modalities are presented separately, there are overlapping elements. Successfully exercised agency was found to involve a combination of sociocultural, transformative and situational drivers in which conflicts, training and different experiences trigger the processes of agency enhancement.

Clearly, according to the stories, agency at work was multidimensional and complex. Everything was connected: friends outside work, hobbies, epistemological values and the competencies needed at work. Different experiences provided metaphors for professional agency. Crafted agency encompassed various experiences and metaphors depending on the employee's own life history, which supports Fisher's (2000) statement that exercising agency is not restricted to workplaces or educational settings (Fischer, 2000). A rich life filled with different people and experiences outside work also could promote agency enhancement, as does avoiding scrutiny, having new challenges and choosing unforeseen options at work.

The most obvious finding to emerge from the analysis was that there were different time frames in agency enhancement; the sociocultural modality took the longest time and developed in the long run. Transformative modality also needed time and reflection to develop. The fastest track was situational modality, in which even single events could have a major impact on work practices and a sense of agency. In customer service, for example, some situations can immediately break the ideal narrative of customer service, hence increasing the employee's need to control their own work or even forcing them to quit.

Even though agency can be seen as socially determined through social factors, such as family background and gender, it was only seen as one prerequisite for professional agency. Individuals' own actions, choices and narratives were also found to be meaningful. The pool of experiences connected to employees' agency enhancement was wide, and personal, local and sociocultural experiences were all used as building material in narratives. The role of coworkers and other people in employees' everyday lives was mentioned in many stories, which is a topic in need of further study.

Agency enhancement involved the incoherency between present cognitive models, attitudes and practices of work compared with inner or outer expectations. Employees used lifelong experiences in their digital stories, which provided a rich source of data, including visuals and transcripts, hence offering a unique vantage point for narrative analysis. These digital stories revealed the sociocultural, transformative and situational modalities of agency enhancement, as well as the relationship between epistemic selves and sociocultural bindings in the reforming of agency.

Storytelling made the employees reflect on their past iterations, make practical-evaluative judgements and build new trajectories for their professional agency. The employees' agency was continuously fine-tuned, and the main thing for the employees was to know where to direct their attention and what to attempt next, despite their past experiences. Personal choices were seen as a way out of certain

restrictions, whether these were sociocultural, connected to the epistemic self or work practices.

The study confirmed that the projective element of narratives can make them suitable for personal agency negotiations. The narratives offered a reflective forum in which it was possible to overcome restricting sociocultural factors, such as gender, failures and feelings of incompleteness; these narratives represented processes of the inner mind and the activation of optional futures in professional agency.

An interesting question is how to enhance and reform the agency of individual employees. Traditional methods have been to let employees express their own professional interests (Vähäsantanen, 2013). Different types of training, events and coworkers' support all had a place in these stories of agency enhancement. Additionally, organisational policies and practices in the equal treatment of various employees can enhance agency, despite sociocultural qualities such as race and gender. This may happen by sharing different career stories that break stereotypes and broaden expectations by providing peer support for different groups that may underestimate their possibilities and capabilities at work and also by building equal possibilities to collaborate in multiprofessional groups to build relational agency. Creative methods can offer more channels for reflecting on personal values in a fresh and encouraging way (Hakanurmi et al., 2021).

4.3 Study III: University teachers' digital stories of sustainable development: A method for learning to teach

To help teachers teach sustainability more effectively, we needed more knowledge about both their understanding of suitable pedagogical methods and their own positioning regarding sustainable development. This qualitative research focused on how teachers saw themselves as educators of sustainability and how they experienced creative methods, such as digital storytelling, in supporting their learning.

Interviews were carried out with nine university teachers during a staff training course on sustainable development and how this subject would be best taught and learnt. The findings have indicated that teachers' positioning regarding the teaching of sustainable development varied according to their discipline and their understanding of its four dimensions: ecological, social, economic and cultural. Digital storytelling proved to be a promising method for supporting holistic learning and teachers' self-positioning regarding education concerning this complex domain. However, some restrictions existed in relation to resource-taking and teachers' need for additional support.

The findings of this study have important implications for future practice. Providing knowledge and information about sustainable development was obviously not enough for either the teachers or students. The aims for education for sustainable development described in theories like the bicycle model call for a method that allows for a holistic reflection of values, worldview and identity (Cantell et al., 2019). Combining knowledge and reflection on teachers' own values and positionings produced multiple storylines by means of digital storytelling, which enabled a discursive practice and interactional contingencies. Even loose and distant connections between the participants' own work and sustainable development transformed into positionings that they could translate into their work towards sustainable futures. Similar processes have been important in academic studies where, in parallel with specific learning outcomes, the aim is to educate professionals to fully realise their role in building a better world according to all sustainable development goals (SDGs).

This study revealed that the teachers had quite limited views of sustainable development before the course; however, after learning about the four dimensions of sustainable development both personally and collaboratively in narratives, they could conceptualise sustainable development more broadly in relation to their own discipline and their work as teachers (Bamberg, 1997a; Clandinin & Connelly, 1987; De Fina, 2015; Deppermann, 2015). Their personal relationship to sustainable development and listening to others' digital stories taught them various ways to think about sustainable development.

As a method of learning, digital storytelling was regarded as a decent practice in higher education but with some restrictions. It proved to be successful for teaching a complex domain, such as sustainable development, in a multidisciplinary context (Jamissen & Moulton, 2017; Kaare, 2012; Lambert, 2013a).

A course in digital storytelling was a concrete way to teach the teachers a new method. When implementing digital storytelling in their own teaching, the teachers needed additional support in pedagogical, narrative and technical matters. Digital storytelling became a resource-taking activity that could restrict its use in academic teaching. However, creative and innovative teaching methods have been welcomed when the learning outcomes dealt with values, identity or agency, as in the tree model or bicycle model (Cantell et al., 2019; Palmer, 1998). Simply reflecting on experiences might not be enough; a wider knowledge base is necessary at all phases of storytelling, together with collaborative reflection of experiences and meaning-making. Transformative learning of sustainable development learning means deep, personal, collaborative and holistic reflection, including all dimensions of sustainable development (Anderson, 2017; Mezirow, 1991).

The digital storytelling process during the course was a matter of gaining sufficient insights into the purposes and practices of other disciplines to better enable

collaboration in the future (Edwards, 2011, 2017; Edwards et al., 2010). However, the participants appeared to have no plans to continue collaboration afterwards or build relational agency in practice. The lack of willingness to collaborate and, thus, practice relational agency requires further research. A common challenge for university teachers is to consider a sustainable development perspective in their own research and teaching, as well as in other university practices. Positioning one's own teacher identity offers a sound background for teaching sustainable development. As a whole, the university can best teach sustainable development when teachers are equipped with the identities, knowledge and methods necessary to educate new generations.

5 Main Findings and the Discussion

The aim of the current dissertation was to examine the learning that narratives—especially digital storytelling—enable both for individuals and for groups and communities. The perspectives the present dissertation included were 1) the quality of storytelling during the story circle discussions, 2) agency enhancement represented in digital stories of work and 3) digital storytelling as a method of learning sustainability.

5.1 Learning with narratives and digital storytelling

Overall, the results of *Studies I, II* and *III* are in line with earlier research that digital storytelling supports identity work, agency enhancement and positioning. It is a suitable method to use as part of higher education pedagogy and learning at work. It furthers the overall well-being of storytellers when they find coherence in front of new challenges and sociocultural expectations. In line with earlier research, the essential role of storytelling is its ability to promote future thinking. In perceiving the future agency, individuals and groups use elements of past events and selected memories that fit for the audience and context. There is a constant social interplay between the storyteller and their inner speech and between the storyteller and audience.

In *Study I,* the myth of purely individual storytelling was questioned when social and personal meaning-making intertwined, especially when the stories were still at the stage of open narratives or ante-narratives. We do not carry fixed stories and narratives in our minds, but narratives are, to a great extent, coauthored, and the feedback and comments from others always impact our individual stories, as well as those stories that maintain development of work practices. Strong feedback also takes nonverbal forms, such as laughing and being confused together. For learning, the individuals' reflection is essential, but also, collaboration in storytelling has an important role both for individual narratives and the narratives of communities. In learning and working, we need to tell stories because doing so provides a natural environment to reflect values, aims and agencies that form the basis of professions and work practices.

In *Study II*, agency enhancement was classified as sociocultural, transformative or situational, which can overlap with each other but can also be seen as separate categories. In agency enhancement, the time dimension can extend from issues such as gender in childhood experiences (sociocultural modality of agency enhancement) to meaning-making of one's own work and the values it represents (transformative modality of agency enhancement) and to everyday situations at work that regulate immediate actions at work (situated modality of agency enhancement). Each of these modalities can further or limit agency at work and thus deserve forums for reflection.

The possibilities of storytelling in learning complex issues such as sustainable development became clear in *Study III*. The learning and teaching of multidisciplinary wicked problems benefitted from methods that were holistic, including interactions with different sciences and combining scientific thinking, values, identity and positioning within one's own organisation or community. The narratives provided a forum to be seen in one's own field of science and positioning in an acceptable way although in different sciences, sustainable development takes different forms. In pharmacy sustainable development means partly different things than in educational sciences, medicine, business and human sciences. Sustainability also impacts sensitive practices with other organisations, such as in competitive tendering with subcontractors and in medical practices of open science, to mention a few.

5.2 Digital storytelling as a method for learning and teaching

Digital storytelling in learning is clearly at its best during the process of storytelling (Hakanurmi, 2017). The story circle as a social practice supports the coauthoring of narratives and meaning-making with different facilitative or inhibiting activities. The core of narrative is social, and the more open participants and their stories are in the story circle, the more they challenge existing identities, enabling the discovery of new aspects. Storytellers make their individual choices when writing the syllabus and storyboard, but the verbal comments and experiencing the story together with the audience is always a unique situation and leaves marks on the stories. To laugh together during somebody's story conveys strong signals of acceptance and encourages the storyteller to continue, here compared with slowing or changing the topic, which inhibits the story and makes the storyteller rethink the elements of their story once again as part of facilitative dialogue.

For facilitators, it is important to understand that learning occurs while storytelling—not only when telling and listening to closed stories. The meaning-making is social, and it includes a reflection of values, both those in the past and future, in front of each unique audience, which is followed by renewed identities and

practices. Telling stories in a group helps storytellers perceive more and differently than when simply as individual reflection. The sense of coherence increases in coauthoring when individual experiences are heard and set under the social gaze; acceptance and meaning renewal also occur as a community or group.

To present fragile and unfinished stories leads to discovery; something new is born out of past experiences, and these are placed against future expectations. As a pedagogical tool, digital storytelling has connections to agency enhancement. It allows holistic reflection between work, one's own personality, life history and the yet unknown future. The visual elements of digital stories ease the expression of emotions, and things that would otherwise be difficult to verbalise are fluently described in photos or videos presenting the past, the meaningful moments or people, metaforas, artefacts or places. The visual aspect added more depth to the stories in an intuitive way, here with the feeling of intimacy and personal acceptance, because the individual became a person without their official position in the organisation. Storytelling and creative expression with visuals can result in reflection that combines different layers of time and identity. If only facilitated carefully and with enough time, digital storytelling is a method that has a lot to offer for learning. This method may not work in every situation but can be a valuable part of learning a profession or renewing of identity and agency. With an optimal time used for digital storytelling, the results of *Studies I, II* and *III* support Moon's (1999) research that digital storytelling is reflective or partly reflective instead of being a lower level of reflection.

Digital storytelling proved to strengthen collaboration in the interprofessional faculty groups, similar to research by Jamissen and Moulton (2017), who found that digital storytelling is a potential boundary object for promoting reflection and mediating interprofessional collaboration and the meaningful integration of disciplines, as well as being a potential means to mediate improved understanding and communication, together with signs of increased trust and shared tacit knowledge among the group. However, the personal digital stories faced some resistance when the storytellers chose a strong professional perspective. When university teachers had a plan to use their own story as a learning material, the professional perspective was preferred. Instead, when the story was free from the expectations of being a future learning material, the university teachers' stories included more personal, discipline-specific and holistic elements. It was through their own experiences that the teachers started to realise the possibilities of video making in learning. This was a revealing realisation for the teachers because the role of videos is often understood in education as sharing the knowledge the teacher has, in which teaching is seen as a transmission process of knowledge. Especially in sustainable education, where the aim is to educate professionals to fully realise their role in building a better world according to sustainable development goals, the

reflection needs to be holistic. The building of a sustainable future asks for methods that enable the reflection of values and agency; here, the teachers suggested that digital storytelling was suitable for this.

To conclude, DST was seen as a creative and innovative teaching method and welcomed when learning outcomes deal with values, identity or agency. However, when implementing digital storytelling in higher education or development projects, teachers or trainers need additional support in pedagogical, narrative and technical matters.

5.3   Identity and agency represented in narratives

The reformulation of identity, agency and work practices is an essential process for employees and organisations when facing new challenges. Narratives provide a rich forum for learning, and they enable individual identity work and enhancement of agency. To tell stories is to renew one's values, aims and practices of work. Coauthored stories of work can renew the values, aims and practices of work socioculturally while offering a forum for future-oriented reflection, knowledge negotiation and knowledge-making.

A storytelling workshop or synopsis of a single story both provide a natural structure for reflection. The intention to tell activates the storyteller, and they reflect on the past in iterations, make practical–evaluative judgements and build trajectories for their professional agency. Agency has a future-oriented emphasis, even though it uses the experiences and memories of the past. We do not find narratives but rather make them describe the active role of the storyteller (Brockmeier, 2015) and of the learning potential of the narratives themselves. There is evidence that digital storytelling has the potential to promote a sense of coherence and a renewal of identities holistically. The current study confirms that the projective element of narratives makes them suitable for personal agency negotiations.

In further studies, the combination of 'future skills' and storytelling might deepen the understanding of how to use stories as a method for learning. A crucial question is how can we overcome restricting sociocultural factors, such as gender, failures and feelings of incompleteness and move towards emancipation and multiple optional futures. How can we activate optional futures in professional agency instead of remaining in the past, in limited agency, being stuck in disruptive narratives? Agency enhancement is a challenge for educational institutions and for work life because what people actually do is much narrower than what they can do because there are beliefs, rights and duties to act in certain ways (Harré, 2011, 2015; Langenhove, 2021). In the enhancement and reform of individual employees' agency, there are traditional methods available, such as different types of training, events and coworkers' support. The current dissertation supports the idea of

organisational policies and practices in the equal treatment of various employees, where employees can enhance their agency, despite sociocultural qualities such as race and gender. Creative and participatory methods, with digital storytelling being one of them, make different career stories visible and heard in a fresh and encouraging way.

To facilitate a sensitive storytelling workshop call for ethical standards in the implementation of workshops. Stories of work can, equally with happy endings, also take the form of a cynical or frustrated narrative. The circumstances and atmosphere for storytelling aim to strengthen the sense of employees' agency and ontological security, to promote well-being even when dealing with sensitive topics. This is possible when there are skilled facilitators involved in the process and when the whole process is designed together with human resources or the other similar counterparts in workplaces or educational organisations.

5.4 Theoretical implications

The current dissertation has theoretical implications regarding the understanding of employees' identity work, agency enhancement and positioning enabled by digital storytelling and narrative learning. The theory of narrative learning provides a relevant framework to develop creative and holistic learning methods using modern digital tools. Sensitive stories that enable transformative learning and agency enhancement benefit from well-designed learning processes and facilitation. The options for teachers are to acquire the skills needed in digital storytelling or work with supporting personnel or other teachers who are familiar with the method and technologies used. The later is often more realistic when considering the time needed to become a digital storytelling facilitator. The teachers still have a valuable role in the integration of digital storytelling into different subjects, sciences and contexts. For students or employees, a digital storytelling workshop offers a forum for the stimulation of identity and agency that will be remembered and can energise studies and working for a longer period. Essential here is to move from the limitation of agency to the promotion of agency and with this, there are a couple of obstacles when integrating storytelling into learning.

The difficulty experienced at the beginning of storytelling brings the storyteller close to conflicts, obstacles and inner protagonists, and to express this together with colleagues means that personal narratives open up to social coauthoring. The general resistance to working on critical conflicts is necessary because the expression of resistance may be the entry act itself, a point of orientation from which further learning can proceed (Kindred, 1999; Sannino, 2010). Closed stories require individual reflection, but to change existing work practices is to critically question the given norms and positions, as well as assumptions, that are usually taken for

granted within professional practice. Open and ante-narratives can develop in previously unknown directions, thus offering multiple perspectives on employees' lives and agency and, in this sense, making it possible to understand professional agency enhancement more profoundly.

To keep stories open for coauthoring purposes is to acknowledge the social dimension of digital storytelling. The presence and role of social interaction are an important part of narrative learning. When self-narration can be seen as a precursor of agency (Sannino, 2010), holistic narratives only obtain their form through social interaction. The deeper the interaction is socially, the more powerful impact it has on the agency of an individual. This key insight is similar to that of Biesta et al. (2011), where the social opportunities for narrating one's life story are vehicles for learning from one's life and action potential (Boje, 2001; Czarniawska, 2004). Narrative learning can be seen as a form of internal conversations and identity work, but dialogue with others is equally important. In processes that include elements of coauthoring, learning appears to be a continuing and ongoing iterative process. In practices of work, essential also are the connections to individuals' and communities' agency: What is acceptable in certain positions? Are there expectations to extend the borders of the profession or the whole organisation?

The agency at work is clearly multidimensional and complex. Fischer's statement that exercising agency is not restricted to workplaces or educational settings receives support from the findings of the studies in this dissertation (Fisher, Gerhard, 2000). The results support the idea of narrative learning, where learning for personal development and learning to be productive and employable are intertwined. A rich life filled with different people and experiences outside work also promotes agency enhancement, and personal life is connected with professional life: friends outside work, hobbies, epistemological values and competencies needed at work. Sociocultural, transformative and situational modalities of agency enhancement melt into one in storytelling when the accumulated past is reflected as a practical–evaluative element to reach a projective element of agency that mediates past understanding into future thinking and actions (Biesta & Tedder, 2006; Emirbayer & Mische, 1998). Sociocultural modality represents slow changes, while transformative and situational agency enhancements are agile, especially in times of critical conflicts.

To sum up, to promote holistic and conflict-oriented storytelling, social interactions as coauthoring and methods that allow representations of experiences with multilayered methods such as digital storytelling provide a rich and natural forum for identity work and agency enhancement in a participatory way.

5.5 Methodological implications

The purpose of the present dissertation was twofold: first, explore digital storytelling as a method for learning and, second, examine the role of narrative learning in the promotion of identity work, agency enhancement and positioning. Digital storytelling was a participatory method for learning and research in which the participants created their own digital stories. Both the storytelling process and content of the stories were examined. As research data, the digital stories were rich and simultaneously challenging content. In addition to the stories, the research data were gathered as individual interviews and from the group discussion of the story circle. The present dissertation has several methodological implications.

First is the need to critically reflect on the individualistic paradigm of social research. A narrative of the individual over the social is a big one of our time in Western culture. The group discussion managed to capture the coauthoring of stories and was a rich source when we tried to understand both the individual and collective learning processes. The story circle was an interdiscursive forum for social meaning-making. Analysis according functions of the discussion comments by Iiskala et al. (2010) fit the research question of social coauthoring of stories (Iiskala et al., 2011). Stories told to others are often heteroglossing, and participants' comments connect to each other differently—either facilitating or inhibiting discussion. However, it was common in the discursive space of participants' experiences that the story was based on the storytellers' own voices.

Numerous scholars with an interest in conversation analysis and ethnographic studies have criticised interviews as a mode of data collection, arguing that interviews are artificial and lack interaction. Based on this criticism, the one-and-a-half-hour group discussion of the story circle was added as a source of data. The analysis of the group discussion turned out to be a suitable method for researching the storytelling process and its social coauthoring elements. The coauthoring received a form and energy that made the social practice of human interaction visible. Based on the individual interviews, a similar kind of process takes the form of internal speech when storytelling occurs without a present audience. In a group discussion, the storytellers were constantly conscious of the social presence of colleagues, context and final audience of ready-made digital stories.

One critical reflection goes to transcribed research data of the group discussion, which lacked elementary parts of the narratives. In *Study I,* it became obvious that in co-authoring, the gestures and nonverbal communication like laughing together have an impact on the discussion regarding the facilitation or inhibition of the next steps and direction of communication. Based on this, future analysis of discussions might utilise video data, with the analysis concentrating on nonverbal clues of communication, too.

Second, the possibilities of visual stories in social research provide innovative and emerging options. Clearly, digital storytelling enables a participatory method with discreet channels to express emotions and tacit knowledge that, as written stories, would not be possible (Hakanurmi, 2017). However, to serve the research purposes, the digital storytelling process deserves careful planning, skilful facilitators and high ethical standards. Ethically, it is suspicious to organise a digital storytelling workshop under direct power conditions, such as the employer–employee relationship. In *Study II,* the main weakness of the research was that the context caused certain expectations for the storytellers. The storytellers knew that the whole staff of the organisation would see their stories. In different circumstances, the stories might have taken a more disruptive form, whereas in *Study II,* they had a positive atmosphere and agency was enhanced instead of being restricted or limited.

To analyse digital stories is challenging, even though visuals hold a great deal of meaning in addition to text. A multimodal text can create a different system of signification that transcends the collective contribution of its constituent parts (Hull, 2005). Although visual narratives have historically played a minor role in educational research, it is necessary to explore these method in more detail. Storytellers are signmakers, representations define what is interesting to them, and photographs used in digital stories carry a deeper understanding of the underlying assumptions, predominant cultural beliefs and implicit thinking of the storytellers (Cachago, 2015). The meaning is different when analysing written text only, text together with visuals and when visuals are analysed as icons, symbols or metaphors. The reading of images looks beyond the obvious denotations a culturally sensitive perspective. With one symbolic picture, the storyteller can make the listener understand several things without naming them. After all, the narratives are always only representations of experiences and reflect the personal and social in a specific moment. To clarify the many meanings of digital stories, the interviews of storytellers provided additional information. Yet in the multimodal transcription analysis, it might have been useful to ask about the visuals used in *Study II*, but this was difficult to organise after the interviews connected to this substudy.

The validity of visual stories is created through storytellers' personal choice of memories, moments and artefacts from the past and present, and at its best, the story is deep, which means that deep reflection of different agency modalities—sociocultural, transformative and situational—should occur. In this sense, a time-demanding method like digital storytelling works when there is enough time for reflection and a participatory focus is maintained in all phases of storytelling. As stories, they represent the moment of telling and are icons of their own time, here without a longer duration of evidence in other contexts.

5.6   Educational implications

Together, the results provide important insights into the role of narratives in learning with visual storytelling. Both narratives and digital storytelling enable individual identity work and agency enhancement while renewing the values and practices of work. Digital storytelling encourages combining the professional and personal, and through disorienting dilemmas, self-examination, recognition and planning a course of action, the new perspective is reintegrated into one's life (Merriam & Bierema, 2014; Mezirow, 1991). Apparently, the teachers of *Study III* regarded digital storytelling as a decent practice in higher education learning, with some restrictions on it, too. However, there are a couple of notions in educational practices that deserve further attention.

To achieve transformative learning and deep reflection, the preliminary planning of the digital storytelling process is essential. The preceding phase can include traditional learning methods like familiarising oneself with the content by reading materials, doing assignments or creative working with the camera, writing diaries or reflecting on experiences according to structured questions. There is the temptation to start video editing of the digital stories without preliminary steps; then, the individual reflection and coauthoring tend to have a minor role. In an educational context, the planning and implementation of preliminary work deserves emphasis. As *Study I* pointed out, the storytelling process has coauthoring elements with real listeners or the inner speech of storytellers' representing social expectations and positions. A suitable timing depends on the context, but for learning purposes, the aim is to include enough time to enable individuals' reflection and social interaction. These research results support John Dewey's statement that 'we do not learn from experience; we learn from reflection on experience' (Alhanen, 2013; Dewey, 1938). Many of the participants in *Study I* entered the story circle with narratives that were still in the phase of open or even ante-narratives. Group discussion was a process of coauthoring and occurred before the storytellers finalised their own stories. The timing of the digital storytelling process has a crucial role in educational purposes. There is no single model of how to organise the process, but there are essential elements that deserve time: individual reflection with suitable assignments and interaction and coauthoring with other learners, colleagues or facilitators.

As a creative method, digital storytelling is challenging for those teachers unfamiliar with narratives and video making. Teachers would like to get support to implement digital storytelling as part of their teaching. Successfully integrating the method into the curriculum also depends on the limitations of time. Based on *Study III,* the production of a digital story together with preliminary assignments was equivalent to the workload of essay writing or project work. Consolidating digital storytelling as a teaching method is challenging, and its implementation is not

spontaneous. Oftentimes, it remains as a teaching method only for individual teachers and without peer support.

Sometimes, the possibilities of digital storytelling are defined as belonging only to areas like cultural, social or educational topics, but it is possible to reflect the professional identity in all disciplines, such as faculties of technology and medicine, for example. There are also positive examples of how to integrate digital storytelling as a method to higher education; among successful actions can be scholarships in teacher training and kick-off seminars as a forum to share the teachers' own experiences in the use of digital storytelling in different faculties. Digital stories can also be included in students' project work, together with a theoretical review. With these kinds of actions, digital storytelling can spread as a teaching and learning method in higher education. The human resources department or teacher support services have a central role when digital storytelling is integrated into trainings, courses, development projects, service design, employees' well-being or agency enhancement. Digital storytelling as a method offers a fresh pedagogical tool to support meaning-making both individually and collaboratively in various contexts.

Table 2. The method of digital storytelling as a part of higher education suggests when to use DST, how to integrate DST into learning and how to organise DST.

WHEN TO USE DST?	HOW TO INTEGRATE DST TO LEARNING?	HOW TO ORGANISE DST?
Learning outcomes require reflection of:	Activate:	Organise, facilitate, encourage, provide technical support, give feedback and feedforward:
- experiences - emotions - values - identity - agency - multidisciplinary issues - holistic perspectives	- cognitive level & share information - emotional level & share values - behavioural level & share identity, agency and positioning of personal past, present and future	- preliminary assignments - a story circle - mini-lectures - a workshop - a premiere - self-assessment

In the time of wicked problems and the era of grand crises, there is a growing need for interdisciplinary collaboration instead of working separately inside each scientific field. Multidisciplinary questions such as sustainable development provide a forum for relational agency to develop and boundary objects for interactions along the digital storytelling process. Thus, the possibilities to act are not limited to individual people, but also depend on the mobilisation of what one could call 'the extended brain' of each person. Interdisciplinary coauthoring during digital storytelling widens perspectives. Although it is often stressed that people have remarkably powerful brains that allow language, advanced motoric skills and

creative thinking, this is only part of the picture (Langenhove, 2021). People can maximise their possibilities by using the brains of other people and in order to enable this we need to understand inner speech of different professions and disciplines.

5.7   Directions for future research

The results of the present dissertation raise new research questions for future studies and suggest development in narrative research when conducted with visual storytelling methods. Educational research has an enormous role in promoting inclusiveness, addressing grand challenges, breaking through disciplinary boundaries and spurring innovation both in working life and higher education (Shi & Coates, 2021). Besides the learning of knowledge and skills, each generation, community and workplace builds their own identity and agency according to current challenges, expectations and values; this is an essential part of learning and working. The ongoing changes take place in the social interactions between individuals, professions and cultures. Especially during times of crisis, individuals and organisations find resilience. Here the identity work enhances the agency of individuals, groups and communities and there is a need for sharing of values and future thinking in higher education institutions, workplaces and communities. This can take the form of value discussions, interdisciplinary collaboration, multicultural collaboration and processes utilising creative methods such as digital storytelling, offering a forum for holistic reflection.

For future research, the role of creative methods as part of learning at work and higher education studies is interesting. What are the circumstances, aims and topics where creative methods clearly have additional value for individuals and groups? Further, how much of identity work and agency enhancement is possible to facilitate by teachers, and what is the role of informal collaboration and communication between students if they are only allowed to meet and interact with each other?

Studies I, II and *III* did not cover the experience of watching digital stories as part of the teaching and learning. Connected to this are the practices of how to archive and use the produced digital stories in ethically and educationally reasonable ways. There is a need to develop dissemination strategies and use interactivity and social networking (Hartley & McWilliam, 2009).

Social reality is invisible, and it is constituted not only in the talks because the narratives and storytelling are also a method in making the invisible inner speech and social production practices visible and heard. As Lagenhove (2021) formulates it, '… the material substances associated with social phenomena can be seen like we can see the buildings of a university, but we never can "see" the university as a functioning social entity without being involved in some sort of conversation'.

Digital storytelling is able to capture socially constructed lived realities and is a relevant method in the future of educational practice and research.

To obtain the most out of digital storytelling, we need more research about the method in different learning contexts. The data of *Study III* was gathered during the lockdown of COVID-19 pandemic, but it seems the online workshops succeeded in story circle and in editing the videos. Also, in the data collection of *Studies I* and *II,* the method was fixed for busy business people and succeeded in engaging the participants in a way that nobody dropped out. Future research can show the limits of how creative we can be with the method of digital storytelling without losing its added value in learning and teaching.

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