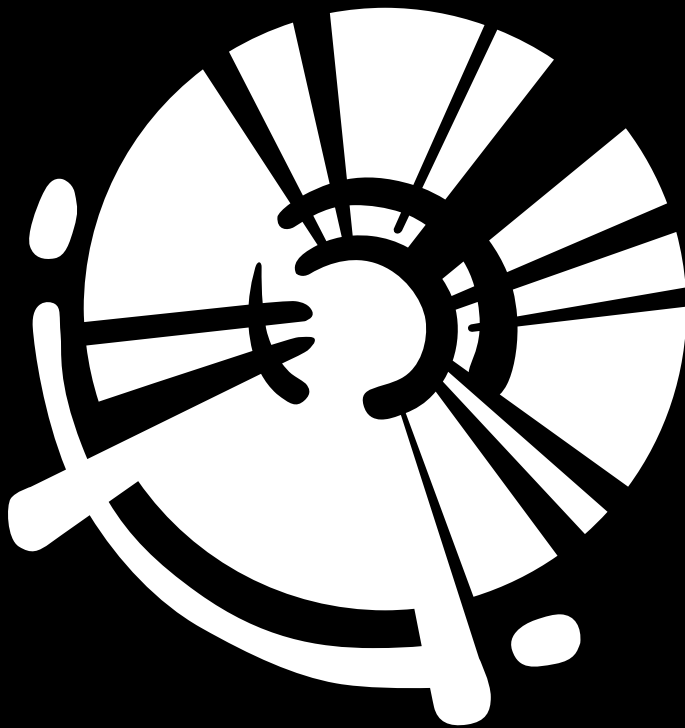OUTI LAITI

# OLD WAYS OF KNOWING, NEW WAYS OF PLAYING —

## The Potential of Collaborative Game Design to Empower Indigenous Sámi

OUTI LAITI

# Old Ways of Knowing, New Ways of Playing — The Potential of Collaborative Game Design to Empower Indigenous Sámi

Academic dissertation to be publicly defended with the permission of
the Faculty of Education at the University of Lapland
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*Vielja muitun*

*In loving memory of my brother*

Eamiálbmogat leat stoahkan, speallan ja hutkan spealuid čađa historjjá. Sámekultuvrras stoahkan lea okta bajásgeassima oasáš ja vuohki sirdit ovddosguvlui ávnnasmeahttun kulturárbbi. Liikká máilmmis leat hui unnán dutkamušat dakkár spealuin, mat livčče boahtán njuolgga eamiálbmogiin, eandalit sápmelaččain. Digitála spealuid dutkamušaid mearri lea vel uhcit. Dutkamušaid vátnivuođa sáhttá čilget sámi digitálaspealuid vátnivuođain: dárbu iežasgielat mediasisdollui lea dovddastuvvon juo jagiid dassái, muhto liikká sámekultuvrii gullevaš digitála spealut leat dušše moattit. Rabas gažaldagat laktásit nappo resurssaide ja eandalit dahkkiide: gii dahká ja mo?

Dutkamuša vuolggasadjin lea sámi oaidnu ja oktavuohta sámeservošii. Dutkamuš gieđahallá kvalitatiiva metodaid bokte spealloovddidandáhpáhusaid potentiála sámi kultuvrralaš iešolggosbuktima ovddideaddjin. Dutkamuš vuođđuduvvá sápmelaš speallan- ja stoahkanárbevirrui, sápmelaš bajásgeassima árvvuide, álgoálbmogiid speallandutkamuššii ja speallandáhpáhusaid eahpenjuolgga oahppama iešvuođaide. Dáid oainnuid vuođul lean hábmen váldo dutkangažaldaga: mo spealloovddidandáhpáhusaid bokte sáhttá doarjut sámiid iešolggosbuktima. Dutkamuša metodan lea álgoálbmotvuolggalaš etnografiija, man materiálan leat observeremat (guokte spealloovddidandáhpáhusa, main oktiibuot 57 oassálasti), online gažaldatskovit (N=5), videojearahallamat (N=7), spealut (N=16) ja dutki beaivegirjemerkestagat. Analysa dahkkui kvalitatiiva sisdoalloanalysa vugiiguin.

Dutkamuš ráhkaduvai golmma oassedutkamušas. Vuosttas oassedutkamuš suokkardalai sosiála oahppama váikkuhusa *Nuoraid spealloprogrammerenkurssas,* mii ordnejuvvui Ohcejogas jagis 2017. Oassedutkamuš I bohtosat čájehedje, ahte diehtu huksejuvvo sosiála vuorrováikkuhusas ovttas ja ovttaveardásaččat sámi bajásgeassima dieđuhuksema prinsihpaguin. Oassedutkamuš I čujuhii dasa, ahte lea vejolaš ávkkástallat sosiála oahppama oassin spealloovddideami sámi kulturkonteavsttas. Oassedutkamušat II ja III guorahalle dárkileabbot sosiála spealloovddideami fenomena nu, ahte speadjalaste sámi bajásgeassima iešvuođaid speallodáhpáhusaid eahpenjuolgga oahppamii. Oassedutkamuš II gieđahalai gažaldagaid das, mo *Sami Game Jam* ordnejuvvui, makkár spealut buvttaduvvojedje ja mo game jam -formáhta ávkkuhii oassálastiid. Oassedutkamušas III dutkojuvvui dat, mainna vugiin speallodáhpáhusaid sáhttá atnit ávkin sámi revitalisašuvnna bargoneavvun.

Bohtosat čájehit ahte spealloovddidandáhpáhusaid sosiálalaš iešvuohta heive bures oktii sámi máilmmioainnuin ja dieđu buvttademiin ja ná dat doarju kultuvrralaš iešovdanbuktima. Ráhkaduvvon spealut speadjalaste sápmelaš speallan- ja stoahkanárbevieru iešvuođaid otnábeaivve sápmelašvuođa oainnuid mielde. Sáhttá nappo čuoččuhit, ahte sápmelaččaid spealloovddideapmi lea kultuvrralaš iešvuohta, mii boahtá oidnosii, šaddá ja ovdána go oažžu saji.

Bohtosiid vuođul ráhkaduvvui Eamiálbmogiid spealloráhkadeami málle (Indigenous game design model), mii govvida álgoálbmotvuolggalaš fámu digitála spealuin ja mii stivre spealloplánema. Málle vehkiin sáhttá guorahallat fámuiduvvama spealuin viđa oasi bokte: máinnasárbevierru, dálá beaivve vásáhusat, oahpahusat, giella sihke juohkin ja ovddideapmi, Málle dahká vejolažžan guorahallat eamiálbmotvuolggalaš spealloplánema proseassan ja dat čalmmustahttá spealloplánema kultuvrralaš mearkkašumi eamiálbmotkonteavsttas.

Čoavddasánit: Eamiálbmotspealut, Eamiálbmogiid spealloráhkadeami málle, Sámi skuvlen, Eamiálbmot metodologiija, ávnnasmeahttun árbi, game jam

Throughout history, Indigenous peoples have played and made games. In Sámi culture, playing is one of the many elements of education, as well as a platform for transmitting their intangible heritage. Yet research into games originating in the communities of Indigenous peoples, especially Sámi people, is quite sparse, and this is even more true concerning digital games. This lack of research can be explained to some extent by the modest number of digital Sámi games in existence. While the need for media content in the native languages of Sámi communities has been recognised for several years now, there is only a handful of games available in Sámi languages. Several questions arise, then, concerning the resources and especially the creating: who creates games, and how are those games created?

This thesis is written from the Indigenous Sámi perspective, especially pertaining to the local context of Sámi people in Utsjoki. The thesis takes a qualitative approach to exploring the potential of game development events to empower the cultural self-expression of Sámi people. Its starting points are the Sámi game and play tradition, Sámi educational values, game studies on Indigenous peoples, and indirect learning as a feature of game jams. These aspects form the basis for the general research question: in what ways can game development events enhance the cultural self-expression of Sámi people? The study relies on the method of Indigenous ethnography and its data is collected via observation (two game development events, involving a total of 57 participants), online questionnaires (N=5), video interviews (N=7), games (N=16), and researcher field journals. The analysis was data-oriented and conducted using qualitative content analysis.

This study consists of three publications (I–III). Publication I examines the social aspects of learning in a game programming course for adolescents, which was organised in Utsjoki in 2017. The results of this first study show that knowledge is formed in social interaction, collectively, and as equals, following the principles of the Sámi educational tradition. The study also suggest that social learning could be successfully employed as a part of game development in the Sámi cultural context. Publications II and III explore the phenomenon of social game development more closely, by employing aspects from Sámi education as a framework for studying indirect learning in game jams. Publication II set out to examine how Sami Game Jam was organised, what kind of games were created, and in what ways the game

jam format was beneficial to the participants. Publication III examines the ways in which the new digital collaboration format of game jams can serve as a tool for the revitalisation of Indigenous Sámi cultures. The results show that the social aspects of the game creating events work well with the Sámi worldview and methods of knowledge production, thus supporting cultural self-expression. Games created in the event reflect contemporary aspects of the game and play tradition of the Sámi. It can be argued, then, that for the Sámi, game creation is a cultural trait which flourishes when granted proper opportunities.

Based on these results, the study introduces *the Indigenous game design model*, a model that describes the Indigenous empowerment concerning digital games and that guides the process of game development. With the help of this model, empowerment can be explored from five aspects: storytelling, contemporary experiences, teachings, language, and sharing and developing. The model enables the examination of Indigenous game development as a process and reveals the cultural importance of game designing in the Indigenous context.

Alkuperäiskansat ovat leikkineet, pelanneet ja tehneet pelejä läpi historian. Saamelaisessa kulttuurissa leikki on yksi monista kasvatuksen elementeistä sekä aineettoman kulttuuriperinnön siirtoalustoista. Alkuperäiskansalähtöisten, erityisesti saamelaisten, pelien osalta tutkimusta on kuitenkin vähän jopa globaalisti, ja digitaalisten pelien tutkimusta vielä vähemmän. Tutkimuksen vähyyttä voidaan selittää saamelaisten digitaalisten pelien vähyydellä: tarve omankieliselle mediasisällölle on tunnustettu jo vuosia sitten, mutta silti saamelaiskulttuurilähtöisiä digitaalisia pelejä on olemassa vain kourallinen. Avoimet kysymykset liittyvät siis resursseihin ja erityisesti tekijyyteen: kuka tekee ja miten?

Tutkimuksen lähtökohdat ovat saamelaisnäkökulma ja yhteys saamelaisyhteisöön. Tutkimus käsittelee laadullisin menetelmin pelinkehitystapahtumien potentiaalia saamelaisen kulttuurillisen itseilmaisun edistäjänä. Tutkimus pohjautuu saamelaiseen peli- ja leikkiperinteeseen, saamelaisen kasvatuksen arvoihin, alkuperäiskansojen pelitutkimukseen sekä pelijamien epäsuoran oppimisen piirteeseen. Näiden näkökulmien pohjalta muotoutuu päätutkimuskysymys: Millä tavoin pelinkehitystapahtumat voivat tukea saamelaisten itseilmaisua? Tutkimuksen menetelmänä on alkuperäiskansalähtöinen etnografia, jonka aineistona ovat observoinnit (kaksi pelinkehitystapahtumaa, joissa yhteensä 57 osallistujaa), verkkokyselylomakkeet (N=5), videohaastattelut (N=7), pelit (N=16) sekä tutkijan kenttäpäiväkirjat. Analyysi tehtiin aineistolähtöisesti laadullisen sisällönanalyysin keinoin.

Tutkimus koostui kolmesta osatutkimuksesta (I-III). Ensimmäinen osatutkimus tarkasteli sosiaalisen oppimisen ulottuvuutta *Nuorten peliohjelmointikurssilla*, joka järjestettiin Utsjoella vuonna 2017. Osatutkimus I:n tulokset osoittivat, että tietoa muodostetaan sosiaalisessa vuorovaikutuksessa yhdessä ja tasavertaisesti saamelaisen kasvatuksen tiedonrakentumisen periaatetta noudatellen. Osatutkimus I antoi viitteitä sosiaalisen oppimisen hyödynnettävyydestä osana pelinkehitystä saamelaisessa kulttuurikontekstissa. Osatutkimukset II ja III tarkastelivat sosiaalisen pelinkehittämisen ilmiötä lähemmin nivomalla saamelaisen kasvatuksen piirteitä viitekehykseksi pelijamien epäsuoraan oppimiseen. Osatutkimus II kysyi, kuinka *Sami Game Jam* järjestettiin, millaisia pelejä tuotettiin ja miten pelijamien formaatti hyödytti osallistujia. Osatutkimuksessa III tutkittiin, millä tavoin pelijameja

voidaan hyödyntää saamelaisen revitalisaation työkaluna. Tulokset osoittavat, että pelinkehitystapahtumien sosiaalinen luonne sopii hyvin yhteen saamelaisen maailmankatsomuksen ja tiedon tuottamisen tavan kanssa tukien kulttuurista itseilmaisua. Luodut pelit heijastelivat saamelaisen peli- ja leikkiperinteen piirteitä tämän päivän saamelaisuuden näkökulmasta. Voidaan siis väittää, että saamelaisten pelinkehittäjyys on kulttuurillinen ominaisuus, joka tulee esiin, kasvaa ja kehittyy saadessaan tilaa.

Tulosten pohjalta luotiin alkuperäiskansalähtöistä voimaantumista digitaalisissa peleissä kuvaava ja pelisuunnittelua ohjaava *alkuperäiskansalähtöisen pelisuunnittelun malli*. Mallin avulla voidaan tarkastella voimaantumista peleissä viiden osa-alueen kautta: tarinankerronta, tämän päivän kokemukset, opetukset, kieli sekä jakaminen ja kehittäminen. Malli mahdollistaa alkuperäiskansalähtöisen pelisuunnittelun tarkastelun prosessina ja tuo näkyväksi pelisuunnittelun kulttuurisen merkityksen alkuperäiskansakontekstissa.

Avainsanat: alkuperäiskansalähtöiset pelit, alkuperäiskansalähtöinen pelisuunnittelun malli, saamelaiskasvatus, alkuperäiskansametodologia, aineeton kulttuuriperintö, pelijamit

# ACKNOWLEDGEMENTS

# LIST OF ORIGINAL ARTICLES

The dissertation is based on the following original articles, which will be referred to in the text by their Roman numerals I–III.

**Publication I**
Laiti, O. & Frangou, S. (2019). Social aspects of learning: Sámi people in the circumpolar north. International Journal of Multicultural Education, 21(1), 5–21. Reprinted with permission from IJME. Original publication in *International Journal of Multicultural Education* [http://dx.doi.org/10.18251/ijme.v21i1.1728]

**Publication II**
Kultima, A. & Laiti O. (2019). Sami game jam – learning, exploring, reflecting and sharing indigenous culture through game jamming. Proceedings of the 2019 DiGRA International Conference: Game, Play and the Emerging Ludo-Mix. 1–18. http://www.digra.org/wp-content/uploads/digital-library/DiGRA_2019_paper_367.pdf

**Publication III**
Laiti, O., Harrer, S., Uusiautti, S. & Kultima, A. (2020). Sustaining intangible heritage through video game storytelling — the case of the Sami Game Jam. International Journal of Heritage Studies, 1-16. doi:10.1080/13527258.2020.1747103

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# Prologue — ENGAGE

I would like to start by telling the story of my reasons for writing this doctoral dissertation about the Sámi in the context of games. After all, I could just as well have chosen to not write a dissertation, or I could have written it on, say, Indigenous programming or another issue related to computer science, as my interests initially were in moulding the prevailing structures of data processing into interfaces for transmitting Indigenous knowledge. So why a doctoral dissertation, and why about games?

Let us travel back in time. Since my early years, my personal life has combined tradition and the so-called modern lifestyle, including digital technology. I even studied computer science. Not because I would be extremely fond of digital technology as such, but because it facilitates diverse expressions of creativity. One of the planes for creativity is the digital game, of which I have developed my fair share over the years. I grew up in a society where content in Sámi languages is hardly ever available, and yet such media content is an object of unremitting needs and hopes within the community. I applied to the Master's programme in media education with the ambition to study Sámi games. Nearly all of my coursework focused on games in the context of the Sámi culture, and my goal was to eventually turn all these small studies into a thesis. However, that never happened. I ended up doing my Master's thesis on the inclusion of programming in the new curriculum and how Sámi languages could be supported in it, because the 2016 Finnish education reform spoke strongly to me at that time, as nationwide reform might forget the existence of Sámi children. That Master's thesis wanted to be written; the writing process lasted no more than three weeks. A connection between a topic and its author has considerable power. Nevertheless, writing the thesis exhausted all my energy for a long time. Yet I went on to post-graduate studies almost immediately after graduating from the Master's programme. This time, however, I did not have a crystal-clear vision of a research topic. Programming research had appealed to me previously, but now its abstract nature failed to interest me.

To refill my empty energy reserves, I travelled to the other side of the globe. In 2018, I had the honour of participating in the International Indigenous Research Conference (IIRC), which was organised in cooperation with University of Auckland and Ngā Pae o te Māramatanga, the Māori Centre for Research Excellence in New Zealand. The welcoming ceremony, *pōwhiri*, took place at Tānenuiarangi, the meeting house on Waipapa Marae. The conference hosted over 560 participants, representing over a hundred Indigenous communities and fifteen countries, and the

majority of the Indigenous studies researchers attended the *pōwhiri*. The ceremony was opened by *wero*, in which the Māori warriors confirmed the guests' peaceful intentions by aggressive gestures. This made it clear that we were in Indigenous territory, following the rules of the Indigenous people. For me, the most meaningful part of the ceremony was the ritual of welcoming the spirits of the ancestors of the Indigenous scholars. Every Indigenous scholar is a realisation of their inherited knowledge. When we gather, we do not share only the knowledge we ourselves have, but also the knowledge of our ancestors. History is alive in the present and in the gaze to the future. At the end of the ceremony, I had the opportunity to salute the elders of the ceremony with the traditional Māori salutation, *hong*. Putting our foreheads and noses against each other, we shared the spirit of life and formed a connection. After the ceremony, we were promoted as warriors of Indigenous knowledge, and as a result, we were no more strangers in the land of Aotearoa. The opening ceremony and the proceedings also involved Ka Haka II, which suited the theme of "old ways of knowing, new ways of doing". The chain of empowering performances explored, through the variety of performances, what it might mean to call a performance *authentic* in an Indigenous context, and what influences from the rest of the world can be seen in the performances. The conference part of the event did not define the direction my research was to take, but the ceremony was a turning point of sorts to me. For a brief moment, I was a part of a community where my background called for no explanations, and I was able to discuss either this moment or the future as an equal member of the Indigenous community. I stopped pushing myself to find a research topic and for a while, I did not do anything related to research. It has been invaluable to begin to understand the value of my inherent knowledge, and to realise that I already possessed the tools needed to do Indigenous research.

Eventually, the research topic did come to me, and it did so in the most ordinary situation. I play video games for relaxation and for entertainment, and through that hobby, I discovered *Never Alone* and *Mulaka*. Both games have been described as having an Indigenous origin, and obviously this awakened my curiosity. When playing, I recognised elements that I thought were typical for or familiar to Indigenous people, as well as elements that seemed less typical or familiar. This caused me to reflect again on the Sámi games I had looked at before, and eventually to finish the journey I had started years ago. Four months after the conference, my first study was published as an article in "Technology for Equity and Social Justice in Education", a special issue of the *International Journal of Multicultural Education*.

This dissertation is an ode to the Sámi and to games. My primary audience has been myself, because this is the kind of book I would have needed to read when I was younger. It was written for Indigenous people, scholars, and others who are interested in the future of Indigenous people. It was also written specifically for all those Sámi who play games, especially the ones I met at Sami Game Jam and at the programming course for adolescents, and for those with whom I play *Pokémon*

*Go* in the wintery snowdrifts and nightless nights of Utsjoki. The identity of the Sámi who play games is multi-faceted and occasionally difficult to trace. It might be challenging to talk about games and Sáminess if one believes that they should not be mentioned in the same sentence. It is high time to write about Sámi in games, and the topic deserves nothing less than a dissertation. This is not a victim narrative nor a tale of heroes, but simply a description of a phenomenon of which the present gaze is directed to the future: old ways of knowing, new ways of playing.

The following chapters describe the research and its frameworks. The introduction focuses on the main research question and briefly discusses the publications. In addition, I lay the groundwork for Sámi Indigenous methodologies in the field of game studies. In the second chapter, I discuss different points of view of games and learning in an Indigenous framework. The third chapter describes the methods I used, the fourth chapter details the results, and finally, the fifth chapter reflects on the more extensive impacts of the study's findings.

# 1  INTRODUCTION

## 1.1  Starting points

This thesis is written from the Indigenous Sámi perspective, especially pertaining to the local context of Sámi people in Utsjoki. The core questions of Indigenous game design have focused for some time already on subjects such as Indigenous agency, involvement, and self-determination (LaPensée 2017; Madsen 2017; Mahuta 2012). On the global scale, Skins-workshops, for instance, have prepared a basis for Indigenous self-determination in digital games by combining the storytelling typical for the Indigenous peoples with various digital tools of game development (Lameman, Lewis & Fragnito 2010; LaPensée 2017; LaPensée & Lewis 2011). Representations of otherness (Smith 1999), which in the case of digital games include, for example, romanticising Indigenous peoples, mystifying them, and representing them as nostalgic relics of the past, are not atypical at all in the gaming industry: shamans and witch doctors in digital games, for example, strengthen the stereotypes through both representation and game mechanics (LaPensée 2017). Consciously avoiding representations of otherness is a type of agency that draws from interaction, authority and power (Rahko-Ravantti 2016), and aspires towards the sovereignty of the gaming industry, in which Indigenous expressions originate from Indigenous people themselves (Cregan 2018). Instead of focusing on mapping the ways in which Indigenous peoples have been represented in digital games, we can also create and share new experiences and study digital games as a creative domain (Machkovech 2015). Digital games can also be seen as an art form, facilitating an in-depth dialogue between game creators, themes, and audiences and supporting, for instance, a deep understanding of historical tragedies (Romero 2011).

Indigenous people have participated in the gaming industry for a long time. For example, one of the co-designers of *Doom*, released in 1993, has Native American heritage (Machkovech 2015). Today, members of Indigenous communities also work as cultural consultants within the gaming industry (Rimmer 2015) or as independent game developers, participating in today's Indigenous self-determination (LaPensée 2017).

Digital games based on Sámi culture are relatively few in number, however, and predominantly feature serious games designed to support language learning (National Centre for Sámi Education 2020). Michael and Chen (2005) define the term *serious games* as "[g]ames that do not have entertainment, enjoyment or fun as their primary purpose". In serious games, the joy of playing is a secondary goal,

even though it suggested that positive emotions do promote learning (Pekrun 2014; Pekrun, Frenzel, Goetz & Perry 2007). While the joy of playing is secondary to the intentions of serious games, however, it does not mean that joy, or emotions in general, are not present in serious games (Shen, Wang & Ritterfeld 2009). Serious or not, from the perspective of empowering the Sámi languages, digital games are needed to support the language revitalisation (Länsman & Tervaniemi 2012).

The topic of agency, however, has not been considered — who creates these games? The creation of the serious games used in language teaching, for instance, is usually outsourced, and it becomes part of a government-funded production of learning materials in Sámi languages, governed at *Sámediggi* (The Sámi Parliament in Finland) (Sámediggi 2019b). This is to say that financial resources reserved for game development will not be allocated to other learning material. The modest number of digital games in Sámi languages, as well as the outsourcing of their production, can also be seen as a signal of poor agency of Sámi impacting education or producing games. Agency cannot actualise when there is no prestige or power to affect change (Rahko-Ravantti 2016).

Employing different technological solutions has been part of the development of Sámi culture when the initiative to use new technologies has originated from the community itself (Aikio 2010; Müller-Wille & Pelto 1971). Games, playing, and game creation are manifestations of culture (Huizinga 1949; LaPensée 2017), and in the case of the Sámi, also part of their cultural heritage (Itkonen 1941, 1948) — a cultural heritage that assimilation politics have effectively tried to destroy (Borvo 2001). Therefore, self-expression in games can be regarded as an act of revitalisation of traditions of playing, aiming to establish agency in new media platforms and self-determination in Indigenous games. Self-expression in digital games has not been examined in the context of Sámi culture. This study addresses this topic because it is relevant to consider what kinds of images digital games portray of Sámi culture and communities, by whom, for whom, and on whose terms.

## 1.2  Aim and publications

My research sets out to examine in what ways game development events can promote Sámi self-expression. On a global scale, the topic of Indigenous self-expression through self-determination in digital games has aroused some interest. For instance, Elizabeth LaPensée (2017) has studied self-determination as a sovereign form of self-expression in Indigenous games, and Dean Mahuta (2012) has studied the digital identity of Māori and their right to self-express and self-determine their digital identity. The question of self-expression has not been addressed in previous studies on Sámi games, although the Sámi play and game tradition as such has been studied and documented to some extent (Borvo 2001; Itkonen 1941, 1944). These aspects

are what I based the primary research question on: how can game development events enhance the self-expression of Sámi people? The research question provides new information about the role of the Sámi as game developers and complements existing research on Indigenous self-expression in digital games with the perspective of the Arctic European Indigenous people. The results of my research also benefit the institutes that are interested in digital games in the context of teaching Sámi languages or as a tool of language revitalisation (Länsman & Tervaniemi 2012; see e.g. Keskitalo 2010).

In this study, game development events are defined as platforms that feed creativity and indirect learning (Fullerton et al. 2006; LaPensée 2017; Meriläinen, Aurava, Kultima & Stenros 2020) along with an Indigenous worldview (Stevenson 1996) and Indigenous methodology (Smith 2009; Wilson 2008). In addition to the primary research question, the three publications explore the phenomenon through individual research questions, which I will introduce next.

## Publication I: Social aspects of game programming

The aim of this publication was to examine social learning in a game programming course in the framework of the Sámi culture. Indigenous pedagogical approaches are built upon Indigenous knowledge and ways of learning (Battiste 2002), and Sámi education is essentially communal and social in nature (Balto 1997, 2005, 2008). Arctic pedagogy specialises in distance learning, to erase the element of long distances typical for arctic regions (Määttä & Uusiautti 2015). However, many people living in the arctic regions also have an Indigenous background, which is why it is valuable to examine the interface of communality and technologically enhanced learning. By seeking an answer to the research question, "How do social interactions benefit learning in the Sámi cultural context when learning with and through ICTs (Information and Communication Technologies)?" I aim to obtain information on technologically enhanced learning in a programming course organised in the Sámi region. The research question also aims to generate information on possibilities to develop a distinct Sámi pedagogy in technologically enhanced learning.

## Publication II: Exploring Indigenous culture through Sami Game Jam

The aim of the second publication was to explore the game jam, a fast-paced game development event (see also Kultima 2015) and study its potential for implementation into Sámi education. Publication II looks at organisational aspects of facilitating the Sámi Game Jam. Previous research shows that game jams provide a platform for game education (Hrehovcsik, Warmelink & Valente 2016; Musil,

Schweda, Winkler & Biffl 2010; Preston, Chastine, O'Donnell, Tseng & MacIntyre 2012) and creative activity (Ho 2014; Kultima & Alha 2011). Game jams are also a natural meeting spot, at which people with various backgrounds gather to create something new as and in a community (Kultima 2018). The communal aspect of Sámi education (Balto 1997) and the act of collective creation during game jams form the basis for the three research questions:

(1)  How was Sami Game Jam organised?
(2)  What kind of games did Sami Game Jam produce?
(3)  How did the game jam format serve the Sámi and non-Sámi participants?

The research questions aim to increase the available information on the ways in which game jams are compatible with Sámi pedagogies, and on how game jams can bring game developers and Indigenous peoples together. The knowledge produced by this study is important especially from the point of view of Indigenous self-determination. Digital games can offer a creative platform for self-expression when Indigenous peoples are seen as co-developers and not merely a source of inspiration (LaPensée 2017).

**Publication III: Sustaining intangible heritage through Sami Game Jam**

The third publication set out to explore how game jams can be used to sustain, revitalise, and develop the cultural heritage of the Sámi, and what are the limits of aspects mentioned. Publication III expands on the question of Sámi self-expression by zooming into the power dimension in Sámi and non-Sámi collaborations. Previous studies on the increasing popularity of game jams (Kultima 2015) reveal that the prominent element of collective learning (Fowler, Pirker, Pollock, Paula, Echeveste & Gómez 2016; Kultima 2018), combined with the ability of game jams to strengthen interpersonal relationships (Harrer 2019), make the game jam a tool that promotes diversity and multi-perspectivity (Cole & Zammit 2020). The Finnish Constitution (Ministry of Justice 1999) protects the Sámi culture, which is defined as including all the traditional, contemporary, and future ways in which the Sámi peoples express their culture (Ministry of Education and Culture 2018; Näkkäläjärvi 2018; Sámediggi 2019c). Considering the endangered state of the Sámi languages, however, it is crucial to understand new ways of revitalising cultural heritage (Olthuis, Kivelä & Skutnabb-Kangas 2013). Games are a part of the cultural tradition of the Sámi (Borvo 2001; Itkonen 1941, 1948), which implies that the Sámi possess the skill of developing games. Digital technology and especially games are commonly treated as non-indigenous practice. The research question of this publication is as follows: in what ways can the new digital production format of

game jams serve as a tool for Sámi Indigenous revitalisation? This question aims to obtain information about how game jams can be used in Indigenous contexts and how game jams can provide a space of negotiating the tension between western and Indigenous game practises. Table 1 presents a summary of these publications.

*Table 1. Studies, informants, observation groups, publications, and roles.*

| How can game developing events enhance the self-expression of Sámi people? | | | | | | |
|---|---|---|---|---|---|---|
| Publication | Research questions | Number of informants | Observation group size | Data collection period | Authors and year of publication | O. Laiti's role |
| **I: Social aspects of game programming** | How do social interactions benefit learning in the Sámi cultural context when learning with and through ICTs? | 3 | 13 | 7/2017 | Laiti & Frangou 2019 | • collected and analysed the data, interpreted the results in collaboration |
| | | | | | | • wrote the Indigenous perspective throughout the manuscript |
| | | | | | | • wrote, revised, and finalised the article in collaboration |
| **II: Exploring Indigenous culture through Sami Game Jam** | (1) How was Sami Game Jam organised? (2) What kind of games did Sami Game Jam produce? (3) How did the game jam format serve the Sámi and non-Sámi participants? | - | 44 | 2/2018 | Kultima & Laiti 2019 | • collected and analyzed data, and interpreted the results in collaboration |
| | | | | | | • wrote the Indigenous perspective throughout the manuscript |
| | | | | | | • wrote, revised, and finalized the article in collaboration |
| **III: Sustaining intangible heritage through Sami Game Jam** | In what ways can the new digital production format of game jams serve as a tool for Sámi indigenous revitalisation? | 7 | 42 | 2/2018 | Laiti, Harrer, Uusiautti & Kultima 2020 | • collected and analyzed data, and interpreted the results in collaboration |
| | | | | | | • wrote the Indigenous perspective throughout the manuscript |
| | | | | | | • wrote, revised, and finalized the article in collaboration |

## 1.3  The study's central concepts

One of the central concepts in my study is *Sáminess*, definition of which has for long been a subject of debate (Eriksen, Valkonen & Valkonen 2018; Lehtola 2015; Sarivaara 2012). Similarly to Indigenous identities in general, the central questions include, for example, who can be defined as Sámi, how, and by whom. As it stands, self-identification is an integral criterion for belonging to a group of Indigenous people (UN 2006; ILO 1989). Drawing from this, my study defines Sáminess as experienced, interpreted, and determined by the individuals themselves: if persons involved in this research presented themselves as Sámi, they were considered such. It should be borne in mind that not all Sámi people necessarily speak a Sámi language, and that the Sámi community does not exclude individuals who lack the relevant language skills or a close connection with traditional Sámi livelihoods such as reindeer management (Müller-Wille 2001). In the context of the research for publications II and III, the participants explicitly expressed their Sámi identity, but for publication I, the research was conducted in a programming course for adolescents. Being minors, they were not asked about their Sámi identity directly. Formally, the objective language criterion concerning the Sámi identity is met if one of the parents or one of the grandparents speaks or spoke a Sámi language as their primary language (Lehtola 2015). In the context of the course, the language background of the participants was clarified by way of a starting level survey and discussions with the guardians prior to the course, and the actual language proficiency could be determined in the discussions that took place at the course.

Indigenous peoples are one of the most extensively studied peoples on a global scale (Smith 1999) and the Sámi, along with the Native Americans, one of the most extensively studied Indigenous communities (Pentikäinen 1995). These investigations of the culture have aimed at concepting and explaining Sámi, but have also created stereotypical descriptions (Lehtola 2012) that portray the Sámi as reindeer herders living in smoky tents or wicker huts in the polar circle, or as a romantic and mystical people of the far North (Müller-Wille 2001). Without going into these descriptions in more detail, it is crucial to realise that even a short description of a culture bears the risk of reinforcing existing stereotypes, while such descriptions could also be used to highlight the diversity of the Sámi identity instead (Lehtola 2015; Müller-Wille 2001). Barth (1989), for instance, perceives ethnic groups as cultural carrier units, whose borders are formed through self-identification, the cultural diversity within those borders constructed by a variety of cultural traditions, and a single tradition characterised through its primary features, which reflect its origin and borders describing the cultural connection.

Culture has also been described through the iceberg model. In this model, the visible part of a culture is likened to the visible part of an iceberg, and the invisible part of a culture to the substantially larger, submerged part of an iceberg. Visible

culture includes everyday behaviour and activities, such as cultural symbols, language, clothing, and rituals. The invisible part includes issues such as norms and values, ways of constructing knowledge, as well as the conception of knowledge. (Civet 2020; Culturewise Ltd 2015.) Invisible culture is similar to Unesco's (2003) definition of *intangible cultural heritage* — it also includes, for example, knowledge construction and conception. The Convention for the Safeguarding of the Intangible Cultural Heritage describes the intangible cultural heritage of Indigenous peoples as follows:

> "*The 'intangible cultural heritage' means the practices, representations, expressions, knowledge, skills — as well as the instruments, objects, artefacts and cultural spaces associated therewith — that communities, groups and, in some cases, individuals recognize as part of their cultural heritage. This intangible cultural heritage, transmitted from generation to generation, is constantly recreated by communities and groups in response to their environment, their interaction with nature and their history, and provides them with a sense of identity and continuity, thus promoting respect for cultural diversity and human creativity. For the purposes of this Convention, consideration will be given solely to such intangible cultural heritage as is compatible with existing international human rights instruments, as well as with the requirements of mutual respect among communities, groups and individuals, and of sustainable development.*" (Unesco 2003)

Invisible culture thus shares an interface with, especially, intangible cultural heritage as described in by Unesco (2003), but intangible cultural heritage extends to the visible part of culture as well — for example, when it comes to practices and skills, as they are protected by the Convention for the safeguarding of the intangible cultural heritage (Finlex 2013). In this study, the term *Sámi culture* involves all the ways in which the culture identifying itself as Sámi is expressed.

Huizinga's 1949 work *Homo Ludens – A Study of the Play-Element in Culture* introduces the idea that cultures are born and developed through play. One of Huizinga's claims is that the cultural activities of primitive people closely resemble play, which, in my opinion, does not reduce the value of such activities, but actually underscores the importance of play in the development of culture. Huizinga (1949) defines *playing* as a voluntary activity that takes place within the framework of specific rules and norms agreed upon by the players. Play is restricted by the time and space in which it takes place. The purpose of playing is solely to provide joy and pleasure to the player. Playing diverges from the routines of everyday life by providing a type of escapism. According to Huizinga, this definition covers all forms of play among humans and animals that we refer to as *playing*, including games. Whereas playing is quite free in nature, however, a game employs a stricter framework. In short, a *game*

is a form of play that involves rules and a clear goal. Correspondingly, *a digital game* applies these rules and goal(s) to digital medium platforms.

A *game jam* is defined, following Kultima's (2015) definition, as a game development event at which people design digital games within a significantly reduced time frame when compared to regular game development. The developers are restricted in some way and are expected to make use of the circumstances as they unravel during the event. The results are shared publicly. In this study, additionally, a game jam is also a framework and a creative platform for collective learning (Fowler et al. 2016; Kultima 2018) and self-expression (Ho, Tomitsch & Bednarz 2014; Kultima & Alha 2011).

Lastly, the Northern Sámi concepts, *lávvu*, *árran* and *reahpenráigi* are peaking throughout this dissertation. It is a typical feature in Sámi research to use concepts in Sámi languages (Sergejeva 2002). Sámi education considers the *lávvu* the community's place for sharing knowledge (Aikio 2010; Hirvonen 2003; Keskitalo et al. 2012). The connection between these concepts is that the *lávvu* (a traditional, transportable tent resembling a tipi) is the site of the traditional scientific seminar of the Sámi — it is a communal space for the inherited knowledge to be shared through storytelling. The fireplace, *árran*, is situated in the middle of the *lávvu* and the smoke hole, *reahpenráigi*, above it. In the *lávvu*, everybody sits around the fireplace in a circular formation, as equals. There are no authorities in knowledge-formation, and knowledge is formed through joint discussions (Aikio 2010; Hirvonen 2003; Keskitalo et al. 2012). Those who have sat in a *lávvu* know that the *reahpenráigi* reveals a glimpse of sky through the smoke, filled with stars and the northern lights. It is a small window through which to peek into the world. I use these concepts throughout this study, and they are used beyond their physical meaning.

## 1.4 The researcher's position — Sámi researcher and Indigenous worldview

The concept of participation is central in Indigenous research (Smith 2012; Wilson 2008). In this regard, it is important to address the position of the researcher, as I am a member of an Indigenous community. My study is based on Indigenous methodologies (Kuokkanen 2009; Smith 2012; Wilson 2008), which I refer to with the term *Indigenous worldview*. An Indigenous worldview is more than just a way of knowing: it is all the ways of knowing, the systems of arranging information, and the relationships between them. It includes, for example, entire cultures, ways of conceptualising the world, languages, history, and the connection of Indigenous peoples to nature (Kuokkanen 2009; Wilson 2008). In this study, the relationship between Indigenous worldview and Sámi worldview is parallel. This is based on two aspects. First, the work of previous Indigenous researchers reflects the world

of an Indigenous researcher, as Indigenous experiences are not isolated from each other, or the world for that matter (Bishop 2020). I saw me and my experiences being reflected when reading Indigenous research literature. This leads to the second aspect of Indigenous methodologies; the common practice is a mixture of existing Indigenous methodological approaches, as well as more localized practices (Smith 1999). These aspects make Indigenous worldview what it is: a dialectic process. Therefore, in this research the terms Indigenous and Sámi are seen as parallel.

In the Indigenous worldview, truth is not an external object (Wilson 2008), because the worldview concentrates more on the relationship between the individual and the topic, object, or phenomenon. For example, the Indigenous Australians have adjusted the concept of *knowledge* of digital databases to better correspond to their conception of knowledge, which relies on the relative manifestation of knowledge rather than the contents of the word as such (Christie 2005a & b; Christie & Verran 2013; Verran & Christie 2007). For Sámi culture knowledge as such is not a goal, but rather its utility value is. The production and distribution of knowledge, then, is the responsibility of all Sámi people (Helander & Kailo 1999, 233). As a result, knowledge and its practical adaptation go hand in hand (Keskitalo 2010). Correspondingly, knowledge is interpreted as useful for the community if, and only if, it is genuinely useful from the Indigenous community's point of view (Wilson 2008).

When describing the starting point of a research setting, it is important to distinguish between research conducted among and in collaboration with the Indigenous people and communities, and research that uses the Indigenous people as objects (Wilson 2008). Stevenson (1996) presents examples of the values that govern the Western and traditional worldviews (table 2). The table presents examples of these values, which function as the basis for the legalities by which these different worldviews function and form knowledge. Stevenson (1996) maintains that the table is a generalised presentation of its subject matter. For example, a researcher may adhere to an Indigenous worldview while also pursuing other values (Kuokkanen 2009; Stevenson 1996). This categorisation nevertheless helps us interpret the Indigenous researcher's worldview (Kuokkanen 2009).

*Table 2. Indigenous worldview (Stevenson 1996)*

| Indigenous values and orientations | Western values and orientations |
|---|---|
| individual, extended family, and group concern | individual and immediate family concern |
| small group size | large group size |
| cooperation | competition |
| holistic view of nature | homocentric view of nature |
| partnership with nature | exploitation of nature |
| renewable resource economy | non-renewable resource economy |
| shared, communal treatment of land and resources | private ownership of land and resources |
| sharing and wealth distribution | saving and wealth accumulation |
| focus on the present | focus on the future |
| non-materialistic orientation | materialistic orientation |
| time measurement in natural cycles, e.g. seasons | time measurement in small, arbitrary units |
| practical, intuitive thinking | theoretical thinking, prone to abstraction |
| face-to-face government and politics | representative democracy |
| egalitarian organisation | hierarchical organisation |
| age and wisdom are valued | youth and beauty are valued |
| high group esteem, lower self-esteem | high self-esteem, lower group esteem |
| modesty and reserve | confidence and noisiness |
| patience: problems will be resolved in time | impatience: problems will be resolved quickly |

My values adhere to the Indigenous worldview with one exception: I define my orientation as history-aware and living in the present, but ultimately future-oriented. Polarisations are not a part of my worldview; instead, I appreciate that different worldviews can support each other. The Indigenous standpoint is not meant to belittle other ways of producing knowledge through juxtaposition (Kuokkanen 2009; Wilson 2008, 35). However, this connection between supporting and juxtaposing needs to be clarified with three aspects. First, this means that in this study my standpoint is to motivate and justify the methods I have used, not to argue why something is left out. Second, I see that the field of game studies is asking for perspectives. As game studies can involve research on a wide range, from players and communities to technology and games (Mäyrä & Sotamaa 2017), the educational aspects of games are mostly addressed by other research fields (Meriläinen 2020). In my opinion, Indigenous worldview has a lot to offer, bringing perspectives on to the table. These perspectives can also have a wide range from Indigenous education to Indigenous game design. However, this cannot be done by highlighting the Western over Indigenous or by seeking bridges between these two worlds. The expectations, and the challenge, of walking two paths is Indigenous reality in our daily lives. In research this can mean that Indigenous research is expected to reach

out by uplifting, explaining, and normalizing the Indigenous ways, in relation to the main cultures that often are white (Brown 2010.). As it can be seen in the table presented by Stevenson (1996), walking these two paths at the same time is not possible, as these worldviews are based on different epistemologies and ontologies (Wilson 2008). Thus, the expectation of a walk in two paths can easily turn as a walk on the self-colonization road instead of uplifting Indigenous methodology. Therefore, the third aspect is that in this study I see the other road, and I am curious of it, but I have chosen to walk on the road of my ancestors and other Indigenous researchers.

Indigenous researchers can also be positioned on the optimist–pessimist axis, for example by stating that those with a positive outlook of the future are optimists whereas pessimists would believe that Indigenous peoples will be destroyed (Smith 2012). On this axis, I am an optimist. In this case I see that the optimistic view focuses on the possibilities of games whereas the pessimistic view would concentrate more on the negative impact that digitalization might have upon Indigenous cultures.

An Indigenous identity in and of itself does not define any researcher nor a research project Indigenous. After all, intra-cultural points of view vary, and the Indigenous methodology is not tied to one's identity as an Indigenous person (Porsanger 2004). More importantly, the research should adhere to the Indigenous researcher's guidelines. The Indigenous researcher's guidelines can be summarised by the three Rs: relationality, reciprocity, and respect (Weber-Pillwax 2001; Wilson 2008, 77). Using these concepts, I can define my position as the researcher conducting this study, for, in addition to the knowledge obtained through my Indigenous worldview, the Indigenous methodology stresses that understanding these core concepts is essential (Porsanger 2004). As a member of an Indigenous people, I have a great responsibility to not harm my culture through my research. As a member of the community I study, I may not have had to strive to gain the trust of the participants in conducting the research, but I do feel a pressure to live up to their trust. I have a responsibility to honour the relationships I had before, during, and after the research project, and to support the formation of a solid relationship with my study topic and between the participants. Furthermore, I also express relational accountability in this thesis by mentioning the full name of some of the relations built during this research. As a researcher, I recognise the need to follow the principle of reciprocity, and to carefully reflect on the subjects, phenomena, and relationships that I will offer to my community reciprocally, both now and later (Smith 2012). I respect my community, and I need to organise the methods I use in a way that promotes reciprocal sharing, growth, and learning in the framework of this study. It is my aim to produce the results from a perspective that describes and portrays my culture and community in a way its members can identify with rather than to produce a collection of stereotypical representations compiled by a researcher who has observed the community from the outside, depicting the Sámi as an abstract

idea (Kuokkanen 2002) and stressing the aspect of otherness (Keskitalo, Määttä & Uusiautti 2013; Smith 2012).

For these reasons, relatedness is an essential component of Indigenous research (Porsanger 2004; Smith 2012; Wilson 2008) and plays in central role in my study. I am a member of the community I study, so I could not have positioned myself outside it. This is also because the people in the Sámi community tend to know each other, and some of the people who participated in my study I considered to be my friends even before the research project. The membership of the community is a strength for the Indigenous researcher: it is important that Indigenous research is managed from within the community (Wilson 2008, 108). Belonging to a community can also facilitate criticism from the inside, where scholar-members of the community are criticised on the basis of the community's Indigenous criteria: lineage, age, family background, political interests, gender, or a supposed hidden agenda. The researchers belonging to an Indigenous people strike a balance between internal and external factors when choosing Indigenous research: the internal challenges related to conducting research from within the community as a member of the community, and the external challenges related to, for example, the Western educational background and its effects on the Indigenous point of view. (Smith 2012.) Fear of critique from within the community may lead to excessive caution or short-sightedness on the part of the researcher. Wilson (2008), for one, has paid attention to the trend among Indigenous researchers to examine their subjects in a positive light (Wilson 2008, 109). The internal and external challenges related to my research include my relatively extensive Western educational background of computer science engineer and Master of Education, and for that I admittedly can be judged. However, my family history includes many other formally learned people. Consider, for example, Dávvet-Ásllat, or Aslak Laiti, who lived in the 19th century and made his living as a teacher, a translator, and as the first Sámi official in the Finnish government, among other occupations (Hirvonen 2018; Muranen 2009). My experience is that my Western educational background has not forced me to make compromises concerning my values and worldview, but has rather expanded them — computer science, educational sciences, and the Indigenous worldview have given me the kind of multi-perspectivism that are required in this research.

Indigenous women face discrimination based on, for example, age, gender, and ethnicity, but they are also carriers of culture (Hirvonen 1999; UN 2010). Sámi women in particular are more marginalised than Sámi in general, as historically the Sámi community has been studied mainly through the words and activities of its male members. Narrative literature by Sámi women became more common only as late as in the 1970s (Hirvonen 1999). The Sámi identity cannot always be formed painlessly (Hirvonen 1999), and I pay attention to this in the later chapters of my dissertation. However, when it comes to my own identity, the meta-work has already been done. I grew up in a multicultural home, in which my father was Finnish and

my mother Sámi. My close relatives are either Finnish or Sámi from either Finland or Norway. Back in his day, my father worked for the Finnish Air Force as a major of a transport squadron, and I have often thought that I inherited his big wings as well as my mother's sturdy Sámi roots. My identity has been affected by the shame of being imperfect, as well as by the ridicule for my ethnicity in my early years, but those factors have never defined or controlled me. I am an Indigenous, relatively young woman in the field of game studies, and the process of ending up in this setting could not possibly have been simple nor pain-free.

# 2 GAME STUDY ASPECTS TO CULTURAL REVITALISATION

## 2.1 Revitalising the Sámi game culture

In this study, the interface of digital games and the Sámi culture has been formed by contemporary digital platforms to evoke the play and game tradition inherent in the culture. The earliest notes on Sámi games and play date back to the 17th century, which suggests that games bear a historical significance in Sámi culture (Itkonen 1941, 1948). Sámi people in the past used games and playing to train the skills needed to coexist with nature: visual acuity, hand-eye coordination, agility, strength, balance, strategy, intuition, and patience were essential everyday life skills of reindeer herders and fishermen, so the games and types of play they engaged in helped develop these skills already in early childhood (ICT 2019; Itkonen 1941, 1948; see also Hirvonen 1999). There was plenty of time for games and playing, as Indigenous life was not a continuous battle against the prevailing conditions. On a global scale, Indigenous games supported the attributes that the people needed: in the arctic circle, the long winter and the polar night required psychological persistence, which the games helped achieve, for instance, by keeping the people occupied throughout the dark season (ICT 2019). Children's games and play focused on animal and nature themes, and especially on imitating the tasks and responsibilities of adults (Itkonen 1941, 1948).

Adult Sámi have also created and played dice and board games. Huizinga (1949, 226) suggests that while the adults' game tradition can be seen as a form of playing, especially the boardgames of the Sámi of the past often involve elements that are serious in a way that is uncharacteristic of playing. An example of such a game is *sáhkku* (which means *penalty*), a wooden boardgame that is possibly based on Tâb-style games (Borvo 2001; see also Itkonen 1941, 1945). The game includes many pieces that are infused with Sámi nature mythology, and this is what sealed its fate: the Christian missionaries unfavourably called *sáhkku* "the devil's game" (Borvo 2001). The assimilation politics practised by the church and the Sámi nations (Finland, Sweden, Norway, and Russia) has affected all aspects of Indigenous life (Elenius 2006; Kuokkanen 2009; Lundmark 2008) but struck an especially painful blow to the Sámi cultural tradition, the demonisation of Sámi symbolism in games being only one example (Borvo 2001). Other subjects that suffered severely under assimilation politics include the traditional traits of Sámi education, culture, and language (Kuokkanen 2009). By the 1960s, *sáhkku* had almost completely disappeared (Borvo 2001).

The threat of assimilation also exists in the modern changing world — especially if the change is not initiated by the Indigenous people themselves (Aikio 2010; Allen, Resta & Christal 2002; Müller-Wille & Pelto 1971). As an example of an externally imposed change, Aikio (2010) mentions the wide spreading of information technology. The data systems and software are predominantly created by Western designers for Western users, emphasising Western language, logic, and planning, thus creating a digital rift between the producers and the Indigenous consumers (Laiti 2016; Tedre, Kommers & Sutinen 2002). New technology and game empires (Dyer-Witheford & dePeuter 2009) introduce a risk of repeating the assimilation dynamics that have targeted the Sámi for centuries and resulted in the decline of Sámi speakers, traditional livelihoods, and natural learning environments (Elenius 2006; Kuokkanen 2009; Lundmark 2008; Näkkäläjärvi 2018). Revitalisation efforts exist to alleviate the endangered state of the Sámi languages and the measures to revive it (Olthuis, Kivelä & Skutnabb-Kangas 2013), but also to support and empower Indigenous cultures (Smith 1999). *Sáhkku* regained its place in the Sámi game tradition early in the new millennium, when it garnered more interest among researchers as well as new generations of players (Borvo 2001). The digital game can be seen as a tool for language revitalisation, for instance by using Sámi languages (Länsman & Tervaniemi 2012), but the revitalisation of the Sámi game tradition is a part of Sámi cultural revitalisation, as demonstrated by *sáhkku*.

## 2.2  Do and learn — the interface of game jams and Sámi education

Game jams have rapidly developed as a global phenomenon. For example, the 2009 Global Game Jam, the first of its kind, was attended by several thousand people, but 2019 edition saw more than 40,000 participants (Global Game Jam 2018; Global Game Jam 2019). The reasons for organising and attending game jams may vary, for example, from connection with others or gaining new game development skills (Kankainen, Kultima & Meriläinen 2019; Meriläinen et al. 2020). There are many different parties that organise game jams, from private persons to organisations or companies, and these events are generally targeted at adults (Meriläinen et al. 2020). The popularity of game jams is what makes these events a fertile ground for research (Fowler et al. 2016; Kultima 2018), game education (Hrehovcsik et al. 2016; Musil et al. 2010; Preston et al. 2012), and creativity (Ho 2014 et al.; Kultima & Alha 2011). Game jams can also be seen as an arena, where people with diverse backgrounds get together to create something new (Kultima 2018).

Game jams can also be described according to the features they generally have in common (Fowler et al. 2016):

- Social: the participants are encouraged to work in small teams of 2–5 people.
- Multidisciplinary: the participants are encouraged to work by combining disciplines, so that the different areas of game development (e.g. coding, art, design, and sound) are all represented.
- Time constraints: the game development project's time frame is restricted, often giving participants only 12–24 hours to complete their project.
- Theme constraints: the game creation project might follow a pre-selected theme.
- Location constraints: most game jams take place in a specific physical location, although they can also be organised virtually.
- Game context: the aim is to develop games, either analogical or digital. This focus can be compared to that of, for example, a hackathon, which focuses on developing specific software projects.
- Jam environment: the aim of the game jam is not to produce a finished product, but rather a playable prototype of an idea. The process itself is more important than the final product.

Game jams can be organised around one or more of the above features, depending on the specific goal and purpose of the game jam. If the game jam has a strong educational purpose, the features can also be complemented with other features, such as the use of specific game development tools or technologies, or themes supporting the specific educational goal (Fowler et al. 2016).

The use of game jams for educational purposes has focused mainly on game development (Meriläinen et al. 2020). However, promising results have also been yielded when combining game jams with STEM-education for children and adolescents (Fowler et al. 2016). Game jams can be used as a platform to boost pupils' results in many contemporary classroom methodologies, including problem-based learning, flipped learning, and experience-based learning (Fowler et al. 2016). Consequently, the experience-based, indirect style of learning exercised by game jams has been utilised in education since 2016 (Fullerton et al. 2006; Meriläinen et al. 2020). The core mentality of experience-based learning, of *experience is the best teacher*, is also a feature of Sámi education (Balto 2005). From the point of view of Sámi education, the feature of indirect learning is what makes game jams an interesting object of study. Indirect learning in game jams is based on, for example, cooperation on individual projects as part of the collective creative process framed by the game jam (Kultima, Alha & Nummenmaa 2016; Meriläinen et al. 2020).

Sámi education is holistic, constructivist, practice-based, communal (Hirvonen 2003; Keskitalo, Uusiautti & Määttä 2012), and draws on Sámi epistemology (Balto

2005). The holistic approach of Sámi education, according to Aimo Aikio (2010, 46–47), can support personal life-management, which again is part of a general *life politics*. Good management of life politics has helped the Sámi community adapt to the structures of the prevailing society, both at an individual and a collective level (Aikio 2007; 2010). Accordingly, Sámi education promotes the survival of the community through its individuals (Boine & Saus 2012, 71–74), and the historically prevalent educational politics of assimilation have formed regenerative and decolonising qualities in the Sámi education system (Balto 2005; Keskitalo, Määttä & Uusiautti 2014). However, some prevailing features of these general educational politics, such as its teacher-centredness, prevent the Sámi education system from reaching its full potential, where experience-based learning has historically had a more extensive role (Balto 2005, 2008).

My research is not positioned in the context of basic education, so it has not been essential for me to consider the applicability of my research framework to aspects of the National Curriculum of Finland or adjust the measures to suit a certain age group. The present study, then, does not fully adhere to the traditional definition of *pedagogy*, as the prefix *peda-* denotes a focus on children (Knowles 1970). Sámi pedagogy may refer to Sámi education or a specific pedagogical model based on Sámi cultural history, special features, or teaching in environments where the Sámi language and culture are known to be present (Guttorm & Keskitalo 2016; Keskitalo, Uusiautti & Määttä 2012). There are three central concepts in this regard: time, place, and knowledge. Time is defined as sun-centred and nature-bound. As an example of the concept of place, education is not limited to the classroom, but covers all situations of life. Knowledge is created as a result of communication and cooperation (Heikkinen & Miettunen 2016), is based on practice, and often has an immediate instrumental value (Keskitalo et al. 2012). The physical environment can be, for example, a *lávvu* as a traditional knowledge-sharing arena (Aikio 2010; Hirvonen 2003; Keskitalo et al. 2012). As a venue for storytelling or building a collective understanding, the *lávvu* facilitates indirect learning in a manner similar to the social features of game jams (Fowler et al. 2016). The *lávvu* also works as a visual basis for a theoretical model (Keskitalo, Määttä & Uusiautti 2014; Rahko-Ravantti 2016).

Even though game jams do not focus on the end result, but rather on the process itself, the concrete end results may still have a significant impact from the point of view of the possibilities that game jams provide. These tangible outcomes expand the participants' portfolios with either entire games, demos, or game components, turning the intangible results into tangible capital (Fowler et al. 2016). The challenge that the Sámi education system faces is transferring their intangible heritage to newer generations in an environment that favours tangible learning materials (Keskitalo, Määttä & Uusiautti 2013; see also Sámediggi 2019b). For this reason, it is important to consider and understand new ways of reviving the tangible as well

as the intangible heritage of the Sámi (Olthuis, Kivelä, & Skutnabb-Kangas 2013). One possible aspect could be the game jams' ability to turn intangible results into tangible capital. To facilitate such a discussion, we first need to discuss intangible cultural heritage in more detail.

## 2.3 Intangible cultural heritage — a contemporary tradition

Intangible cultural heritage is the cradle of culture; it forms an essential part of Indigenous cultures (Hirvonen 2018). The Constitution of Finland recognises Sámi as an Indigenous people, and they have the right to develop their own language and culture (Ministry of Justice 1999). This right includes the manifestations of inherited Sámi knowledge, traditional livelihoods, and other cultural expressions of contemporary Sámi (Ministry of Education and Culture 2018: 39; Näkkäläjärvi 2018). This means that any mundane activity performed by a member of the Sámi community can be considered an element of their intangible cultural heritage, whether it reflects a traditional cultural expression or not (see e.g. Berg-Nordlie 2011). As a result, it is impossible to draw a strict line between intangible and tangible heritage (Ministry of Education and Culture 2018). Core elements of intangible heritage for the Sámi include traditional livelihoods, the yoik tradition, traditional Sámi handicraft, and the Sámi language (Näkkäläjärvi 2018; Sámediggi 2020). Mixing traditional and contemporary elements has also become an established part of cultural self-expression for many members of the Sámi community (Cocq & DuBois 2019), and the definition of intangible cultural heritage also includes the development of the culture, such as the process of renewing generation-specific knowledge (Aikio 2010; Finlex 2013; Unesco 2003).

Traditional elements, then, are continuously complemented by new ones (see e.g. Kuhn 2020). For example, the *Suohpanterror* artist collective introduces new aspects into the Sámi culture through its political poster art (Junka-Aikio 2018; Lehtola 2015). In addition, the cooperation agreement between Walt Disney Animation Studios and the Sámi concerning the production of their 2019 film *Frozen 2* (*Jikŋon II* in Northern Sámi) recognises the Sámi as the owners of their tangible and intangible culture, aiming at a respectful treatment of Sámi culture (Sámediggi 2019a).

On a global scale, the intangible cultural heritage of Indigenous peoples can nowadays also be observed in the world of games. For example, the game *Never Alone* (originally *Kisima Inŋitchuŋa*) is based on an Indigenous culture and was developed by a partnership that included the Cook Inlet Tribal Council (Council 2017), a tribal non-profit organisation from Alaska. The plot of the game is based on the intangible cultural heritage of the Alaskan Indigenous people; more specifically the tale of *Kunuuksaayuka*. The game was developed by Upper One Games, one of

the few Indigenous-owned video game developers. The game development team also included a member of the Alaskan Indigenous People (Council 2017). Moreover, these new cultural expressions refer to the multifaceted nature of the Indigenous identity. Lehtola (2015), for example, maintains that the contemporary Sámi individual can either belong or not belong to the electoral roll of the *Sámediggi*, live in the *Sápmi* or outside it, speak a Sámi language or not, and earn their living from the traditional livelihoods or in some other way.

Intangible cultural heritage is safeguarded by the Convention for the Safeguarding of the Intangible Cultural Heritage, which was ratified by Finland in 2013 (Ministry of Education and Culture 2018, 39; Unesco 2003). The Convention defines the Indigenous people as the producers and keepers of their intangible cultural heritage, and as promoters of creativity and cultural diversity (Ministry of Education and Culture 2018, 39). This also covers new cultural expressions. The intangible heritage that evolves in the process of developing new cultural expressions must be identified and authenticated as intangible heritage by the Indigenous community (Finlex 2013, Unesco 2003). Cultural revitalisation is based on Indigenous knowledge, including intangible cultural heritage and all the cultural systems that have fuelled the Indigenous culture's prosperity, but also the culture's strategies of survival (Smith 1999).

## 2.4 Survival and endurance

For centuries, the primary goal the Indigenous peoples has been survival. In the process, different survival strategies have been integrated as part of Indigenous knowledge (Smith 1999). Rahko-Ravantti (2016, 26) mentions one positive consequence of colonisation: *resilience*. Resilience refers to the same phenomenon as Gerald Vizernor's concept of *survivance*:

> "*Survivance, in my use of the word, means a Native sense of presence, the motion of sovereignty and the will to resist dominance. Survivance is not just survival but also resistance, not heroic or tragic, but the tease of tradition, and my sense of survivance outwits dominance and victimry. Survival is a response; survivance is a standpoint, a worldview, and a presence.*" (Vizenor & Lee 2003, 93)

The term combines the concepts of *survival* and *endurance*, the first of which can be seen to refer to the long-term goal of the Indigenous people (Smith 1999), and the last to their resilience. However, survivance is more than the sum of these two meanings: it refers to active, attitudinal survival in the Indigenous context, where the goal is to protect the culture's prosperity, not to struggle for survival as such (Velie 2008). The Indigenous-driven act of seeking to present intangible cultural

heritage, such as storytelling, on contemporary media platforms is a realisation of survivance — the opposite of what Vizenor calls *victimry* (1999). In a Sámi context, victimry can be compared to Lehtola's (2012) point of emphasising the colonisation-induced victim position. Realisations of survivance in the context of Sámi literature have been explored, for instance, by Kuokkanen (2003), according to whom traits of survivance can be traced in literature, leading to descriptions of finding a new kind of power and self-respect.

Vizenor's concept of survivance has also inspired a video game: "*Survivance* is a social impact game that asks us to explore our presence and create works of art as a pathway to healing" (survivance.org). Elizabeth LaPensée (2017, 129) has used the term in the context of Indigenous digital games, referring to the Indigenous peoples' right of self-determination in all digital games designed by Indigenous people. LaPensée views survivance as an activity that highlights self-determination and sovereignty, defending the Indigenous peoples' right of self-expression by way of modern equipment and as part of the contemporary world, from its own standpoints, rather than as a part of a mythical past. LaPensée (2017, 133–136) lists four elements through which survivance can be inspected in Indigenous games:

- *Storytelling* in games introduces great potential to continue the storytelling tradition. The game can be a space for retelling Indigenous stories.
- *Contemporary experiences* refer to the Indigenous individual's experiences in the present-day world. Games do not create temporally extensive, multi-generational stories, but discuss current topics and phenomena in the contemporary Indigenous experience.
- *Teachings* concern the potential of games to strengthen inherited cultural knowledge. A game designed by a member of an Indigenous people is based on Indigenous logic, thus affecting the experience of playing and succeeding in the game, and might not be experienced similarly by an outsider of that culture.
- *Language* in an Indigenous game is a learning tool, which can be used to revive or strengthen an Indigenous language. Learning takes place in the language, inside the language, and not just through the language. The multi-medial aspect of games supports learning inside the language.

However, LaPensée points out that survivance does not need to be restricted to a game development pattern, and that the absence of such a pattern is not a delimiting factor for the realisation of survivance in digital games — in fact, survivance is a starting point for all creative activity (LaPensée 2017, 129), and thus also a location for intangible cultural heritage.

# 3    RESEARCH DESIGN

## 3.1  The Indigenous ethnographic research methodology

Because I examine games in the framework of Sáminess as a phenomenon, I have chosen to adopt a qualitative research approach (Creswell 2009; Eskola & Suoranta 1998), which I call Indigenous ethnography. Indigenous studies have striven for the equal recognition of Indigenous research methods, knowledge, and worldview as methodologies alongside more conventional academic methodologies (Kuokkanen 2002, 2009). In this study, I use the Indigenous worldview introduced in section 1.4 (table 2) as an informational basis, which is complemented by ethnographic methods of data interpretation and intensive fieldwork (Syrjäläinen 1994), active participatory observation, interviews (DeWalt & DeWalt 2011; Syrjäläinen 1994; Wilson 2008), and a researcher journal. Especially in the second study (reported in Publication II), for which the publication's main author, Annakaisa Kultima, and I were a part of the Game Jam group as participating members, the researcher journal is a tool for self-reflection and introducing an autoethnographic dimension (Adams, Holman Jones & Ellis 2015). The autoethnographic dimension of this research is established in the second study, in which both observers were also objects of observation as they collected data about the culture they were surrounded by (Ellis 2009) and with which they had a personal connection (Kettunen 2013). However, when Indigenous worldview is the frame, autoethnographic features arise in all Indigenous methodologies as the researcher is holding space for Indigenous ways of life (Kuokkanen 2007b). Indigenous autoethnography (Bainbridge 2007; Bishop 2020; Whitinui 2014) centres the Indigenous worldview, binding the concept of self to the Indigenous knowledge system (Bishop 2020). This means that the knowledge is not limited to the researcher, or literature accessed, as it is bound to families, communities and to researcher's relations in general.

According to Kuokkanen (2009, 46), there are several methods for promoting the Indigenous worldview in anthropology and ethnography. Examples include the following:

a)  listening, respecting, and validating the people's individual points of view;
b)  supporting the realisation of cultural goals; and
c)  active knowledge-sharing.

In this study, I use the description of my methodology for knowledge-sharing (Kuokkanen 2009, Smith 2012), and I view writing as a tool in the framework of Indigenous ethnography (Hämeenaho & Koskinen-Koivisto 2014). I use writing to expand the diverse methodological and cultural knowledge base, but also to challenge the power structures of the majority (Hirvonen 1999, 260; Kuokkanen 2002; Wilson 2008). Equality can be sought in many ways; for example, by acknowledging the Indigenous ways and methods for producing knowledge, as well as the right to develop them (Kuokkanen 2009). At the core of my Indigenous ethnographic research method are the terms *relationality*, *reciprocity*, and *respect* (Weber-Pillwax 2001; Wilson 2008: 77). These terms incorporate Kuokkanen's aspects when developing an Indigenous worldview in research. In addition, the terms function as ethical guidelines for my method, together with the Ethical Conduct for Research Involving Humans (Canadian Institutes of Health Research, Natural Sciences and Engineering Research Council of Canada, and Social Sciences and Humanities Research Council of Canada 1998) and the Finnish National Board on Research Integrity (TENK).

I chose the Indigenous ethnographic research method because Indigenous people have negative experiences from being studied as a research objects in the past (Blair 2015, Kuokkanen 2002, Smith 1999). To many Indigenous peoples, the academic world, including its theories and worldviews, is foreign — but on the other hand, theory can help Indigenous people organise their construction of their own reality within the world (Kuokkanen 2002; Smith 1999). Among Indigenous peoples, however, the field of anthropology has proved problematic. Especially the *ethnographic gaze* has produced descriptions of otherness to such an extent that the reputation of the entire field of anthropology among Indigenous peoples is questionable (Smith 1999). One way to explain the relationship between anthropology and ethnography is to define the former as a field of science and its theories, and the latter as a set of methods (Suoranta 1999). In the Indigenous context, anthropologists and their methods have been described as abusive and thieving (Trask 1993), and even as predatory. These anthropologists' ethnographic lens (Hammersley & Atkinson 1983) shows the hunter with their trophy (Vizenor 1999). In contrast, one of the first Sámi ethnographers, Johan Turi (1910), in his work *Muitalus sámiid birra* (An account of the Sámi), describes the Sámi people through their own cultural experiences (Hirvonen 2018; Turi 1910; see also Müller-Wille 2002). Therefore, the method can well be considered Indigenous because it focuses first and foremost on the Sámi people's own experiences.

It has been said that decolonising science, or removing the colonising Western structures, is problematic, because science is based strongly on Western epistemology and ontology (Wilson 2008). A first step towards decolonisation is to acknowledge the existence of colonisation. This is relevant for the Sámi, who were subject to colonisation (Kuokkanen 2009; Lehtola 2012; Rahko-Ravantti 2016). In the *Sápmi*

(Sámi land), colonisation has been propagated by legislation, the church, and the school system (Kuokkanen 2009). The concept of colonisation is included in the objective criteria for the Indigenous people as defined in the ILO 169 contract (ILO 1989), stating that the Indigenous people have inhabited the area since before the establishment of current state boundaries, the area's conquest, or its colonisation. However, opinions divert on how the colonisation history should be applied as a tool in today's research. Veli-Pekka Lehtola (2012; see also Rahko-Ravantti 2016) posits that colonisation is a useful tool in Sámi research, but that using it to highlight a victim position is not advisable. Conversely, the effort to consciously avoid negative representations of the colonised past can lead to over-representation of positive aspects, and thus polarise the discussion: Indigenous people are seen as either victims of the past or heroes rising from oppression (Karjalainen 2008, 38). This study does not focus on decolonising research methodologies, as any method that can be modified to fit the Indigenous worldview can be effective (Weber-Pillwax 2001; Wilson 2008). Indigenous worldview in research invites shifting the focus from Indigenous communities to, for example, power structures (Bishop 2020). In this study, I employ the ethnographic lens by re-focusing it: instead of placing it above the Indigenous community to investigate them like insects (Smith 1999), I focus the lens on the relations between issues, persons, and phenomena (Wilson 2008).

My study does not seek to point out the ones responsible for the current state of the culture, nor does it seek to compare the causes for or severity of different Indigenous people's problems (Karjalainen 2008, 39–48), although I do acknowledge the various challenges (Kuokkanen 2007a, 147). Rahko-Ravantti (2016, 25–26) maintains that the colonisation history can also speak of positive phenomena and tales of "resources and resilience — flexibility and adaptability", and these are the phenomena for which I hold space in this dissertation.

## 3.2  Publication I: Social aspects of game programming

### 3.2.1  Research subjects and research context

The aim of the first study was to examine social learning in a programming course in the context of Sámi education. The target group consisted of students of the programming course for adolescen+ts, a course organised in Utsjoki. The course lasted for a week and was open to all children and adolescents living in the *Sápmi*. Advertising for the course was compiled in Finnish and in Northern Sámi. As an employee of the municipality of Utsjoki, I organised the course and applied for funding for the project. The funding was granted by Leader Pohjoisin Lappi and the course was organised in cooperation with the University of Jyväskylä and the municipality of Utsjoki. As a framework, we adopted the game programming course for adolescents by the University of Jyväskylä (Lakanen 2016), which I localised into

the Sámi framework together with the course teachers. We had multiple discussions on the Sámi languages and culture, and on the cultural background of the possible participants, in order to improve the teachers' understanding of the relevant cultural background. It came as a surprise for the teachers that Northern Sámi is a common language in the area, and that it is used in all fields of life (Länsman & Tervaniemi 2012; Rasmussen 2014). The course teachers were Finnish, so they were not equipped to teach using a Sámi language, nor to teach from the cultural standpoint of the Sámi. We discussed many relevant practical issues, such as UNICODE-support for the C# programming language, which would make it possible to use Sámi languages when programming (Laiti 2016). During our preparation, we also arranged the computers into a circular formation, which promoted Sámi education's campfire element and a social way of knowledge production (Hirvonen 2003; Keskitalo, Uusiautti & Määttä 2012).

The teachers suggested that the number of participants would be restricted to ten, in order to maintain the quality of teaching and to ensure that all participants would achieve the goals set for the course: successfully designing and programming their own game. I was responsible for course registration, and due to high demand, I decided to be flexible with the restrictive number of participants. In the end, there were eleven participants between 6 and 17 years of age, one of whom decided not to participate when the course started. Seven of the participants spoke Northern Sámi as a domestic language or one of the domestic languages, and two of them could get by in Northern Sámi. These course participants, however, were not the subjects of my research: they constituted the observation group. The subjects of my research were the two course teachers and the course assistant (who spoke Sámi).

### 3.2.2 Methods and implementation of data collection

The research data was collected via online surveys (appendices 3, 4 and 5). Due to the internet spreading to multiple areas of life, online surveys as a tool of data collection have become more common after the turn of the millennium. One of the advantages of the online survey is that the questionnaire can be completed while working on other tasks (Räsänen & Sarpila 2013). The survey was conducted using the online service Webropol, and the teachers and the assistant were both presented with their own questionnaires. Since the course activities took place mainly on a computer, I wanted to integrate the online questionnaires in the coursework. The choice to use an online survey should be assessed carefully, as the method's results may vary when compared to, for example, a face-to-face interview — the more distant the interview feels, the more clearly the potentially negative issues and phenomena appear (Räsänen & Sarpila 2013). In assessing this issue for my study, I did not expect this survey to involve such sensitive aspects.

Both questionnaires inquired about the successes and challenges of the course. During a prior discussion with the interviewees, they indicated to prefer an online survey to other interview methods, as they could respond to the questionnaire at their own convenience. The teachers also believed that the course was so intense that it would be difficult to find the time for a face-to-face interview, and the assistant wanted to respond when the course had concluded, after digesting the experience for a couple of days. Some advantages of online questionnaires are their ease of use and affordability (Miettinen & Vehkalahti 2013; Räsänen & Sarpila 2013), whereas disadvantages include the reinforced negativity compared to traditional interviews and the increased risk of misunderstanding the questions (Räsänen & Sarpila 2013). To address these issues, I discussed the survey with the respondents in advance, where we went through the questions verbally. I advised them to respond as extensively as possible, and, if needed, to ask for further clarifications. To allow the respondents to respond as extensively as possible, the questionnaire featured only open questions. The respondents followed my request by answering in detail and including aspects beyond the immediate scope of the questions.

This data was complemented by participatory observation (DeWalt & DeWalt 2011; Syrjäläinen 1994; Wilson 2008) and a researcher journal. The methods were chosen on the basis of their connection to the Indigenous method of gathering data by way of sensory perception from the situation and writing it down. Adding these methods to the process of data collection was crucial; a mere clinical questionnaire cannot yield enough and relevant enough information to fully establish an Indigenous point of view (Wilson 2008.). I conducted participatory observation whenever I was present for the course, which is to say, in the mornings and often after lunch. The process of writing the journal was not pre-planned or pre-constructed. Many of my observations are presented as bulleted lists.

In all three studies presented here I have informed the research subjects orally and in writing about my research, and for any minors, I also informed their caretakers. In the electronic surveys, consent could be given simply by checking a box, as the research subjects had been informed about my research in advance. Other, separately requested research permission forms can be found attached (appendices 1, 2, 7, 8 and 10). According to Wilson (2008, 119), members of Indigenous peoples might agree to take part in research while still refraining from signing a declaration of consent. Drawing on this, I gave respondents the option to not give consent if the respondent was an adult. It should be considered that at the time of the first study (Publication I), consent and information was requested for a research project that went by the working title of "Options for adjusting programming education to Indigenous cultures" [Alkuperäiskansan kulttuurin huomioimisen mahdollisuudet ohjelmoinnin opetuksessa]. This working title proved to not remain permanent, however, as it was adjusted to focus specifically on game development later.

### 3.2.3 Analysis

The data was analysed by using qualitative content analysis (Bengtsson 2016; Creswell 2009; Mayring 2000). In the framework of the present study, content analysis refers to the textual analysis of the survey responses and the observations in the researcher journal. The classification process was data-oriented. In practice, the data was divided into manageable sections by organising, categorising, and thematising them to contribute towards a multifaceted description of the phenomenon (Creswell 2009; Mayring 2000). I compared the teachers' and the assistant's questionnaire responses with my own observations, which revealed the following themes: sociality and cooperation, frequency of instances of Northern Sámi, frequency and instances of Sámi culture, learning, benefits, and challenges. Under these topics I categorised my observations and the results of the survey. In the categories concerning the Northern Sámi and Sámi culture, I emphasised the observations from the researcher journal and the assistant's questionnaire responses. The reason for this is simply that the assistant and I both spoke Northern Sámi, so we were able to understand the pupils' discussions in Northern Sámi. The teachers were not asked about the realisations of Northern Sámi and the Sámi culture specifically, but since they were encouraged to write down their reflections as extensively as possible, they might still have addressed these topics in their open responses. Since the teachers did not speak Northern Sámi and were not familiar with the culture, however, their evaluation of the realisations of these themes was necessarily limited.

## 3.3 Publication II: Exploring Indigenous culture through Sami Game Jam

### 3.3.1 Research subjects and research context

In February of 2018, Sami Game Jam was organised in Utsjoki. The event worked as the context for collecting the data for the studies reported in publications II and III. The aim of the second study was to explore the potential of a fast-paced game development event — the game jam (Kultima 2015) — for Sámi education through the experiences and learnings obtained at Sami Game Jam. The event's goal was to in a short span of time produce games based on Sámi culture. Participants were organised in teams that combined game development skills with cultural knowledge. The event also had to adhere to the typical features of the game jam listed in section 2.2: offering a social and cross-scientific platform for people with diverse backgrounds while functioning as a creative but thematically, temporally, and geographically restricted game development event (Fowler et al. 2016). The organisation process of Sami Game Jam is described in more detail in Chapter 4, which also discusses the results of the second study.

As an event, Sami Game Jam was a new concept, and the topic was rather challenging and sensitive. The participants were selected either by direct invitation or through application. Those who were invited directly were either Sámi or experienced game developers who were already familiar with the concept of the game jam. The invited game developers represented multiple nationalities from around the world. The goal was to equip the game development teams with an extensive skill base that allowed for the inclusion of Sámi culture in the game's development. This skill base included programming, graphic design, game sound design, game design, and insider knowledge of the Sámi culture. As representatives of the organisers we decided, with Annakaisa Kultima, that this edition of Sami Game Jam would comprise six teams, each of which would produce one game on the basis of the curated themes (see appendices 6 and 9).

We selected 44 participants, including ourselves. The participants were Sámi, Finnish, and internationals from all over the world, and aged from pre-teen to middle-aged. This group of 44 participants constituted the observation group of the second study, and it introduced an autoethnographic dimension, as we, the authors, organised the event, participated in it, and observed it (see e.g. Adams et al. 2015).

### 3.3.2   Methods and implementation of data collection

The second study was qualitative in nature. The data was collected using an Indigenous ethnographic research frame (table 2), as well as the ethnographic research method of participatory observation (DeWalt & DeWalt 2011; Syrjäläinen 1994; Wilson 2008). The observers were both related to Sámi culture, either as members of the community or through family ties. In addition to the cultural connection, both observers were also members of a global game development community. As a result, both observers were quite subjective. The research data comprised the researcher journals compiled by both observers, which means that this study presented an autoethnographic approach and a dialogue with the researchers themselves (Adams et al. 2015; Bishop 2020; Ellis 2009; Kettunen 2013).

Data was collected through observation, that is, as transmitted by the senses (Syrjäläinen 1994; Wilson 2008). In practice, the researchers listened, watched, and followed the discussions at the event and online during the event. In addition to observations, we monitored the event's Discord channel, where the participants discussed matters actively throughout the event. We also participated in the production of the data and discussions by asking questions, telling stories, and participating in the game development process as members of teams. This is a typical approach for the autoethnographic method (see e.g. Ellis 2009) and also meets the Indigenous autoethnography (Bishop 2020).

As I fulfilled multiple roles, I assumed in advance that I would be quite busy indeed at Sami Game Jam. Prior to the event, I drew up a data collection plan,

which covered the proceeding of the event and the role my research was to play in it. In addition, I formulated five questions in my researcher journal to structure my reflections. These questions were as follows:

1) In what ways was Sámi culture visible during the day?
2) What kind of learning experiences were reported by the participants?
3) What kind of challenges did the participants report?
4) What kind of noteworthy phenomena took place during the day?
5) How did the participants solve challenges?

These questions guided my observations. The researcher journal section of study III was based on the same observations.

The data collection plan also describes what I planned to observe. I planned to focus on the daily reflection sessions at the *lávvu*. These sessions were designed as platforms for the teams to share the successes and challenges they had faced as well as the phase of game development they were at, and to engage in discussion with other participants. During these sessions I could collect these experiences and perceptions by observation.

### 3.3.3  Analysis

The data was analysed using qualitative content analysis (Bengtsson 2016; Creswell 2009; Mayring 2000) and applying the concept of relativity (Wilson 2008). Content analysis is a method to analyse textual data, which in this study includes games, discussions, and observations. Content analysis was data-oriented, with the goals to form a description of the phenomenon under examination and to connect it to a larger framework. The concept of relativity was incorporated by testing the data through the following questions in the process of interpretation:

1) How will the analysis of the data help strengthen relationships?
2) What relationships help hold the ideas together? (Wilson 2008)

The purpose of these questions was to guide the focus of the interpretation into relationships along the lines of Indigenous ideology. As a result, the analysis was based on two different interpretations. The analysis focused on, on the one hand, describing the phenomena arising from the data as such, and on the other hand, the relationships between the phenomena: between the planning and execution of the event; between this relationship and the games as the end product; between these relationships and me, the organisers, and the participants; and between these relationships and Sámi education and game studies.

### 3.4 Publication III: Sustaining intangible heritage through Sami Game Jam

#### 3.4.1 Research subjects and research context

In the third study, the aim was to investigate games in the Indigenous context more thoroughly, and to find out how the game jam could work as a tool for cultural revitalisation. The research context was the same as in the second study. The research context is described in subchapter 3.3.1, and the planning and organisation of the event in Chapter 4.

The observation group for this study involved 42 persons, who were divided into two groups based on their contribution to the game development process: each participant contributed on the basis of their knowledge of either Sámi culture or game development. The first group included the Sámi who contributed through their cultural knowledge, and the second group included the international game developers without a Sámi background. Of these 42 participants, 13 introduced themselves as Sámi either on Discord, during a *lávvu* session, or in an interview. The seven people who were interviewed formed the group of research subjects (P1–P7).

#### 3.4.2 Methods and implementation of data collection

The process of data collection employed an ethnographic research approach and research lens (Hammersley & Atkinson 1983) from the point of view of the Indigenous worldview (table 2). The data was formed by active participatory observation (DeWalt & DeWalt 2011; Syrjäläinen 1994; Wilson 2008), interviews, and textual analyses of the games produced during the event. I balanced the structural information seeking methods with sensory methods (Wilson 2008) such as video interviews. I also participated in the organisation of the event and the development of the games as a Sámi member. The intensive nature of the event led to committing the results of the day's fieldwork to paper only at the end of the day, as I reflected on the day according to the pre-designed questions (see Publication II). The other researchers involved in studies II and III, Annakaisa Kultima and Sabine Harrer, reflected on their own experiences in a similar context. In this light, it is important to note that the researchers' notes are influenced by their personal and professional history and experiences (Creswell & Poth 2018). The process of interpretation stressed the Indigenous point of view (Kuokkanen 2002, 2009, Wilson 2008) in the form of relativity, but room was left for extra-cultural interpretations, too.

All Sámi participants had the opportunity to be interviewed at the end of the event, and everyone who volunteered was interviewed. The interviewer was a Sami

Game Jam participant Marjaana Auranen, who was filming a documentary at the event. The interviewer was given three questions to ask the interviewees:

1) How does Sámi culture manifest itself in your game and in Sami Game Jam games?
2) What did you learn about game development during Sami Game Jam?
3) What do you want people to learn when they play your game?

The questions were asked in Finnish. The questions concerned learning in a specific context and involved aspects of Sámi culture, game development, and creativity. The interviewees gave their responses in either Northern Sámi (N=3) or Finnish (N=4). The interviewees were encouraged to reflect more extensively on the questions by using self-reflective techniques and storytelling. The video data of these interviews combined comprises 1 hour, 8 minutes, and 48 seconds of data.

### 3.4.3 Analysis

The analysis of the data followed the principles of qualitative content analysis (Bengtsson 2016; Creswell 2009; Mayring 2000). The interviews were transcribed in the original language — that is, in either Finnish or in Northern Sámi — and translated into Finnish and English. In the analysis, I identified various themes on the basis of the interviews, including the game jam as an experience, Sáminess and games, and descriptions of the curated themes that functioned as a basis for the development of their game. The interpretation focused on the relationship between matters and phenomena (Wilson 2008). In this study, relativity was examined especially through the observations of the Sámi interviewees. The interview data was analysed for expressions that described relativity, which were then compiled into a description of relativity as a whole. The purpose of this is to see how Sámi people relate to the research topic, not a causal relatedness. As Wilson (2008, 41-42) says, when using Indigenous worldview as a base for the research, there needs to be a set of relationships visible, that binds the topic and the community together. The question of how game jams can serve as a tool for Sámi indigenous revitalisation can be addressed if Sámi people describe relatedness in the interviews and thus express a relation between the community and the research topic. The resulting conception shows that the descriptions were based on the relationship between the event planning and the experiences of the participants.

## 3.5  Summary of the research design

This study uses qualitative methods (Creswell 2009; Eskola & Suoranta 1998), such as the ethnographic research methodology based on the Indigenous worldview (table 2) — which in the present study refers to the content-based outlook and intensive fieldwork inherent to ethnographic research (Syrjäläinen 1994) — active participatory observation and interviews (DeWalt & DeWalt 2011; Syrjäläinen 1994; Wilson 2008), and an autoethnographic approach (Adams et al. 2015; Ellis 2009; Kettunen 2013) with Indigenous autoethnography (Bishop 2020). The data was analysed using qualitative content analysis (Bengtsson 2016; Creswell 2009; Mayring 2000). Table 3, below, presents the research questions, type of data, and methods of analysis for each publication:

*Table 3. A summary of the research design*

|  | Research question | Type of data | Methods |
|---|---|---|---|
| **Publication I: Social aspects of game programming** | How do social interactions benefit learning in the Sámi cultural context when learning with and through ICTs? | Results of the online survey, observation, games, researcher journal | Qualitative content analysis |
| **Publication II: Exploring Indigenous culture through Sami Game Jam** | (1) How was Sami Game Jam organised? (2) What kind of games did Sami Game Jam produce? (3) How did the game jam format serve the Sámi and non-Sámi participants? | Results of the participatory observation, textual analysis of the games, researcher journal | Qualitative content analysis |
| **Publication III: Sustaining intangible heritage through Sami Game Jam** | In what ways can the new digital production format of game jams serve as a tool for Sámi indigenous revitalisation? | Results of the participatory observation, textual analysis of the games, video interviews, researcher journal | Qualitative content analysis |

# 4    RESULTS

## 4.1  Publication I: Social aspects of game programming

The first study examined the social dimension of learning in the context of Sámi culture during a game programming course. The course participants exhibited a level of cooperation that extended beyond the games and programming into all contexts of the course. I have divided the results into three main categories: social distribution of knowledge, sharing of knowledge of tools, and culture in interaction.

*Social distribution of knowledge* could be observed in the interaction between the participants sitting at the shared table. The teachers walked around the table to make observations and follow the process, and the students frequently asked them for help. The course participants were predominantly native speakers of a Sámi language, but they came from all over Finland and therefore did not necessarily know each other in advance. This did not stop them from forming a group rather quickly, however, and they were quite ready to discuss the Sámi culture spontaneously, also during their breaks. Over lunch, for example, they addressed the topic of reindeer management, which was more familiar to some than to others.

> *Once, for example, during lunch, there was a conversation about what to do with reindeer during different seasons of the year. [Kerran esim. ruokailussa virisi keskustelu siitä, mitä porojen kanssa tehdään eri vuoden aikoina.]*

The course assistant described the teachers and the students as a harmonious group, whose cooperation was marked by positive interaction. All participants and teachers mixed very well and helped each other out while still remaining focused on their own work and allowing the others to do the same.

*Sharing of knowledge of tools* emerged when the course participants were attempting to solve the problems caused by combining Sámi culture and game programming. Programming was done according to the teachers' instructions and with the tools familiar to the teachers. Knowledge of tools, then, was owned exclusively by the authority. Traditionally, the course participants will have the opportunity to introduce their own ideas for the games they develop and are then provided the tools and guidance to carry out their project. In that case, the scope of the games is defined by teaching and the tools. One of the tools used in the course was a game engine developed by students at the University of Jyväskylä's faculty of information technology. The game engine was designed to simplify the game developer's work when the frame does not need to be built from scratch.

At the course in Utsjoki, the participants wanted to add content from Sámi culture, such as Sámi text, in the games. However, adding Sámi text caused the game to crash, as the engine did not support some of the linguistic characters. The resulting challenge was tackled through *a decolonial hack* in collaboration between the teachers and the students: they combined the teachers' knowledge of programming with the students' knowledge of Sámi culture. The teachers traced the problem to the game engine's linguistic character support, and after editing the code, the game did work. The students explained that, should the engine not be able to handle the specialised linguistic characters after all, the problem could also be solved by removing the linguistic characters from the Sámi text. Sharing knowledge of tools and the special features of Sámi culture facilitated creative problem-solving in this situation.

The third main category was *culture in interaction*. The language used in the discussions varied according to the situation. The teachers did not speak Northern Sámi, which is why teaching was conducted in Finnish. However, Northern Sámi was used systematically by the course assistant, who did speak fluent Northern Sámi.

> *I spoke Northern Sámi with them almost all the time, and usually they replied in Northern Sámi. Sometimes someone did not understand and asked what I meant. Then I explained in Finnish and continued the discussion in Northern Sámi. [Minä puhuin heidän kanssa saamea lähes koko ajan ja yleensä he vastasivat saameksi. Joskus joku ei ymmärtänyt ja kysyi, mitä tarkoitit. Sitten selitin suomeksi ja jatkoin saameksi.]*

Some of the participants communicated in Northern Sámi from the beginning, whereas some were more cautious about the language. Northern Sámi was used more commonly as the course progressed, and even the more guarded speakers adopted it in their communication.

According to the assistant, the teachers were attentive to the participants' problems, and encouraged them to use Northern Sámi in all the situations in which they assumed language played a role. The assistant also maintained that especially in the programming context it is important to consciously use Northern Sámi in all the possible situations, to strengthen the linguistic identity. The teachers expressed that knowing Northern Sámi would have been beneficial for them when teaching the participants, as, for instance, some situations left them as outsiders. The assistant advised the participants in Northern Sámi and the teachers could not tell if the advice was correct. If they had had the relevant language skills, the teachers could also have been better equipped to support the use of Northern Sámi in the program code, which would have resulted in a higher frequency of Northern Sámi at a code level. After the course, the teachers had learned some words and phrases of Northern Sámi. As an example, they mentioned *Ellos Deatnu!* (Long live the River Teno!).

According to the teachers, neither the course structure nor the games were significantly different from the ones they had seen in the past. The games were fairly similar to those of other courses, too. The last several days of the course were the busiest from the teachers' point of view. The teachers did not consider the linguistic or cultural aspects of this specific course prominent enough to mention as factors that distinguished this course from previous ones. The reason for this might simply be a lack of cultural knowledge: it is difficult to identify cultural elements when the culture is unfamiliar. Furthermore, the teachers did not have much time to spare to observe the group, as their time was spent on guiding and advising the students after the teaching sessions. Still, three of the games created featured elements from Sámi culture: two of them used Northern Sámi and one made use of the traditional fishing culture of the Sámi people.

## 4.2 Publication II: Exploring Indigenous culture through Sami Game Jam

The second study examined how the format of game jams fits traditional Sámi pedagogical features and how it can bring together Indigenous people and experienced game developers. The most significant result was that the game jam format was successfully combined with the framework of Sámi education, leading to games that employed intangible heritage in their design. The results are divided into three sections: planning the event, games created at the event, and the cultural content of the games.

### 4.2.1 Planning Sami Game Jam

Planning the Sami Game Jam event began over a year in advance. The municipality of Utsjoki had a project that involved supporting Sámi-based game entrepreneurship, and in one of the workshops for the project, the CEO of Ludocraft, Tony Manninen, suggested the game jam as an approach to kick off game development activities. In Manninen's view, the region would benefit from importing the missing know-how. Even though game jams traditionally attract mostly hobbyists, such an event was projected to leave behind some expertise, and possibly even the missing spark for game development in the area: a spark that could potentially grow into a roaring fire. As an employee of the municipality of Utsjoki, I contacted the representative of the Finnish Game Jam organisation, Annakaisa Kultima, at the end of 2016. That same year, we began planning the event.

The general framework of the event was established early on. For its location, we chose Utsjoki, a municipality with a Sámi majority population. The venue we selected was the culture centre of Áilegas: a combination of two historically significant buildings that used to be schools, both of which had been recently

renovated. The restricted facilities were a factor in the event planning, as space was needed for developing the games in teams as well as for accommodating international attendants. The facilities limited the number of game development teams to six, as the teams were to work in only one of the culture centre's buildings, while the other building was used for dining and accommodation. The game development teams were also offered a *lávvu*, set up in the yard to provide a creative space. The purpose of the *lávvu* was to function as a scientific seminar for the event in the spirit of Sámi education (Aikio 2010; Hirvonen 2003; Keskitalo et al. 2012). The participants were granted total freedom to use the *lávvu* and simulate a first-hand experience of life in an arctic region. At some points the temperature dropped to -38 °C (-36.4 °F), and the participants were the ones responsible for keeping the fire burning in the *lávvu*. The particular *lávvu* used was borrowed from a Norwegian library with a library card of one of the organisers.

We, as the event organizers, carried out extensive preparations to ensure the quality of the event. One of the key elements of Sami Game Jam was its twelve carefully curated themes (see appendix 6), which functioned as guidelines for game development. The themes were introduced in the form of three components: a title, a narrative interpretation, and a factual description. The title was a condensed representation of the theme, the narrative component was offered as an example of a highly subjective interpretation of the theme, and the factual component expanded on the title by offering more information on the topic. The combination of themes we selected was intended to stimulate discussion in which the Sámi participants explained the themes in more depth. The game development teams were formed in advance, so that the non-Sámi participants could efficiently be divided among the groups. We decided that it was necessary for each of the teams to have at least an experienced programmer and a graphic designer from outside the Sámi community, to protect the quality of the games and the time schedule of the event. If we could have reasonably expected to find sufficient expertise among the Sámi participants, external know-how would not have been needed. The Finnish Game Jam organisation concluded that a set of international participants would benefit the Sámi people's abilities the most. In addition, Sami Game Jam would stimulate global cooperation and spread awareness of Sámi culture.

The programme of the event was drawn up in cooperation with the Finnish Game Jam organisation. The games would be developed in 48 hours, which would constitute the event's core activity. Since we expected that most participants lacked knowledge of Sámi culture, however, the Sámi participants also had to act as interpreters of the culture for their teams. For the sake of group formation and coherence, as well as to guarantee a smooth game development process, it was decided that the event would also include a cultural immersion day. The purpose of this cultural immersion day would be to acquaint the non-Sámi participants with Sámi culture and the environment of Sami Game Jam. The cultural immersion day consisted of specialist

lectures, nature hikes, and short films made by Sámi people. At the end of the day, the participants had shared the experience of cultural learning together. The Sámi participants had had the opportunity to guide their groups, to share their thoughts, and to demonstrate the heterogeneity of Sámi culture.

The cultural immersion day culminated in the first joint *lávvu* session, where the themes were presented. After one of the Sámi participants read a theme out loud, they explained their own point of view and opinions concerning that theme. The other Sámi participants elaborated on their personal interpretation of each of the themes. This illustrated how the cultural aspects could be approached from multiple points of view and yield multiple different interpretations. Presenting the themes was also a turning point in the event, marking the first moment that provided a concrete idea of what was expected of the participants during the following two days. This, together with the understanding provided by the cultural immersion day, caused a surge in many participants' emotions. The difficulty and complexity of the topic, as well as the Sámi participants' reactions to the resulting games, were intimidating to many. These fears were present throughout most of the event, but they did dissolve gradually towards the end. This was the result of the encouragement and support of the Sámi participants, as well as the public session in which the games were presented.

### 4.2.2   The games

The event produced six games, each interpreting two of the themes in a specific way. An introduction to each of the games, and the themes they address, can be found in appendix 9. The teams decided for themselves which themes to incorporate in the game. Some of the games focused strongly on only one of the themes. A brief description of each game is provided below:

*Gufihtara Eallu* is based on a traditional Sámi story featuring a cross-generational elf society, the Kufitar. The game tells a story of how a resourceful player can pass through the elves' land by throwing an iron object over a herd of reindeer. The game's language options are Northern Sámi, Finnish, and English. The game's platform is VR.

*Jođus — On the Move* portrays modern Sáminess and especially the process of balancing it as life moves on. The team built a balance board to guide and control the character. The board allows the player to concretely balance between different options. The player can choose to go left, towards the countryside, or right, towards the city. On their journey, they can pick up objects that represent the spectrum of Sámi life as portrayed by the Sámi participants. As the character proceeds in the game, the player's object collection, which might include traditional elements, such as salmon fishing or reindeer management, as well as more universal elements, such as a box of sushi or a cup of coffee, gets more extensive. Life is balancing between the traditional and the modern, and the Sámi identity is the result of the player's choices. The game is PC-based.

The VR-based *Lost Memories* presents two different cultural environments: a city apartment and the open lands of Utsjoki. The two different worlds are connected by a shrinking portal, which the player can use to travel through the two environments and transport items from one world to the other. At the end, the portal disappears, leaving the player in one of these environments with only memories from the other side.

*Mu Luodda* is a PC-based, narrative-form game, which portrays the tensions experienced by the Sámi in their everyday life. The player can explore the surroundings by using the mouse and confronting a collection of everyday experiences of the Sámi. The situations portray the difficulty of making personal choices when they conflict with the interest of preserving the culture. The language spoken in the game is Northern Sámi, and the text on the screen is translated into English.

*Rievssat* is a short, narrative-based PC game portraying the life of a Northern Finnish ptarmigan bird over the eight seasons. The bird is controlled by a leap motion controller and an accelerator built specifically for the game. The player guides the ptarmigan flying across the *Sápmi* in search of food. Each season comes with a set of challenges, as the bird's natural habitat slowly fills up with humans and their society. The bird needs to adjust to the barren land and the growing number of roads and buildings. The game aspires to create an experience of being a stranger in one's own land.

*Sáivu* is an Android-based mobile game. The player needs to control streams and nurture the fish while constructing, letter by letter, words in Northern Sámi and avoiding environmental threats. The audio track includes lyrics in Northern Sámi, Inari Sámi, and Skolt Sámi. Yoiking is also heard on the track.

### 4.2.3  The cultural contents of the games

Sami Game Jam produced six games based on the Sámi culture, each portraying the culture in a poignant way. The games avoid cultural clichés such as over-representing cultural symbols, and they feature both tangible and intangible cultural heritage: they comprise all three variants of the Sámi languages spoken in Finland, yoiking, traditional storytelling, and traditional stories.

During the game jam, the Sámi participants learned the skills required to develop video games, and they gained the spark to create them. The Sámi also discussed among themselves the difficult topics inspired by the themes and their experiences connected to them. Many participants expressed suffering from ethnostress (Kuokkanen 1999) — a continuous feeling of inadequacy as a Sámi — and felt encouraged to let go of others' expectations and to see their identity and life-choices as an asset. The Sámi participants also experienced that Sámi culture can be a phenomenon evolving through time, and that daily life, with its games, is a part of today's Sámi culture. Especially the underaged participants realised the *coolness* of their mundane lives when the everyday elements were compiled into games by

fast-paced cooperation. The non-Sámi participants gained an extensive look into Sámi culture during the event, as well as their own identity. Some Sámi participants felt so good about the experience that they suggested including such an event in the currently ongoing truth and reconciliation process in Finland. The purpose of the truth and reconciliation process is to discover and discuss the wrongdoings of the past; to find out the truth, so that history will not repeat itself in the future (Council of State 2020). The Sámi participants also said that they classified the games as a Sámi art-form and as a part of their cultural expression.

Since the topic that Sami Game Jam addressed was very delicate and difficult, we knew to expect challenges. Nevertheless, both the participants and the organisers were surprised by the amount of stress experienced over the course of the event. The Sámi participants experienced the stress of conveying an accurate idea of Sáminess and doubted whether they were the right persons to explain the culture to others. The non-Sámi participants experienced the pressure to produce good enough and culturally sensitive enough games in the short time available. A cultural conflict concerning the interpretation of a topic even resulted in one of the Sámi participants leaving the event altogether. The careful structure of Sami Game Jam was necessary to ensure that the games were completed in time, but it also caused a lot of stress to the organisers to ensure that the participants worked within the set time frame. In addition, the organisers were also strained significantly by their personal relationship with the topic. Organising the event truly laid bare the sensitive nature of the topic: the event received surprisingly little media-attention, for example, both nationally and internationally. In addition, some of the sponsors we approached for the event turned down our proposals because they thought the event was too political.

All in all, the event generated inspiration among the participants by presenting one big, shared experience in the framework of Sámi education. Sami Game Jam was a social and communal event first and foremost, in which the participants shared and created knowledge together, producing six games rooted strongly in Sámi culture.

## 4.3  Publication III: Sustaining intangible heritage through Sami Game Jam

The third publication elaborates on the results of the second study through content analysis and interviews with the Sámi participants (P1–P7) of the game jam. The study aims to reveal how combining the game jam format with Sámi education might preserve tangible and intangible cultural heritage. It assumes that the game development framework used in game jams is relevant to an analysis of Sámi values: it responds to the game and play traditions of the Sámi using new platforms. The results of this research propose that combining Sámi education with a game development event can function as a platform for preserving cultural heritage,

although there is still room for development of the concept. Since the planning of the event was inseparable from the event itself, it is presented here as a part of the results.

### 4.3.1 Event planning

The venue of the event was chosen to be the culture centre of Áilegas in Utsjoki, which was remodelled to fit the Sámi educational framework by setting up a *lávvu,* the place for sharing knowledge*,* in the yard.  The participants reflect on the day's experiences in the *lávvu* together, every day. Sami Game Jam stressed this educational connection in, for instance, its logo, *Reahpenráigi* (presented in the cover of this thesis and designed by Sofi Kurtti). The Sami Game Jam logo is based on *reahpenráigi* because it is an apt description of the working method as well as the cooperation of multiple cultures in the process of working towards the game jam's goal. Sami Game Jam is a window through which to peek into game production as well as into Sámi education. The result will look different to each observer, just like each person sitting in the *lávvu* sees a slightly different part of the sky.

The structure of the event was based on a modified game jam time frame (Fowler et al. 2016; Kultima 2015). The aim of this was to facilitate the introduction of Sámi culture as a part of the programme. The 48-hour time frame reserved for game development was surrounded by a cultural framework that involved elements from Sámi education. In addition to the *lávvu*, another important cultural element was the cultural immersion day, which served mainly the non-Sámi participants by increasing their awareness of Sámi culture. The setting of Sami Game Jam also diverged from the standard game jam pattern when it came to assignments. Normally, a game jam is a place for creative playing where failure is allowed. In Sami Game Jam, however, failure would have negatively affected the Sámi community, so the pressure to succeed was stronger than in other game jams. The number of themes deviated from the standard formula as well (Fowler et al. 2016), since game jams commonly have only one theme rather than twelve. Sami Game Jam had such a high number of themes because it aimed provide a sufficiently expansive view into what it means to be Sámi.

Brainstorming on the themes started as early as the preliminary phase. Our initial list of themes was reviewed by two professors of Sámi culture. Based on their comments, we edited the themes: this editing concerned mainly the tone in which the themes were presented. Both commenters encouraged focusing on the culture's positive elements, despite the wrongdoings in the history of the Sámi (Lehtola 2015). As mentioned before, the themes involved three components: the title, the narrative interpretation, and the factual description. The Sámi participants thought that the narrative interpretation and factual description of the themes covered the diversity of Sáminess reasonably well, but some were worried about how the themes could be rendered in the games. The themes themselves would not

have been sufficient to produce the games that were born out of the process — the key contribution came from the Sámi participants, who expanded and elaborated on the themes among their team. When examining the final games, we should consider the Sámi participants' level of confidence in sharing their life events with the game development teams. Many of the participants acknowledged a controversy between their personal experience and the theme chosen by their team. This might easily result in the pressure to speak on behalf of a certain experience, as the Sámi participants were expected to lead the theme discussions to increase the international participants' understanding.

### 4.3.2  Sami Game Jam as an experience

The interpretation of the themes revealed the position of the Sámi participants and the diversity of the culture. The decision to combine two themes in one game supported the diverse interpretations of the culture in the games. Some Sámi participants offered to assist multiple game development teams, especially if the topic spoke to them. These situations created an environment of open communication and spread the knowledge-sharing process beyond the scope of individual teams. Many themes recognised the complexity and diversity of the Sámi identity, its controversiality and its nature as a continuous process. The Sámi participants had enrolled in the event for various reasons — reasons so varied that they even created a conflict during which one Sámi participant left the event altogether. This event strengthened the team members' conception of the complexity of the Sámi identity, and their understanding that Sáminess is not an issue to be solved with a single game.

The high speed of Sami Game Jam was also mentioned in the interviews. The workshop and the creative pressure caused by the fast pace left some participants unconvinced that they could achieve the goal, and the interviewees said that it had seemed unlikely that anything publishable could be born in such a short period of time. When it turned out that even 48 hours was sufficient to produce concrete, tangible digital games based on the themes, the Sámi participants said that they felt an enormous joy of success.

### 4.3.3  Experiences of Sáminess in the games

Many of the games employed elements typical for the Sámi game and play tradition, such as nature themes and the roles of animals (Itkonen 1941, 1948). Three of the games were examined in more detail: *Rievssat*, *Lost Memories* and *Jođus — On the Move*.

*Rievssat* is a story about a Northern Finnish ptarmigan bird facing the environmental effects caused by human actions. The game can be seen as a continuation of the Sámi tradition of performing animal roles (Itkonen 1941, 1948) through the player's identification with the bird. The game was inspired by the themes of "Strangers in Their Own Land" and "The People of Eight Seasons".

The ptarmigan's fight for survival over the course of the eight seasons symbolises the estrangement of one's own land when the outsiders, the colonial forces, gradually occupy more and more of the land. The bird is guided by the movements of the player's body, thus combining a goal-oriented strategy with a bodily experience of the Sámi people's experience of alienation.

*Lost Memories* employs VR technology in its interpretation of the themes of "Living Outside Samiland" and "Lost Memories". The universe of the game consists of two worlds: a dichotomy of an urban city studio and the vast openness of the *Sápmi* with its northern lights. Both ways of living represent the Sámi culture (Lehtola 2015). The player can move from one world to another via a perpetually shrinking portal, which vanishes at the end. The game tangibly demonstrates the challenge of choosing the right Sámi lifestyle. First, the player experiences a reality where these two ways of living exist parallel to each other. After the portal disappears, the player is a prisoner of one of the realities, which inevitably appears as only one half of a world to them. The game's timer increases the pressure to choose. The player also experiences stress because the game allows the transportation of objects from one world to the other in preparation for the time that the portal disappears. Such activity portrays the ethnostress familiar to many Sámi — the pressure to represent their cultural heritage in the right way.

*Jođus — On the Move* makes use of a balance board when interpreting the themes of "Border Crossing People" and "The Future Sami". In the same vein as *Lost Memories*, this game's landscape is two-fold, representing the urban and the natural environments. Breaking the biased attitudes of what it is like to live in the *Sápmi* is an important part of the game's built-in contrast. The game breaks stereotypes (see e.g. Lehtola 2015) by placing modern technology in the traditional Sámi environment and elements portraying the Sámi culture in the urban side of the landscape. The player controls the game by balancing on the balance board. Choosing which way to lean might be dictated by the pure pleasure of swaying from side to side, or by more goal-oriented, interest-bound intentions. Like *Lost Memories*, *Jođus — On the Move* is temporally restricted. The character travels through the world for a certain amount of time, and then sees a summary of the objects they collected, possibly accompanied by a relevant quote. The quotes might be connected to something the player picked up, or they might leave room for descriptive interpretation. As a result, the game can be travelled through in different ways: light-hearted or with emotional baggage.

## 4.4 Summary of the results

My aim was to study how game development events can promote the cultural self-expression of the Sámi. First and foremost, the results show that the social nature of game development events (Fowler et al. 2016) fits in well with the Sámi worldview

(table 2) and the traditional Sámi method of knowledge production (Balto 2005; Hirvonen 2003; Keskitalo et al. 2012; Kuokkanen 2009), while also supporting self-determination (LaPensée 2017). An indicator of the compatibility of the methods is that during the research project, a total of 16 games were created in either individual or team-based projects. The games reflected the contemporary, mundane Sáminess (Lehtola 2015) and the historically familiar elements of the Sámi game and play tradition (Itkonen 1941, 1948). The games focused on interpreting pre-assigned themes, but the games as such do not reflect (e.g. by overusing cultural symbols) that the main goal would have been to educate non-Sámi people about Sámi culture (LaPensée 2017).

Based on the results, we can conclude that Sámi game development is a cultural attribute (LaPensée 2017) that emerges when given space. The Sámi game developers did not draw from technical prowess, but rather from cultural knowledge. Combining technical skills with cultural insight generated socially constructed knowledge based on sharing (Smith 1999). The tangible outcomes (Fowler et al. 2016) of this process can be inspected in the form of games. The Sámi participants also saw the commonality of the game development event as a possible platform for building reconciliation, which, in and of itself, is telling of the collective experience and its potential.

# 5    DISCUSSION AND CONCLUSIONS

## 5.1  Reviewing reliability

This research has been conducted from an Indigenous standpoint, from the point of view of Indigenous people, and under the conditions of the Indigenous methodology. I have followed the Western habits of knowledge production and ethical guidelines insofar as they did not conflict directly with the Indigenous methodology. Research conducted under purely Indigenous methods produces Indigenous knowledge for the purposes of the community itself (see e.g. Irwin 1992), but I feel that stimulating academic discussion concerning any topic related to Sámi culture among non-Sámi communities is much needed. I consider it important that the phenomena are brought to common awareness to evoke discussion concerning Indigenous studies as a methodological framework.

I consider the data generated for the purposes of the study adequate to answer my research question, as the data was rich. The data concerns the experiences of the people who participated in the game development events, their thoughts and products, as arisen from new, never-before-seen situations: the programming course for adolescents and Sami Game Jam were the first Sámi events related to game development, at least in Utsjoki, and in the case of Sami Game Jam, globally. Organising similar events at other times and places might not reveal the same or even similar aspects of the phenomenon (Shenton 2009), as the publicity generated by the fact that these events were the first has already led to greater public awareness of, for example, the working methods. *Sámediggi* has accepted the games as a part of their online learning materials, which might reduce the organisational and participatory stress and pressure to succeed for the next event.

It has been argued before that objective Indigenous study has never existed and will never exist (Deloria 1992). In an effort to make my research more objective, I examine the reliability of my research in the following manner: I follow Indigenous criteria for objectivity (Kuokkanen 2009, Wilson 2008), and I employ Shenton's (2004) strategy to assure reliability in qualitative research.

Shenton's (2004) strategy is based on the notion that the methods used should be evaluated for how well they served the production of knowledge. Publication I used participatory observation and online surveys to collect its research data. I observed the group of course participants for brief moments only. I complemented my observations by compiling an online questionnaire for the course teachers and the assistant, who would observe the group as well. I agreed with the interviewees

beforehand that they would share their observations, but obviously it must be acknowledged here that the observation skills of those involved might not have been perfect (Creswell 2009). Their answers might have been influenced by *social desirability* (Lavrakas 2008), the point of answering in a socially acceptable way. In this case, it can be argued that the purpose of interviews was not the construction of factual knowledge but subjective experiences, as well as worldviews of the interviewee (May 2002). However, this possibility of imperfect observation skills was present throughout the study, but the research did not rely solely on my own observations. In this study, the observations are based on the accounts of one researcher and three participants; in study II, of two observers; and in study III, of three observers. The observation-based data has thus been multi-perspectivist and multifaceted, and the data has been complemented in different ways, depending on the study. Such diversity was chosen as a strategy to compensate for the individual restrictions, and I also welcomed outside perspectives, including the guidance I received for my dissertation (Shenton 2004). For example, the analyses have greatly benefited from the multi-perspectivism that the four researchers who worked on the publications introduced. It should be considered, however, that the definitive interpretation is one which I, as a member of the Indigenous community, have made from within the Indigenous community. My interpretations of the data are not the only possible ones, then, but in the framework of this study and through my interpretations, they are truthful (Eskola & Suoranta 1998; Wilson 2008).

Those who participate in research can only produce subjective and context-dependent knowledge. I cannot be fully certain that the survey or interview questions were understood as I intended them to, for example (Räsänen & Sarpila 2013). Another example is the video interviews of study III, in which I was not the interviewer. This might affect the data by altering the subjects' willingness to discuss certain matters (Kylmä & Juvakka 2007). This solution was not the most optimal for my research, but it was the only available one, as I fulfilled multiple overlapping roles at the event and was quite busy indeed. It must also be noted that the events would not have existed without me as an active organiser. I identified not only the need for studying the culture from within in this field, but also the need for the events as such. As a representative of a small minority, I am not in the privileged position to join an gaming event focused on my culture organised by someone else. Having said that, however, I would, if I were to redo the current research, reserve considerably more time for data collection.

Participating in the studies was fully voluntary (Shenton 2004; Wilson 2008). Especially in the *lávvu* sessions of studies II and III, I stressed early on that there was no right or wrong way to be present, and that there is room for all kinds of expression. This surfaced in the studies through, for example, the Sámi participants feeling brave enough to present aspects of Sáminess that they thought represented the wrong way of being Sámi. The non-Sámi participants were open about their

anxieties of being welcomed in the Sámi community. When answering the research question, I have taken different points of view into account, and expressed these points of view openly. I have not hidden any phenomena that I found but described them in the studies as a part of the larger whole.

I have addressed my own subjectivity from the point of view of the Indigenous methodology. The notions that the target group would remain abstract or unknown, or that I identify with the target group too intensely, are not risks for the reliability of my study. Instead, they are constitutive parts of it (Kuokkanen 2009; Wilson 2008). Shenton (2004, 65) describes thorough devotion to the research context as a part of reliability. I am a part of the target group — that is, in fact, one of the supporting factors of my study. It has also been a reason, however, to seriously reflect on the fieldwork, for example, by employing the researcher diary (Gunthert & Wenze 2012). I have been able to reflect on my multiple roles in the field, different interaction relations, as well as my complex feelings concerning the work, but I cannot escape my subjective interpretation of the data completely.

From the point of view of Indigenous research, it is crucial to assess how conducting this research has changed me as a part of my community (Wilson 2008). I have learned much during the process — most importantly, perhaps, I have learned about myself and my boundaries. Research requires deep self-reflection; as a subjective observer of the group I belong to, I have to identify and admit my own prejudices. Looking back, my aims in this project were ambitious, to say the least, and the project has tested me in ways that I could not foresee. Even in the darkest moments, it has been quite helpful to involve multiple researchers in the project, which alleviated some of the stress of my personal life at the time. The results of the research were a surprise even to myself, because I found answers, but also many new questions. If I were to redo the research now, I might have made different choices. The events that formed the base of the study served multiple purposes, which led to fractioned project management and a lot of stress, for no clear profit. One solution might have been, for example, to downscale my study or its goals. On the other hand, I do feel the pressure to work as hard as possible for the preservation of my culture.

If I had researched a topic that I was not personally attached to, it would have been easier to detach my life from my work. This was not possible for me, however, as I was studying my own Indigenous community. My research has benefited from that, but personally, it was a painful process. I have also been forced to juxtapose the Western, academic world with Indigenous ways of knowledge production (Wilson 2008). I often had to make compromises that do not adhere fully to my code of conduct, and I hope that, for instance, the level of my literal self-expression will not create feelings of otherness among my community. I have contemplated this process and the changes I have undergone over the course of this study: have I changed as a member of my culture, or adapted to external demands? Most likely, both. However, I consider relativity and the respect of these relations the most meaningful factor in

the assessment of reliability (Wilson 2008), and I do feel that I have succeeded in both describing and cherishing these relations in my research.

## 5.2 Empowering Sámi self-expression in digital games

Over the course of this study, 16 new games based on Sámi culture were created, game programming was taught to Sámi adolescents, and Sami Game Jam was developed and integrated as a part of Sámi culture and art. The practical impact of the research consists of these new openings. Digital games are becoming a tool for Sámi self-expression and identity-exploring. Many Sámi participants of Sami Game Jam expressed a wish to repeat the event. This will surely happen in the future, which would multiply the number of Sámi games available. Six of the currently existing games are freely available online, for the benefit of all those interested. *Sámediggi* has included these six games in their material bank, which is telling of the acceptance of digital games and the principle of giving back. In early childhood education and primary education, it has been possible to make use of these games across subject borders. The knowledge base that the participants have developed concerning both game development and Sámi culture stir public discussion within the community and on a global scale.

## 5.3 Contribution to the scientific discussion

The most relevant theoretical contribution to academia of my research is the digital *árran* (grate) and the Indigenous game design model. Digital *árran* (see publications I–III) is the theoretical framework designed specifically for my research. It is based on various aspects of Sámi education, and used as a structure for creating knowledge in an Indigenous context. The purpose of digital *árran* is to introduce the Sámi method of constructing and sharing knowledge (Cocq 2013; Keskitalo et al. 2014; Rahko-Ravantti 2016) to the digital environment, to be used aside or as an integrated structure of it. Publication I shows how the digital *árran* works: it can be seen, for example, in the circular formation of the desks and in the idea of a digital learning environment in which knowledge is shared socially. In publications II and III, the model was integrated as a part of the event in the form of the physical *lávvu*, and, more extensively, on a conceptual level.

Survivance (LaPensée 2017) in the context of Indigenous game development is described as a positive place, space, attitude, or concept that acknowledges cultural history while focusing on the future. This concept guides the Indigenous self-determination in the games. Attributes of survivance in the games are storytelling, contemporary experiences, teachings, and language. These attributes can also work as the foundation from which to describe Indigenous empowerment in games and

game design. I have developed the Indigenous game design model (figure 1) to help illustrate this. The model is based on the concept of survivance and an Indigenous worldview (table 2), a positive outgrowing of colonialism (Rahko-Ravantti 2016), the history of the Sámi as game developers (Borvo 2001, Itkonen 1941, 1948), and the Sámi way of constructing knowledge (Balto 2005), which I here connect to my own research results. The model can assist, for example, in exploring Sámi game designing as a process. The Indigenous game design model is based on the fact that the Indigenous people have created games throughout history (Itkonen 1941, 1948; LaPensée 2017). They developed games already before digitalisation, and these new tools open new pathways for their cultural expression. The model's visual framework is also the *reahpenráigi* logo of Sami Game Jam, which depicts the smoke hole of the *lávvu* from within. The graphic design of the logo, designed by Sofi Kurtti, represents the Sámi game design process. The *lávvu* marks the arena for sharing and constructing knowledge, forming the framework of the model. Empowerment grows from a state of survivance, which can be seen as the source of all Indigenous creativity (LaPensée 2017).
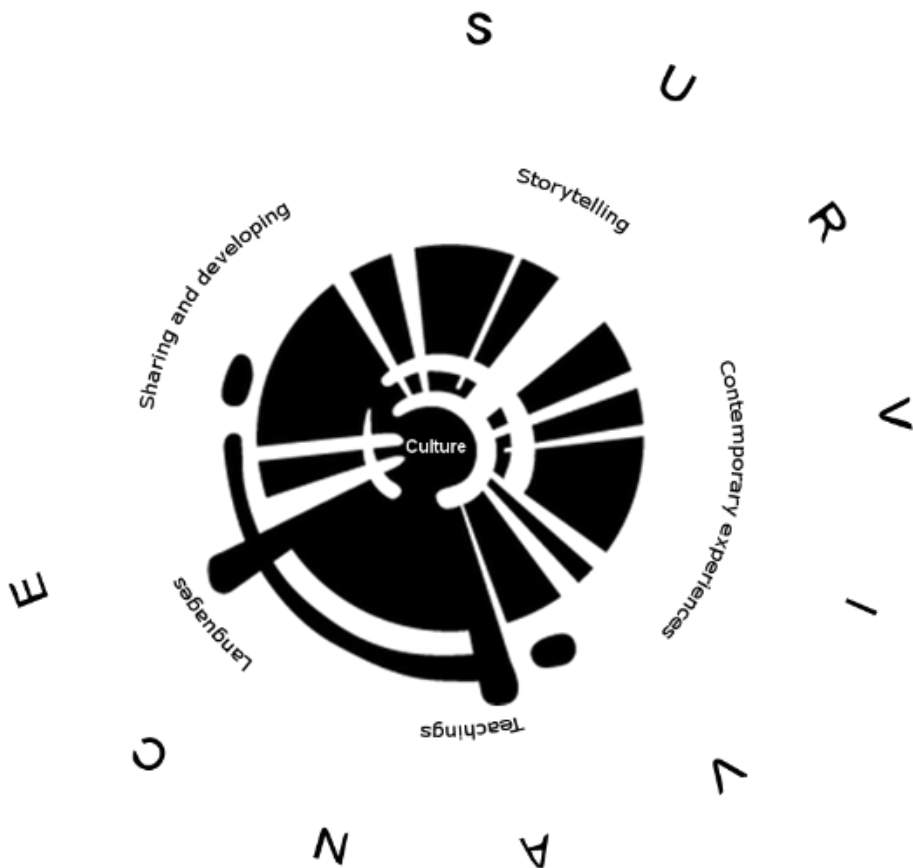


*Figure 1. Indigenous game design model*

Empowerment can be examined in terms of five aspects: storytelling, contemporary experiences, teachings, language, and sharing and developing. These five aspects are realised in my study as follows:

*Storytelling* was represented on multiple levels. There were contemporary accounts (e.g. *Sáivu*) as well as storytelling that drew from the past and represented it on a new platform (e.g. *Gufihtara Eallu*). Storytelling also addressed the subject of identity (e.g. in *Lost Memories*, *Jođus — On the Move*, and *Mu Luodda*). Other games told stories by inventing new, didactic stories (e.g. *Rievssat*). Many games also employed the story format to achieve indirect education of the imaginary player, which would reach the actual player in accordance with their life experiences (Cregan 2018). Representations of Sáminess were shared throughout the game development process as stories. Stories of reindeer management on the programming course and accounts of Sáminess shared in the *lávvu* followed the Sámi way of knowledge formation. The games and the game development context were seen as a space where the storytelling tradition lives and evolves.

*Contemporary experiences* could be observed in the games produced in the programming course for adolescents and in Sami Game Jam. Common themes here included reflections on identity and maintaining a balance between two cultures (e.g. *Jođus — On the Move* and *Mu Luodda*). *Sáivu* raised aspects of contemporary Sáminess by employing activism and artivism through water pollution control. At the programming course for adolescents, the games featured elements of the Sámi's connection to nature, as well as more universally familiar characters and landscapes, which were selected according to contemporary interest. Instead of revitalisation, accounts of contemporary Sámi experiences can be seen as *normalisation* of Sáminess, where technology-based creativity draws from contemporary life-experiences. Representing the Sámi's contemporary experiences and their normalisation in games empowers and authorises Sámi people as the developers of their own culture.

*Teachings* were present in the games: especially in the internal logic of the games, which was based on Indigenous knowledge. The playing experience, then, is defined by the player's cultural knowledge. For example, *Jođus — On the Move* can be experienced as entertaining, swaying from meaningless object to meaningless object, or it can be experienced as a conscious portrayal of identity formation. This might have an effect on the player's results in the game. If the objective is to be as good as possible, the playing experience produces knowledge in a dialogical process between the game and the player in an Indigenous context. When the game developer consciously incorporates these structures into the game, a cultural insider gets a head start. As a result, the game consolidates the value of cultural inherited knowledge and empowers the game developer.

*Languages* have been present in the games and as a tool of game design, as an object of learning, and as part of the *programming structures*. For example, in *Sáivu*, the player forms Northern Sámi words, letter by letter, which would allow

the player to connect to the language. The game's audio track also features all three Sámi language variants spoken in Finland. The game, then, provides the possibility to learn the languages and learn about water pollution control through the story. On the programming course for adolescents, Northern Sámi was supported in the programming language, which enabled, for example, Northern Sámi language variables. Also, the game engine was adjusted to fit the Sámi context in the cooperation between the teachers and the students. This is a concise example of the possibility of remodelling existing technological structures according to the needs of Indigenous people. To summarise, language can empower us to change technological structures as well as enable us to transfer traditional knowledge through and in the language.

*Sharing and developing* empowers Sámi people, for example, through the process of adjusting the existing tools. Game development tools, such as programming, can reveal Indigenous knowledge in the development process. The first publication showed how the programming knowledge of the game engine was shared among the students and teachers, so that the code could be adjusted to accommodate into a Sámi context. The Indigenous people did not have to adapt their knowledge base to fit the prevailing technological solutions: they instead found a solution at the other end, on the level of the code, so that the game engine was adjusted to meet the demands of the Sámi knowledge base. Realisations of mathematics, physics, and language can remain in the form that they have in the Indigenous knowledge base. The structural remodelling of the tool, and the Indigenous development of the code, empowers individuals and communities — but this presupposes that knowledge of tools is shared and developed.

In my model, these five aspects bring what they took from the concept of survivance towards the *reahpenráigi*, or the smoke hole of the *lávvu*. Those who have visited a *lávvu* know that the smoke hole reveals a bit of sky. In the view expressed by this model, the Indigenous empowerment created in and by the games shows everyone, regardless of cultural background, a bit of the Indigenous culture. Nevertheless, this peek into the culture is tiny: it is very much like the *reahpenráigi*. We know that the sky is significantly bigger than what we can observe through the hole, and this is how culture is conceptualised in the model. Focusing the audience's view through the hole is up to the Indigenous game developer.

There are no arrows in the model: it can be read from the inside out or from the outside in. From the inside out, the sliver of observed culture is the starting point. With the help of the five aspects described above, it grows outwards, towards survivance as a creative space. Consequently, empowerment produces culture and culture produces empowerment. It should be noted, however, that the Indigenous games, and the development processes of those games, are always unique, and thus it is not necessary to restrict the creative process to the features of this model. The model does not try to standardise the process of creating games (see e.g. LaPensée 2017), nor is it my aim to present the model as symmetrical or comprehensive. Its

fields are not described as equal in size, as the traits might have different emphases in the game design process, and they might not all be relevant for all game development processes. The empty space in the model is not meaningless, either: it acts as the space for the described fields to grow in the game development process. Even survivance has not been portrayed as perfect in the model, because it continues to develop in the cultural self-expression of the creation process. The font sizes grow bigger towards the outside of the model, representing the outward growth of the model itself. It might not be very traditional to capture the concept of *culture* in such a small font, but in this model, it demonstrates the sheer impossibility of satisfactorily describing an entire culture in a single game.

In section 1.1, I described the primary reason for this research as finding out how Sáminess is represented in the digital games, by whom, for whom, and on whose terms. First and foremost, it should be concluded that digital games play an empowering role in Sámi culture as a platform for self-determination supporting both the traditional game and play tradition and preserving and developing the Sámi's intangible cultural heritage. Games relevant to Sámi culture and communities can be created collectively in game development events when the Sámi culture and the Sámi themselves are part of this process (see e.g. LaPensée 2017). Following the Indigenous studies' principle of giving back (Kuokkanen 2009, Smith 1999, Wilson 2008), the games that were created in the context of this study are freely available online. The participants of this study acted as the experts of their own culture and as equal members of their teams. They felt compelled to contribute to game development because it benefits the Sámi — and, because of that, themselves.

It should be understood that commerciality, when involved, might change the situation significantly. Developing a commercial game is challenging precisely because of its commerciality: the game must sell, and the makers must profit from it. That does not always fit in comfortably with a creator's vision of their product. The pressure to preserve the culture (Kuokkanen 1999) may be strongly present in the everyday lives of Indigenous people, and this might lead to feeling pressure to promote the culture through unhelpful compromises (Creagan 2018). On the other hand, restricting Indigenous self-expression exclusively to non-commercial activities in capitalist societal conditions would mean restricting both creativity and livelihoods (Coronado 2014).

In this study, the cultural games developed from within the Sámi culture serve to normalise mundane Sáminess, rather than to promote cultural symbols or underscore the fact that they are games based on Sámi culture. One cause of this might be the fact that the games were designed to represent Sáminess and experiences of Sáminess, for the Sámi people themselves. If the target audience were to be expanded to other cultures, the presentation of cultural symbols might be extended, as culture sells best in the form in which it is known by the majority (Coronado 2014). When the Sámi make games for themselves, they do not have to underscore the importance of

cultural objects or situations and are free to instead focus on the deeper thematic levels at, for instance, the emotional level. When that happens, the games can truly express something genuine: current, everyday cultural content without the pressure to please outsiders (Creagan 2018; LaPensée 2017).

Although a handful of game development events may not solve anything, they are steps towards independent, unconstrained Sámi game development. For both the academic field and the Sámi game development scene, I consider it important to study Sámi people as consumers as well, not just as producers (LaPensée 2017). With the Indigenous game design model, Sami Game Jam could develop into an event that attracts participants from different Indigenous communities with experience in the game industry. This would reduce the need for cultural immersion or emphasis on the importance of Indigenous learning and sharing knowledge on a scale similar to the first Sami Game Jam, as all participants will already be familiar with the Indigenous worldview (Stevenson 1996). In this case, we can focus directly on constructing shared knowledge on the terms of the Indigenous people themselves — and on thoroughly investigating Indigenous self-determination in the context of games. Having said that, although I have decided to walk the path of Indigenous researchers, I still am curious about the other path of 'mainstream' research. However, I find it safer for my Indigenous worldview that my future research follows the design of the Sami Game Jam by combining the worldviews through researcher collaboration and not just through me. These two paths can both have a researcher walking the walk, side by side, and sometimes holding hands. Furthermore, walking and talking can form a dialogue, in a form of research, where different theories and concepts are explored through the eyes of the walkers. It can be seen as a form of double consciousness (Du Bois 1994) where theories are explored through different worldviews.

This dissertation provided many learning experiences in game development for myself and for the people who took part in my studies. In the interviews, the participants reflected on what they would like players to learn from their games, but more research is needed to understand the learning experiences of players of different cultural backgrounds. This notion highlights the chain of learning and its holistic benefits: the game developers benefit from developing the games, and perhaps the players benefit from playing and experiencing the games. There are not many games that teach players about Sámi culture or Sámi languages, but my research shows that this situation can also be regarded in a positive light. Outsourcing the development of games from the Sámi community means that game development skills remain outside the community, but if the starting point is to support the collective, communal learning process (Meriläinen et al. 2020), or to consolidate the developers' agency, it already increases the game development capital of the Sámi — even without finished games. The Sámi people cannot act as mere passive consumers of digital content, simply because there would not be enough of them to produce

digital games. The production side of digital games, too, is wide open to Indigenous people, and it would be wrong to assume that they do not have the resources to take their place there.

# EPILOGUE — GAME OVER, continue?

"Thank you, Mario, but our Princess is in another castle!" (*Super Mario Bros.*, 1985)

This famous line, from the 1985 game *Super Mario Bros.*, expresses the idea that reaching one goal automatically leads but the next. That is the name of the game. Writing this, I do not yet know what I will find in the next castle, exactly, but I do know that I have never stopped playing a game before it was over.

This study allowed me to be a part of two Indigenous game development events in Utsjoki. What I remember most fondly from the events is the group of Sámi people who were interested in games, who looked at the visiting game developers and identified something familiar: a fascination with games. At one point, I might have found an answer to why I wanted to study Sáminess in games, when one of the interviewees put my feelings into words. The data collection process of my study took place in situations which aroused interest in the media, and as it happened, a journalist had asked from a participant if combining Sáminess and games would ruin the Sámi culture.

> *"...this was an interesting study, or field trip, into ways of combining new ways and the so-called modern culture, which is what the gaming culture is. And that is in no way a traditional approach. I remember a journalist asking me how they match,* Sáminess and the gaming culture, and if it ruins the Sámi culture in some way. *I was like, well, of course not. It's actually really great to see how they can be combined."* — P1 [*"...tämä oli mielenkiintoinen tutkimus tai opintomatka siihen, millä lailla voi yhdistää uusia tapoja ja niin kutsuttua nykyajan kulttuuria, kuten pelikulttuuri on. Ja sehän ei ole mikään perinteinen lähestymistapa, tai kun miettii vaikka sitä, kun tuli yksi toimittaja kysymään, että millä tavalla ne sopii yhteen, saamelaisuus ja pelikulttuuri. Tai että pilaako tämä jollain tavalla tämän saamelaisen kulttuurin. Ja minä, että no ei tietenkään, että sehän on nimenomaan todella hienoa nähdä se, että millä tavalla niitä voi sovittaa yhteen."*]

In the prologue, I wrote about the International Indigenous Research Conference, and how I was part of a setting described as "old ways of knowing, new ways of doing". This dissertation was a field trip to discover how to use new tools with an old knowledge base. The field trip involved mistakes, of course, but something was also done right. An example of this is that the participants of Sami Game Jam expressed

their eagerness for their next excursion into the world of digital game development. I have already decided that Sami Game Jam will get a sequel, one way or another — and this time we will assemble Indigenous game developers. Sami Game Jam deserves to grow as a creative platform that focuses on Indigenous self-expression and empowerment as a community.

Sámi people are storytellers, and storytelling is an element of intangible cultural heritage. Sámi stories, by nature, are not linear: they wind and sprawl from their core according to the interests of the listeners and the storyteller's personality. If I think that my dissertation is just one branch or a bypath in my story twining around games, then my core story will continue for a long time to come. And what about Sámi games? Well, that story continues on its own path.

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# APPENDICES

## Appendix 1. Sub-study I: Programming course for adolescents guardian letter in Northern Sámi

Buorre fuolaheaddji

Leat almmuhan iežat fuolaheami vuloš máná speallaprogrammerenkursii, mii ordnejuvvo Ohcejogas Áilegas-guovddážis suoidnemánus 24.-28.7.2017. Speallaprográmmerenkurssa lea Ohceoga gieldda nuoraiddoaibma ordnen ja ruhtadeaddjin doaibmá Leader Pohjoisin Lappi. Projeaktaruhtadeami iežasvástidanoasi mii gokčat nuvttá oktasašbargguin (talkoot), ja leange bivdán orrunsajiid eaktodáhtolaš ordnejeaddjiid deavdit sierranas talkoobargolisttá orrunsadjediimmuin. Listtáid fidne mus lagabus kursaáiggi. Kurssa oahpahus álgá juohke iđit d. 9. Iđitborramuš oassálastiide fállojuvvo d. 8 rájes Áilegas-guovddážis. Gaskabeaimállása fidne 11.00-12.30 gaskka, goas fidnojuvvo boradeamen rabasbálvalusguovddážis. Prográmmeren joatkašuvvá d. 15 rádjai, man maŋŋá lea rávvejuvvon lihkadeapmi. Veaigebeaimális fállojuvvo rabasbálvalusguovddážis d. 15.45-16.00 ja beaivi nohká dasa. Kursii leat dán háve vehá liiggás várremat, nu ahte amma almmuhat buriin áiggiin, jos šluhttet oassálastima. Áilegas-guovddážis gávdnojit gal mátkedihtorat, muhto iežas mašiinna oažžu nu hálidettiin váldit fárrui. Čoakkán kurssa áigge oassálastiid vásáhusaid ja jurdagiid speallaprográmmeremis nákkosgirjedutkamušan várás. Mu nákkosdutkamuša fáddán lea álgoálbmoga kultuvrra vuhtii váldima vejolašvuođat prográmmerema oahpahusas ja mu dutkamušbáiki lea Lappi Universitehtta. Mu bagadallin doaibmaba professor Satu Uusiautti sihke doseanta ja veahkkeprofessor Pigga Keskitalo. Materiála čoggojuvvo jearahemiiguin, dievasmahtti jearahallamiiguin ja fuomášumiiguin. Bijan čuovusin pro gradu-dutkamušan čoahkkáigeasu, mii doaibmá mu nákkosdutkamuša vuođđun. Čoagginvuloš materiála gieđahallojuvvo luohttámušlaččat eaige jearahemiin gieđahallojuvvo árggeslundosaš áššit: deaddočuokkis lea mánáid iežaset prográmmerenvásáhusain sihke prográmmerema oahpaheami buoridandárbbuin.

Agivuložiid guoski dutkamušas dutkanlobi galgá jearrat sihke mánás alddás, ja fuolaheaddjis, nuba bivddán din vástidit dán šleađgapoastasáddagii ja guitet, ahte du fuolaheami vuloš mánná oažžu oassálastit dutkamuššii.

## OVDAL KURSII OASSÁLASTIMA BIVDDÁN DU ALMMUHIT ČUOVVOVAŠ ÁŠŠIID VÁSTIDEMIIN MUNNJE DÁN ŠLEAĐGAPOSTII:

Rávvejuvvon lihkadeami doaivumušat: leatgo du fuolaheami vuloš mánás ovdamearkka dihtii lihkadeami hárrái ráddjehusat, maid galggašii váldit vuhtii? Rávvejuvvon lihkadeami geahččalit ordnet vuordámušaid mielde.

Dutkamušlohpi: mu fuolaheami vuloš mánná oažžu oassálastit prográmmerendutkamuššii.

Jos dus lea jearramuš kurssa ordnedemiin dahje dutkamušas, de sáhtat leat oktvuođas Outi Laitiin

Ustitlaš dearvuođaiguin,

## Appendix 2. Sub-study I: Programming course for adolescents guardian letter in Finnish

Hyvä huoltaja

Olette ilmoittaneet huollettavanne peliohjelmointikurssille, joka järjestetään Utsjoella Áilegas-keskuksessa heinäkuussa 24.-28.7.2017. Peliohjelmointikurssi on Utsjoen kunnan nuorisotoimen järjestämä ja rahoittajana toimii Leader Pohjoisin Lappi. Hankerahoituksen omavastuuosuutta katamme talkoilla, ja olenkin pyytänyt vapaaehtoisia majoittajia täyttämään erillistä talkootyölistaa majoitustunneista. Listat saatte lähempänä ajankohtaa minulta.

Kurssin opetus alkaa joka aamu klo 9. Aamupala osallistujille tarjotaan klo 8 alkaen Áilegas-keskuksessa. Lounas ajoittuu 11.00–12.30-välille, jolloin käydään syömässä avopalvelukeskuksessa. Ohjelmointi jatkuu klo 15 asti, jonka jälkeen on ohjattua liikuntaa. Päivällinen tarjoillaan avopalvelukeskuksessa klo 15.45–16.00 ja päivä päättyy siihen.

Kurssi on tällä hetkellä hieman ylibuukattu, joten ilmoitathan hyvissä ajoin, mikäli perutte osallistumisenne. Áilegas-keskuksesta löytyy kannettavia tietokoneita kyllä, mutta oman koneen saa halutessaan ottaa mukaan.

Kerään kurssilla osallistujien kokemuksia ja ajatuksia peliohjelmoinnista väitöskirjatutkimustani varten. Väitöstutkimukseni aiheena on alkuperäiskansan kulttuurin huomioimisen mahdollisuudet ohjelmoinnin opetuksessa ja tutkimuspaikkani on Lapin Yliopisto. Ohjaajinani toimivat professori Satu Uusiautti sekä dosentti ja apulaisprofessori Pigga Keskitalo. Aineistoa kerätään kyselyillä, täydentävillä haastatteluilla ja havainnoimalla. Laitan liitteeksi pro gradu-tutkimukseni tiivistelmän, joka toimii väitöstutkimukseni pohjana. Kerättävä aineisto käsitellään luottamuksellisesti eikä kyselyissä käsitellä arkaluontoisia asioita: painopiste on lasten omissa ohjelmointikokemuksissa sekä ohjelmoinnin opettamisen kehittämistarpeissa.

Alaikäisiä koskevassa tutkimuksessa tutkimuslupa tulee pyytää sekä lapselta itseltään, että huoltajalta, joten pyydän teitä vastaamaan tähän sähköpostiviestiin ja kuittaamaan, että huollettavanne saa osallistua tutkimukseen.

ENNEN KURSSILLE OSALLISTUMISTA PYYDÄN TEITÄ ILMOITTAMAAN SEURAAVAT ASIAT VASTAAMALLA MINULLE TÄHÄN SÄHKÖPOSTIIN:

Ohjatun liikunnan toiveet: onko huollettavallanne esimerkiksi liikuntarajoitteita, joita tulisi huomioida? Ohjattu liikunta pyritään järjestämään toiveiden mukaiseksi.

Tutkimuslupa: huollettavani saa osallistua ohjelmointitutkimukseen.

Mikäli teillä on kysyttävää kurssin järjestelyistä tai tutkimuksesta, voitte olla yhteydessä Outi Laitiin

Ystävällisin terveisin,

## Appendix 3. Sub-study I: The teachers' starting survey questions

How long have you taught programming? [Kauanko olet opettanut ohjelmointia?]

What do you know about the Sámi languages and Sámi culture already? [Mitä tiedät entuudestaan saamen kielistä ja saamelaiskulttuurista?]

Have you visited the Sámi land in Finland, Norway, Sweden, or Russia before?] [Oletko aiemmin käynyt saamelaisalueella Suomessa, Norjassa, Ruotsissa tai Venäjällä?]

How many times have you taught the Programming course for adolescents before the one taking place in Utsjoki? [Montako kertaa olet opettanut nuorten peliohjelmointikurssia ennen Utsjoella järjestettävää kurssia?]

How do you think the Utsjoki course might differ from the previous courses? [Miten ajattelet Utsjoen kurssin eroavan aikaisemmista kursseista?]

Do you think you will face challenges during the course? What kind of challenges? [Uskotko kohtaavasi kurssin opettamisen aikana haasteita, millaisia?]

Do you believe yourself to develop during the course? In what areas? [Uskotko kehittyväsi itse kurssin aikana, missä asioissa?]

Do you think the students' language and culture should be considered when teaching programming? [Tulisiko mielestäsi ohjelmoinnin opetuksessa huomioida opiskelijoiden kieli ja kulttuuri?]

## Appendix 4. Sub-study I: The teachers' final survey questions

What did you learn about Sámi languages and Sámi culture during the course? [Mitä opit kurssin aikana saamen kielistä ja saamelaiskulttuurista?]

How did the programming course in Utsjoki differ from the previous courses? [Miten Utsjoen peliohjelmointikurssi erosi aikaisemmista kursseista?]

What kind of similarities were there between the programming course organised in Utsjoki and the previous courses? [Mitä yhtäläisyyksiä on Utsjoen peliohjelmointikurssilla ja aikaisemmilla kursseilla?]

What kind of challenges did you face during the course? [Millaisia haasteita kohtasit kurssin aikana?]

What do you think went well on the course? [Mikä kurssilla meni mielestäsi hyvin?]

Do you think that the students' language and culture should be considered when teaching programming? [Tulisiko mielestäsi ohjelmoinnin opetuksessa huomioida opiskelijoiden kieli ja kulttuuri?]

Would you have benefited from knowing the Sámi language and culture in the teaching situation? [Olisiko saamen kielen ja saamelaiskulttuurin tuntemisesta ollut sinulle opetustilanteessa hyötyä?]

Do you have suggestions on how, for instance, Sámi languages and culture could be taken into account when teaching programming? [Onko sinulla ehdotuksia, miten esimerkiksi saamen kieltä ja kulttuuria voisi huomioida ohjelmoinnin opettamisessa?]

Do you think the materials used on the course should be localised, for example, by translating? [Tulisiko mielestäsi kurssilla käytettyjä aineistoja ns. lokalisoida eli esimerkiksi tarvittaessa kääntää?]

Do you have any other comments regarding the programming course? Did you, for example, make other noteworthy observations during the course than the ones addressed in this form? [Onko sinulla muuta kommentoitavaa peliohjelmointikurssiin liittyen? Teitkö esimerkiksi jotakin erityisiä havaintoja kurssilla, joita tässä ei kysytty?]

## Appendix 5. Sub-study I: The course assistant's online survey questions

What do you think went well on the course? [Mikä kurssilla meni mielestäsi hyvin?]

What did the course participants seem to find challenging? [Mikä oli mielestäsi haastavaa kurssin oppilaille?]

In your opinion, how did the Sámi language and culture show on the course? [Miten saamen kieli ja saamelaiskulttuuri näkyi mielestäsi kurssilla?]

Did the teaching take Sámi language and culture into account? [Huomioitiinko kurssin opetuksessa saamen kieltä ja kulttuuria?]

In what connection did the students use Sámi during the course? [Missä yhteydessä kurssin oppilaat käyttivät saamea kurssin aikana?]

Based on your experiences during the course, do you consider it possible to teach programming in Sámi and from the starting point of Sámi culture in future? [Koetko kurssilla näkemäsi perusteella, että ohjelmointia voidaan tulevaisuudessa opettaa myös saameksi ja saamelaiskulttuurilähtöisesti?]

Would the teachers have benefited from knowing Sámi language and culture? [Olisiko saamen kielen ja saamelaiskulttuurin tuntemisesta ollut mielestäsi opettajille hyötyä?]

Do you have suggestions on how, for instance, Sámi languages and culture could be taken into account when teaching programming? [Onko sinulla ehdotuksia, miten esimerkiksi saamen kieltä ja kulttuuria voisi huomioida ohjelmoinnin opettamisessa?]

What kind of observations did you make on the students during the course? [Millaisia havaintoja teit kurssin oppilaista kurssin aikana?]

**Appendix 6. Sub-study II: Sami Game Jam themes**

**1. Strangers in Their Own Land**
- Speak - but speak our language. Wear clothes - but only what we want you to wear. Learn - but learn in our way.
- The assimilation policy left a deep scar in Sámi society. It is a trauma that is passed from generation to generation.

**2. Border Crossing People**
- One day it was one village. The next day it was two. Divided between a King and a Tzar. In the years to come the villagers paid their taxes not to one, but to three countries.
- The nation has no borders, but countries do. The Sámi were divided by the four states of Russia, Finland, Norway and Sweden. But still there is one united Sámiland, Sápmi.

**3. Cross-Generational Stories**
- In the nearby mountain lives Stallu, the man-eating ogre. I am not supposed to go there at nighttime when he is awake. And Čáhcerávga, a water wrath living in our well, could snatch me away. Anytime. Grandmother says not to go near. I know my territory, it's monsters and spirits.
- Sámi children know which places are safe and which are not because of the stories passed from generation to generation. They learn the right way of doing things through stories.

**4. The People of Eight Seasons**
- Nature will tell us what's next: When it's time to gather the reindeer herd, when it's time to fish, when the cloudberries are ready to be picked and when it's time to rest. We listen and nature will show. We gulahalla luondduin – speak with the Earth.
- Spring, spring-summer, summer, fall-summer, fall, fall-winter, winter, spring-winter. The rhythm of life is based on the circle of the seasons.

**5. Persistent Stereotypes**
- People see me, but they don't really see me. They expect me to behave and act like my ancestors did. People see me through romantic images or negative expectations they have for my culture. Am I the one who decides what I am, how I look and how I behave? I'm not here to fulfill the stereotypes, not the good ones or the bad ones.

• The modern society evolves but somehow the indigenous Sámi should stay the same.

## 6. Living Outside the Sámiland

• The pace of the city is faster, it makes one almost dizzy. The air smells filthy and the ground is filled with trash. Back home the snow is white. Here it's brown or it doesn't exist at all. There is too much of everything: the noise, the smells, people, houses, cars, trees, colours... Too much! I miss home, where I can breathe again, where I can hear my language and be with my people. Until I want escape again. Back here. In the city.

• Most Sámi already live outside the Sámiland. For instance, 1000 Sámi live in Helsinki area. Some Sámi people identify themselves as "city-Sámi".

## 7. Ultima Thule

• I am the light and I am the darkness, I am the strong and I am the frail. In all extremes, I have persisted and adapted - but for how long?

• By definition, Ultima Thule is "A distant unknown region; the extreme limit of travel and discovery". The Sámiland is located in the Arctic. The area is characterized by the long distances and extreme variation of light and temperatures. The people have adapted to harsh conditions. Although the people have adapted, the beautiful arctic nature is very sensitive to changes.

## 8. One Nation, Many Languages

• My great grandmother spoke Inari Sámi, Northern Sámi and Finnish. Grandmother, áhkku, spoke Northern Sámi and Finnish. My father spoke Northern Sámi and Finnish but lost the first one. I speak only Finnish. How can my children find their voice if they don't know their mother tongue?

• The Sámi have always been multilingual. Even though many Sámi have lost their language, the Sámi don't fall silent.

## 9. Ethnostress

• Don't panic! It's up to you to ensure that Sámi culture, language and traditions survive. No pressure.

• Sámi languages and culture are endangered. From the moment a Sámi child is born, they inherit a responsibility of preserving and reviving their culture. It can be a heavy burden for one individual to carry.

## 10. Activism and Artivism

• An island. Standing tall in the middle of a river. This island is moratorium, where laws don't apply. Occupied by brave Sámi warriors. Fighting for their rights with disobedience. Using words and art as their weapon.

• The Sámi is a nation of peace. Still they have been forced to fight for their survival. Some Sámi fight with words, art and music.

## 11. The Future Sámi

• Where do we go from here? Blend in, change our ways or find our voice and prosper? How do we gain our living in the future? What happens to us and the Sámiland?

• The Sámi can listen and understand the nature, but can they overcome the power of the artificial? What kind of skills will Sámi people need in the future to survive and make most out of what is available? How can ancestral and local knowledge be adapted to meet the demands of the future?

## 12. Lost Memories

• When Áddjá is gone, who will tell his story? When he forgets, who will remember?

• Many aging Sámi have their future in institutional care. Often the connection to their culture is cut off. The languages learned later become forgotten and independent performance weakens. Nothing in the new environment reminds them of the life they've lived.

## Appendix 7. Sub-Study II & III: The parent/guardian consent form in Finnish

Vanhemman/huoltajan suostumuslomake
Osallistujan nimi:
Kotiosoite:
Tapahtuman järjestäjät: Finnish Game Jam ry sekä Utsjoen kunta
Tapahtuman nimi: Sami Game Jam
Tapahtuman ajankohta: 20.-26.2.2018
Yhteyshenkilön yhteystiedot: Outi Laiti

Sami Game Jam -tapahtumaan osallistumisen ehtona on, että vanhempi/vanhemmat tai huoltaja/huoltajat allekirjoittavat tämän lomakkeen ennen tapahtuman alkamista ja toimittavat lomakkeen skannattuna osoitteeseen outi.laiti@utsjoki.fi. Mikäli tarvitsette lisätietoja tai haluatte keskustella tästä suostumuslomakkeesta, ottakaa yhteyttä yhteyshenkilöön.

Käytän tapahtumassa syntyvää aineistoa väitöskirjatutkimuksessani. Väitöstutkimukseni aiheena on alkuperäiskansan kulttuurin huomioimisen mahdollisuudet peleissä sekä ohjelmoinnin opetuksessa ja tutkimuspaikkani on Lapin Yliopisto. Ohjaajinani toimivat professori Satu Uusiautti sekä dosentti ja apulaisprofessori Pigga Keskitalo. Aineistoa kerätään havainnoimalla sekä videoimalla tapahtumaan osallistuvia tapahtuman aikana. Aineistoa täydentää myös tapahtumassa tehdyt pelit. Laitan liitteeksi pro gradu -tutkimukseni tiivistelmän, joka toimii väitöstutkimukseni pohjana. Kerättävä aineisto käsitellään luottamuksellisesti eikä tutkimuksessa käsitellä arkaluontoisia asioita.

Alaikäisiä koskevassa tutkimuksessa tutkimuslupa tulee pyytää sekä lapselta itseltään, että huoltajalta. Allekirjoittamalla tämän lomakkeen annatte luvan lapsenne osallistua tutkimukseen.

Ylhäällä mainitun lapsen vanhempana/huoltajana:

– Suostun siihen, että hän osallistuu Sami Game Jam-tapahtumaan alaikäisenä osallistujana.
– Olen tietoinen siitä, että lapsi ei ole jatkuvassa valvonnassa
– Olen tietoinen siitä, että alaikäisen osallistumisaika on rajoitettu tapahtuman ajan klo 9–21-väliseen aikaan
– Olen tietoinen siitä, että lapsen osallistuminen tapahtumaan on minun vastuullani. Järjestäjät eivät vastaa vahingoista, joita hän aiheuttaa tapahtuman aikana itselleen tai muille.

- Ymmärrän, että minulla on huoltajana oikeus olla paikan päällä valvomassa lastani
- Suostun siihen, että lastani kuvataan ja videoidaan tapahtuman aikana
- Annan suostumuksen, että järjestäjätahot ja/tai heidän osoittamansa henkilöt voivat käyttää tapahtumassa videoitua tai muuten tallennettua aineistoa (kuva, ääni, ja/tai video), jossa lapseni esiintyy, tapahtuman markkinoinnissa sekä esilletuonnissa.
- Järjestäjillä on oikeus käyttää tapahtumassa tallennettua materiaalia haluamallaan tavalla, muokata sitä haluamallaan tavalla ja julkaista sitä missä tahansa mediassa ilman erillistä korvausta. Järjestäjillä on kaikki oikeudet tapahtumassa tuotetun materiaalin tuottoihin ja tuloksiin.
- Suostun siihen, että lapseni osallistuu tutkimukseen ja tapahtuman aikana tuotettua materiaalia voidaan käyttää tutkimuksessa

Suostun ja hyväksyn:
Paikka:
Päiväys:
Vanhemman/huoltajan yhteystiedot:
Nimi:
Osoite:
Puhelin:
Matkapuhelin:
Sähköposti:

**Appendix 8. Sub-Study II & III: The parent/guardian consent form in English**

Parent/Guardian consent form
Participant's name:
Participant's address:
Organisers of the event: Finnish Game Jam organisation and the municipality of Utsjoki
Event title: Sami Game Jam
Event time: 20–26 February 2018
Contact person: Outi Laiti

In order for the child to participate Sami Game Jam, the parent/parents or guardian/guardians need to sign and send this scanned form to outi.laiti@utsjoki.fi prior to the date of the event. In case you need any further information or would like to discuss this consent form, please contact the contact person.

I will use the material created in the event as data in my doctoral dissertation. My dissertation explores the possibilities for considering the Indigenous people's culture in games and teaching of programming, and the site of research is the University of Lapland. My supervisors are professor Satu Uusiautti and university lecturer/assisting professor Pigga Keskitalo. The data will be collected through observation and video recordings of the participants during the event. The data will be complemented with the games resulting from the event. I will attach in this message the summary of my graduate thesis which works as the starting point to my dissertation. The collected data will be managed confidentially, and the questionnaires will not concern private matters.

As the study involves underaged participants, I am required to ask for the permit from the child and from their guardian. By signing this form, you give your consent to your child participating in the research.

As the parent/guardian of the child named in this form,

- I give my consent to my child participating Sami Game Jam as an underaged participant.
- I am aware that my child will not be under constant surveillance.
- I am aware that minors are allowed to participate the event only restrictedly, that is, from 9 am to 9 pm.
- I am aware that my child will be participating in the event at my own risk. The organisers are not responsible for any damage caused by the child for themself or for anyone else during the event.

- I understand that I, as a legal guardian, have the right to supervise my child at the event.
- I give permission for pictures and video of my child to be captured during the event.
- I give my consent that the organisers and/or the persons they appoint may use the video-recorded or other material (picture, sound, and/or video) featuring my child in the contexts of marketing and promoting the event.
- The organisers have the right to use the data recorded in the event in any way they want, edit it in the way they want, and publish it on any media platform without a separate compensation. The organisers hold all rights to all products and results produced in the event.
- I give my consent to my child participating in the research and the material produced during the event being used in research.

Consent and approval:
Place:
Date:
Parent's/guardian's contact information:
Name:
Address:
Phone number:
Mobile phone:
Email:

## Appendix 9. Sub-study II & III: Sami Game Jam-games and themes

| Game | Themes |
|------|--------|
| Gufihtara Eallu | Cross-Generational Stories<br>Persistent Stereotypes |
| Jodus | Border Crossing People<br>The Future Sámi |
| Lost Memories | Lost Memories<br>Living Outside the Sámiland |
| Mu Luodda | Ethnostress<br>Ultima Thule |
| Rievssat | Strangers in Their Own Land<br>The People of Eight Seasons |
| Saivu | One Nation, Many Languages<br>Activism and Artivism |

## Appendix 10. Sub-study II & III: Personal release

**PERSONAL RELEASE**

I, the undersigned, hereby grant permission to Red Stage Entertainment to photograph me and record my voice and use my picture, photograph, silhouette and other reproductions of my physical likeness and sound as part of a video documentary (working title: "Sami Game Jam") and further to grant permission for the unlimited distribution, advertising, promotion, exhibition and exploitation of the Sami Game Jam documentary by any method or device now known or hereafter devised in which the same may be used, and/or incorporated and/or exploited.

All recorded material, including my interview and introductions in Discord, can be used in Outi Laiti's doctoral thesis "Sámi language and culture in computer game software". I agree that researchers and students can use my answers as a research material also in other research in the future.

I agree that I will not assert or maintain against you, your successors, assigns and licenses, any claim, suit, or demand of any kind or nature whatsoever including but not limited to, those grounded upon invasion of privacy, rights of publicity or other civil rights, or for any other reason in connection with your authorized use of my physical likeness and sound in the Sami Game Jam documentary and "Sámi language and culture in computer game software" thesis as herein provided. I hereby release you, your successors, assigns and licensees, and each of them, from and against any and all legal claims, liabilities, demands, actions, causes of action(s), costs and expenses whatsoever, at law or in equity, known or unknown, anticipated or unanticipated, which I had ever had, now have or may, shall hereafter have by reason, matter, cause or thing arising out of your use as herein provided.

I affirm that neither I, nor anyone acting for me, gave or agreed to give anything of value to any of your employees or any representative of any television station, network or production entity for arranging my appearance on the Sami Game Jam documentary and Outi Laiti's thesis "Sámi language and culture in computer game software".

I have read the foregoing and fully understand the meaning and effect thereof and, intending to be legally bound, I have signed this release.

_____ (Signature)

_____ (Please print name)

_____ (Address)

_____

_____

_____ (Phone number)

I give my permission to use my introduction video in Sami Game Jam document:
YES / NO