

**SERIOUS GAMES AS CATALYST FOR INTERCULTURAL LITERACY
DEVELOPMENT?**

- A case study of Immigropoly

Master's Thesis

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<p>This thesis inquires into whether a specific online game could be used as a catalyst for intercultural literacy development. The case study focused on Immigropoly, a game aimed at introducing the hardships of immigrants to society at large in Europe by putting players in control of a fictional immigrant character and tasking them with getting that character safely to Europe.</p> <p>The interest towards this topic is two-fold. First, it deals with immigration, a hot topic with tremendous societal impact, and how to better cope with similar intercultural phenomena. Secondly, the usage of computers and computer games as a medium to convey information is something that is quite often discussed, and touches many facets of intercultural communication.</p> <p>The empirical study was conducted as qualitative interviews of selected test players with the BNIM (Biographic Narrative Interpretive Method) approach. The driving research question is "How do players of Immigropoly describe their gaming experience related to issues of learning?" To ascertain this, relevant theoretical concepts such as experiential learning, transfer of learning and general definitions of what intercultural literacy and serious games are were introduced.</p> <p>According to the results, the notion of the importance of the game was prevalent in most the answers gained from the test players. Despite difficulties and problems related to using games for such educational purposes, several new research directions and ideas could be introduced.</p>	
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<p>Tämä pro gradu- tutkielma tarkastelee tietokonepelien käyttämistä kulttuurienvälisen lukutaidon kehityksessä. Tutkimus toteutettiin tapaustutkimuksena, joka keskittyi Immigropoly- peliin. Immigropoly on suunnattu esittelemään maahanmuuttajien kohtaamia vaikeuksia. Kohdeyleisönä pelillä on eurooppalainen yhteiskunta. Pelaajan tehtävä on ohjata fiktionaalinen maahanmuuttajahahmo turvallisesti Eurooppaan ratkaisemalla matkan varrella esiin nousevia haasteita.</p> <p>Tutkielman aihe on kahdella tapaa kiinnostava ja ajankohtainen. Ensimmäinen tutkimus käsittelee maahanmuuttoa, 2010-luvulla erityisen huomion kohteeksi nousutta aihetta jolla on huomattava yhteiskunnallinen vaikutus. Toiseksi tietokoneiden ja tietokonepelien käyttö informaation välityksessä tai osana koulutusta on teema, josta käydään aktiivista keskustelua ja joka koskee useita kulttuurienvälisen viestinnän osa-alueita.</p> <p>Tutkimus toteutettiin valittujen pelaajien laadullisina haastatteluina. Haastatteluissa sekä niiden tulkinnaissa käytettiin hyväksi BNIM (Biographic Narrative Interpretive Method) -metodia. Päättökysymys tutkimuksessa on ”miten Immigropolyn pelaajat kuvaavat pelaamiskokemustaan suhteessa oppimiseen?”. Tähän kysymykseen vastaamiseksi tutkimuksessa avataan relevantit teoreettiset käsitteet, kuten kokemuksellinen oppiminen, opitun siirto ja kulttuurienvälinen lukutaito sekä hyötypelit.</p> <p>Pelin tärkeys nousi selkeästi esille suurimmasta osasta haastatteluja. Vaikka tapaukseen liittyi useita haasteita, eikä aihealueen käsittely pelin keinoin ole millään muotoa ongelmatonta, pystyttiin tutkimuksen avulla tunnistamaan mielenkiintoisia kehityspolkuja ja jatkotutkimuskysymyksiä.</p>	
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1. INTRODUCTION

In the last decades, online gaming has received some appreciation as a respectable past time for everyone instead of just being something that young people and children do when they are bored. However, there still is a distinct lack of recognition of the possible applications gaming and IT have when talking about education and learning in general. Like Gros mentions “Children acquire digital literacy informally, through play and neither schools nor other educational institutions take sufficient account of this important aspect” (Gros, 2007, p. 23). As we are in the age of “digital natives” It is important to start realising the impact gaming and information technology (IT) has in the education and personal growth of the children of today (e.g. Prensky, 2001). According to Perkins and Salomon (1992) transfer of learning happens when learning in one context has an effect on performance in another context and other related materials. This idea is the basic premise of my assumption that well designed and theme appropriate games can be used to enhance the intercultural literacy of its players. To concretise this idea, I have made a small-scale case study featuring *Immigropoly* (IDresearch Ltd, 2012a). The game saw light as an educational tool aimed towards Hungarian youth to introduce to them the hardship immigrants have to face during their voyage to Europe by putting the player in control of a fictional immigrant trying to make the trip. What makes this premise and game more interesting is, that in general discourse, immigration has been a relatively hot topic that has, for example, propelled various anti-immigration parties to unperceived election results in both global and in a European context (e.g. Kähkönen, 2016, and Payne, 2016). This possible phenomenon can be seen from, for example, the recent European Parliament election results of some of the anti-immigration parties who won big and whose campaign material has been focusing on the issue (e.g. Wright & Gander, 2014). That is one of the reasons why the case to

educate different generations on the reasons behind immigration, as well as the impact immigration in different aspects of life, is more important than ever. The topic touches more people every year and awareness is the key to successful coexistence. In the field of education and international relations there currently are no similar projects that focus on immigration from developing countries to Europe (IDResearch Ltd, 2016), so *Immigropoly* is providing education and support to a niche that has been relatively neglected until now.

All in all, the need for a platform that educates people (especially youth) in a meaningful manner and touches topics that are of the scale of immigration is obvious. But in addition to realising the importance of the space that is gaming and online environments, it is vital to ascertain the type of information that can be learnt from gaming, or whether learning takes place at all. When, especially, online gaming or computer gaming is viewed in public media, it still too often seen as a negative thing with mainly negative influences (e.g. Sifferlin, 2015) and the positive applications are ignored since the media appeal is not as apparent as with titles that refer to the dubious connection between games and violence for example. The studies the news refers to are anecdotally short studies with test groups – possibly with either mental issues or with extensive gaming experience, and when a stereotypical mental health patient with a history of gaming does something incomprehensible, the usual suspects are the games the person might have played (“Breivik: Playing ‘World of Warcraft’”, 2012).

In addition to the desire to study games as educational tools on a general level, and especially in the context of intercultural literacy growth, I also wanted to further promote the idea that intercultural circumstances do not necessarily mean international circumstances. Even before my current studies began, I always found it interesting that people immediately associate intercultural with something international, and that culture as a concept is so limited to many of

us. I see it as a shame that while interculturality exists on so many levels and layers in our lives, its nuances are usually almost fully ignored in favour for a more clear-cut picture that internationality offers. Therefore, I felt that a topic that includes gaming, education and intercultural literacy growth would be a good opportunity to demonstrate the crosscutting complexity of the field and how many aspects of our lives are associated with intercultural themes.

2. THEORETICAL BACKGROUND

As my study revolves around educational issues, it is important to introduce some of the core concepts that were related to it. Besides the different learning mechanisms most closely associated with my thesis, I shortly discuss some of the reasoning behind the term intercultural literacy and introduce the concept of serious games.

2.1 Intercultural literacy

The concept of being capable of functioning and adapting to culturally diverse surroundings has been called by many different names and explained using a multitude of models and theories. Interest in this field stems from the widely acknowledged fact that increased globalisation of the last few decades has brought on a variety of societal changes. Fantini has stated that “More people than ever before in the history of the world now have both direct and indirect contact with each other, and increasingly this includes people from a variety of diverse language and cultural backgrounds” (Fantini, 2009, p.456). This is partly due to people travelling and emigrating in bigger amounts than ever, and that enables increased contact between people from different cultural backgrounds. We can, therefore, ascertain that intercultural abilities are one of the key competencies in the 21st century (Fantini, 2009).

The field is developing constantly and while some theories lose importance, new theories spring up quite often. A relatively prominent approach in the field of intercultural communication is the so-called essentialist approach. Essentialist concepts such as Hofstede’s cultural dimensions (Hofstede, et al., 2010) have been in the centre of intercultural research for decades. According to Holliday (2011) essentialism considers e.g. cultures as physical territories and individuals’ behaviour completely tied to this culture. To paraphrase Holliday further, the desire to go towards essentialist approaches is strongly founded on the premise of “fixing the

nature of culture and cultural difference” (Holliday, 2011, p.6). Essentialist theories which can be seen by some as overgeneralizing, are making space for other approaches that give more value to intangible nature of culture and cultural diversity.

There is also an ongoing discussion on which of the various theories could be perceived as a legitimate “main theory” or concept to talk about the ability to function in a multicultural world. There are several competing terms in use, such as intercultural competence, intercultural communication competence, intercultural literacy, and so forth. No matter what one calls it, this ability to function in an intercultural environment is indeed valuable in both international and domestic perspective. Besides the global media that nowadays connects us all, there is a tremendous amount of international cooperation and different types of collaborations between different types of cultures and subcultures. In addition, the political paradigm in Europe is a good example of how difficult this change in the texture of our societies can be to an average citizen. However, it is especially important for leading figures to be able to look at different issues from the perspective of others in addition to their own, as we all have the duty to at least try to communicate effectively with each other (Gudykunst, 1991). As even if one’s attitude and approach to globalisation and multicultural development could be negative, the awareness of cultural backgrounds of the people and partners one interacts with and to develop competence in dealing with said circumstances. It cannot be stated strongly enough how important intercultural skills are in the modern world of global interdependence.

From the variety of terms and theories related to intercultural abilities and competence, this research is dealing with the idea that seemed to be the most neutral and less debated. The concept of intercultural literacy was selected, which is especially widely used in the field of educational sciences. Intercultural literacy can be defined to be, for example, as “understandings,

competencies, attitudes, language proficiencies, participation and identities which enable successful participation in cross-cultural setting” (Heyward, 2004, p.50). An individual that possesses intercultural literacy can effectively “read” a second culture, to interpret its symbols and negotiate its meanings in a practical day-to-day context” (Heyward, 2004, p.51). (Zhang, 2012) states in his article that due to a pluralist and modular approach (of understanding the second culture) intercultural literacy is also a great component in measuring various intercultural communication activities. Especially in the context of computer-based learning since it can be tailored quite efficiently for international use using culture appropriate modules and context related, structured, information (Zhang, 2012). There is also the notion that computer-based learning as a method it is directed to more autonomous learning and enables the person learning to take responsibility for themselves and their development process and sees teachers more as facilitators (Zhang, 2012). This fits the concept of measuring personal development (intercultural literacy growth in this case) on a subjective level.

The concept itself is derived from cultural literacy, a term introduced by Hirsch in the late 1980s. Hirsch defines cultural literacy as the possession of basic information needed to thrive in the modern world (Hirsch, 1987). It has been stated that the concept was coined solely for the purpose of justifying why nations need a common cultural basis. This understanding of culture is the catalyst for *Immigropoly*'s noble ideas. The game pushes for the players to learn and appreciate the background of newcomers and immigrants and through that understanding to value and respect them.

Through experiential learning, the player might be able to understand and interpret the experiences by the immigrants painted in the game. By putting the player in the shoes of an immigrant and providing them with an arsenal of historical and cultural background,

Immigropoly sends the player off to a journey to learn about immigrants and their respective cultures.

2.2 Learning Mechanisms

2.2.1 Experiential learning. Commonly utilised experiential learning model can be attributed to Kolb (Kolb, 1984; Beard & Wilson, 2006; Knowles, et al, 2005, etc.). His concept can be seen as a product of the work by Dewey, Lewin and Piaget, creators of the three main learning models related to experiential learning. The model focuses on experience when it comes to understanding the learning process. This focus on experience is the differentiating factor from the cognitive theories that focus on manipulation acquisition and recall of abstract symbols. Fenwick (2000) sees that learning is something that can always take place since experience is something that happens consciously or unconsciously through formal and informal education. Therefore it is possible “identify different degrees of experiential learning across a spectrum” (Domask, 2007, p.55). So in essence, any activity that actively engages the learner with the topic at hand can be perceived as experiential learning.

From the models of Dewey, Lewin and Piaget, Kolb has taken account on the similarities and specifically defined the characteristics of experiential learning. First, learning is better conceived as a process instead of solely focusing on outcomes. Experiential learning perceives learning and ideas as not fixed and permanent but entities that are formed and re-formed through experiences. Although the value of experience is not necessarily always recognised, it can be said that everything we learn is always modified by experience (Beard & Wilson, 2006). Kolb states that knowledge is constantly derived from experiences as well as tested through them by the learner. He also mentions that all of the three models describe conflicts between opposing ways of viewing the world. They imply that learning happens through resolving these conflicts.

By Kolb's interpretation of the three models learning is a tension and conflicted-filled process. New skills, attitudes and knowledge are acquired through confrontation amongst the modes of experiential learning. These modes are concrete experience, reflective observation, abstract conceptualization and active experimentation. In other words, a learner must be able to immerse themselves completely in new experiences and reflect and observe on what have they learned. Through reflection, the learner can then create concepts that integrate the observations into logical theories and then later use these theories to make decisions. This ideal is obviously very hard to achieve. The learner must always decide which aspect they consider in new specific learning situations. Kolb writes that learning has two primary dimensions and in one spectrum the decisions are between concrete experiences and abstract conceptualization and in the other spectrum between active experimentation and reflective observation. The manner these opposing forces are treated by the learner dictates the level of learning. (Kolb, 1984)

Experiential learning is more and more regarded as an efficient way to teach about intercultural communication (Mak & Barker, 2004). It is also at the heart of serious games as well as intercultural literacy and learning (Humphrey, 2002). As Humphrey states "It is not sufficient to read books about culture, to listen to lectures about other cultures, or to deal with the subject on purely cognitive and intellectual level" (Humphrey, 2002). This idea of "hands-on" approach to learning also fully applies to serious games as experiencing things for yourself is the main attraction and reason for serious games. The concept of experiential learning provides an alternative view from so-called traditional educational methods that can emphasise rote learning (learning by repetition) and are quite teacher-focused.

2.2.2 Computer-mediated learning. A typical dictionary defines computer-mediated learning as learning that is happening through "the utilisation of online, multi-media, web-based,

and other forms of instruction provided by computers” (“What is”, 2016). This means that the spectrum of computer-mediated learning is much larger than just serious games that are the focus of this study. The broad concept includes all forms of learning that are mediated. These include, for example, discussion boards, e-mails, chats and other online and offline activities that are happening through computers. However, the focus of this study is the gaming aspect.

The general opinion seems to support the idea, that computer games can be valuable in an educational setting as an enhancement and addition to other learning tools. To engage, entertain and provide a diversion for students in a manner that is hard to achieve by other means. Klawe (1994 as cited in Mitchell & Savill-Smith, 2004), argues that they can also be used as an encouragement with learners who lack interest or confidence in addition to the possibility of boosting their self-esteem as mentioned by Ritchie & Dodge (1992 as cited in Long, 2007). Games can be particularly effective when the plan is to learn specific skills and proficiencies (Griffiths, 2002), like geography and languages, where specific goals can be stated and achieved. It is also noted that games are difficult tools if the player does not possess previous skills with the game (Ubrahmanyarn, et al., 2001) In general computers and games (besides being used as proverbial crutches and distance communication tools) seem to be more for supporting other educational mediums than being the main tool to use. However, there is not enough data to justify any concrete conclusions one way or another.

Computer games have been successfully used in few different settings. In the context of clinical practice and associated research they have been used, for example, in treating attention deficit, providing cognitive-attentional distraction (for example for children going through chemotherapy), as a treatment for schizophrenia and to increase motor skills (Geng, 2014). In addition, games have been used as tools for supporting reading and mathematics. Participative

learning is something that has been achieved through simulation games. Due to their effectiveness, other fields besides education have introduced training through gaming. Corporate training has found tremendous success with serious games and per ATD (Association for Talent Development) study (2014 as cited by Gamelearn, 2015) 25% of organisations do use gamification in their training and 20 % more specifically, serious games. The main appeal of games as educational tools is the fact that they can package the message in an appealing package for the learners. It makes learning attractive and interesting for the students if the context, goal and complexity are appealing enough. From the perspective of online games, they are said to create and be new learning environments, that enable crosscutting learning and long distance contact and interaction with the players. They also encourage participation, information processing and communal learning (Krokkfors, et al, 2014)

2.2.3 Transfer of Learning. Transfer of learning is an important concept in education and learning theory in general because most of what commonly is perceived as education happen in a classroom setting and require for the learners to adapt things they learnt in those uncommon surroundings to real life. So, in essence, anything that can be seen as effective learning requires a hint of transfer.

Transfer becomes more of an interesting factor when the transfer cannot be seen as ordinary learning. Salomon and Perkins (1992) give an example where a student may do well with grammar skills on the English test (ordinary learning) but maybe is not as adept with everyday speech (the desired transfer). They state that transfer is always at least a bit contrastive, the expected learning is in a certain context but it is always asked that the learnt skills go beyond that context.

As mentioned transfer is especially interesting to learning and educational theories since often the type of transfer that is desired does not take place. Thorndike (1923 as cited in Perkins & Salomon, 1992) conducted research on this matter at the beginning of the 20th century and concluded that transfer is dependent on “identical elements” in two performances and that most performances are too different for any kind of meaningful transfer to take place. So it is much more likely to see transfer of learning with contexts that are very similar instead of two vastly different circumstances. In the context of serious games, it comes back to engagement and interest of the players towards the topic at hand. This translates into the notion that younger generations that are more at home with gaming (Entertainment Software Association, 2016) and social medias, for instance, could be more likely to be influenced using serious games and other similar gamification of learning concepts as they already deal with these issues. From the transfer of learning aspect, this possibility comes from the perception that the transfer gap between the educational setting and “ordinary life” for them is naturally smaller as they do spend more time with gaming. It is worth noticing that 56% of so called gamers (people that play more than three hours per week are under 35 and 27% are under 18 (Entertainment Software Association, 2016).

Salomon and Perkins bring up some of the conditions that are required for transfer. First of all, the notion of thorough and diverse practice. So, in other words, something that is commonplace in the society in different contexts is much more likely to be learnt by participants. Explicit abstractions signify the situation where transfer depends on whether the participants have understood the attributes of the circumstances. For example, if participants have understood the underlying principle of a problem-solving situation and its solution, a similar problem could be solved faster by these participants. Active self-monitoring and reflection is another factor that

facilitates transfer. There have been some studies that have shown better success when participants have been encouraged to analyse their own thinking progress in addition to applying the taught knowledge. Related to this Salomon and Perkins also advocate arousing mindfulness. They refer to a state where the participants are always alert about the activities they participate in as well as their surroundings instead of being passive learners. In addition, analogies and metaphors are regarded by them as useful tools to facilitate learning. In this case, it means applying something that is already known as an example to digest something new to be learned. (Perkins & Salomon, 1992) For example, my own childhood favourite, a French cartoon called *“Il était une fois... la vie”* taught children human anatomy and for instance equated white cells as police officers.

All these mechanisms require the participant to be actively involved in the process. A student that is not interested cannot be taught. Salomon and Perkins (1992) introduce some of the underlying mechanisms. Abstractions are useful in learning when talking about vastly different contexts. They bring up the example of blood vessels and electricity network. Transfer through affordances signifies a process where similar learning opportunities give the participants a chance to apply a specific action plan to another context. Examples of this are for instance different games. “High and low road transfer” is a concept of two different learning mechanisms by Salomon and Perkins (1992). Low road transfer takes place when the context of learning is similar to prior experiences and causes a semi-automatic response in the participant. This usually means cognitively low-level tasks such as tying shoelaces. Another example of low road transfer is an experienced driver driving a car that is new to them. It is different but at the same time familiar to a level of automation. This is why games can be such a useful tool with children as they are so heavily invested in electronic media. One could postulate that the learning process for

new information is faster when tools used to convey the information are familiar and motivating. High road transfer is more of a traditional means of learning where the participants truly search and study the connections between the learned material and surrounding context. It requires more effort and time and is the means to achieve so-called far transfer between two contexts that are not close to each other. This can be seen as the ideal for *Immigropoly* and similar games: to truly make players think and reflect and maybe take the things they learned and apply them elsewhere.

In relation to transfer of learning, there are four main directions of looking at it. There is the formal disciplines approach which is largely disproved, the behavioural approach, cognitive and allied approaches and contextual socio-cultural approaches. (Leberman, et al., 2006)

The formal disciplines approach focused on transfer of general skills. Its premise was the “brain is a muscle” approach which emphasised teaching itself not the content of the teachings. This meant learning through imitation, copying and so forth. This approach has been discredited as mentioned (Leberman, et al., 2006).

As a form of response to formal disciplines associationism was developed. It challenged the idea of general transfer and advocated for the transfer of specific behaviours. It was focused on how learning occurred. Leberman states that the new paradigm regarded transfer in terms of stimulus-response pairings that should be close to each other (for instance. learning Spanish and Portuguese). Generalisation approach, on the other hand, covered also circumstances where the specific situations are similar. In the case of drastic difference between learned items generalisation is seemingly a better approach. The key to this approach is the meaningfulness to the learner. This particular approach advocates that “if learning is meaningful, transfer will occur from one situation to the next if generalisations are mastered and it is acknowledged that they can be applied in different contexts” (Leberman. 2006, p.12). One way to facilitate this approach

is to encourage and reiterate to students to related with is new to what is already known before. The Gestalt theory can be, according to Leberman summarised as follows “whole is more than the sum of its parts” (Leberman. 2006, p.13). The idea is that transfer will happen when a person recognises similarities that can be applied in the different situations. Cognitive approaches to learning see learning process as a complex phenomenon that is driven by cognitive processes. When a learner faces a new situation, they use their unique collection of knowledge that comes from previously learnt and old experiences. Applying this old information to new situations is in essence; transferred learning. In cognitive approach, there are few definitions of knowledge. Conceptual knowledge means declarative knowledge or in other words “knowing that” knowledge. Procedural knowledge signifies “knowing how”. Strategic knowledge is understood as “knowing why” knowledge and tacit knowledge mean personal knowledge. Information processing models are a product of computer sciences. In the book, it is described as a model where information gained during training situation is encoded with stimulus cues which then can be recognised and retrieved at a later stage. This model can be used to explain a simple transfer but not a more complex one. Schema theory goes by the assumption that everyone has an “anticipatory schema” to new situations i.e. a view of the world. Transfer of learning happens when the connection between existing knowledge, new situation and the application of the existing knowledge. In the field of education, the concept of cognitive apprenticeships started to be more popular in the 1990’s (Leberman, et al., 2006). This approach perceives the learner as a dependent (on experts, teachers and so forth) observer which turns into an independent practitioner in the end. The learner moves gradually from coaching and guidance to slowly into a situation where the learner (or apprentice) is encouraged to learn how to work in new circumstances. The Good Shepherd approaches transfer of learning as an event that needs to be

guided and provoked. One example given is of a company sponsoring a literacy programme in order for the employees to be able to read the safety instructions (Leberman, et al., 2006).

From contextual socio-cultural approaches the work-based transfer matrix approach to emphasises the relationship between trainer, trainee and manager (Leberman, et al., 2006). It makes it possible that programme designers can identify the needs and task lists as well as timings to maximise transfer. The socio-technical model stipulates that learners learn by entering “communities of practice” and gradually work their way up to full participation. Learning in this context is more than just tasks and skills, it also includes the socio-cultural context to which these tasks and skills will be applied to. Workplace learning is a form of transfer that involves direct supervisor support and a partnership between the learner and supervisor (Leberman, et al., 2006).

If we look at culture and cultural transfer through Hu’s division of culture, it can be divided into three levels (Hu, 1994 as cited in Zhou, 2008): material culture that is “altered and processed by people’s subjective thoughts” (Zhou, 2008), systematic culture (legislative elements, and so forth), and psychological level which includes for example, life values. First two levels are surface-structure transfer, and the third level to deep-structure transfer (Zhou, 2008). In relation to this, failure in adopting new norms and cultural nuances (or new learning methods for that matter) can be attributed to two types: pragmalinguistic failure (surface-structure transfer) and sociopragmatic failure (deep-structure transfer) (Thomas, 1983, as cited in Zhou, 2008). One can see that the biggest problems arise, in relation to inducing significant transfer, from sociopragmatic failures. They signify a failure on the level of personal beliefs and norms (Thomas, 1983). So, when designing a serious game correctly in relation to its target group (or when traversing a new culture), one cannot bypass the importance of intercultural adaptability.

Overall the relationship between culture and learning is something that is discussed increasingly. This is due to increased multiculturalism of our societies and the fact that education will be delivered to even more diverse groups than before. Lim (1999 as cited in Lieberman, et al., 2006) advocates for a need to see transfer of learning from an intercultural perspective which translates into a new model of transfer which considers cultural factors as additional key dimensions. In this context, Lieberman states that western models of learning and education will not always be sufficient.

2.3 Serious Games

2.3.1 Gamification. The term gamification has in the recent years become a buzzword in the media (Brown, 2016) and an expression of gaming slowly seeping into the everyday life of not only the so-called gamers but of the society at large. However, this does not paint a full picture of the whole phenomenon. To summarise gamification, it is in its essence the use of game mechanics in non-game contexts (Deterding, et al, 2011). These game mechanics can be, for instance, trophies, points, achievements or anything that gives an incremental feeling of achievement. According to Hamari (2015), this definition is the second of the two main definitions used in peer reviewed literature other being “A process of providing affordances for gameful experiences which support the customers’ overall value creation” (Huotari & Hamari, 2012, as cited in Hamari, 2015). In his dissertation Hamari (Huotari & Hamari: as cited in Hamari, 2015) further divides gamification into three elemental parts: 1) the design (affordances), 2) the psychological mediators/outcomes of gamification and 3) the behavioural outcomes of gamification.

Gamification as a concept has its first documented uses in 2008 but started to gain more usage in 2010 when several conferences and industry actors managed to popularise it (Deterding,

et al, 2011). Currently, it is a heavily contested term, partly due to the fact it is currently used in such a broad manner, and e.g. inside the gaming industry, some actors have coined their own terms to be used with their products (e.g. gameful design by Superbetter (2012)). However, gaming as a hobby has become socially acceptable and in fact, ISFE (International Software Federation of Europe) publishes statistics that clearly demonstrate that social networks, games and casual gaming have increased the appeal of games within the larger audience (IFSE, 2016). Gamification has also been used in several fields besides education, from building customer loyalty (e.g. any customer loyalty program that awards points) to personal improvement (e.g. different running apps that have narratives with the jogger in the centre of them). Gamification is regarded as the next step in marketing and customer engagement (Zichermann & Cunningham, 2011).

An interesting, but diverging path to gamification research would be to consider the development of the use of big data and augmented reality in games (e.g. Pokemon GO, 2016) and the possible applications of amplifying gamification with augmented reality. Augmented reality and gamification share many similar characteristics since both engage people in certain activities as well as provide experience, motivation, cognitive, and other psychological effects to them (Noor, et al. 2015).

Gamification of different aspects of our lives is happening (from frequent shopper cards and points to using money received from lottery and gambling monopoly to fund domestic charity like children's hospital and pensioner's care.) People are transferring the successes achieved by gamification to classroom surroundings. Gamification can nowadays be a feasible starting point for education planning due to authentic, engaging and interactive learning

experiences gamification can offer (Spires, 2008; Kiili, 2005, as cited in Vesterinen & Mylläri, 2014).

Although gaining in popularity, there are still arguments against gaming, serious games and gamification in general as an effective tool in education and learning. Critique towards gamification is usually targeted at few points. One issue to opponents of gamification is the use of points, levels and other similar ideas and the misconception that these make a game, a game. Bogost writes that gamification opponents “argue that gamification mistakes games’ secondary properties for their primary ones. It insults and violates games. It “confuses the magical magnetism of games for simplistic compulsion meted out toward extrinsic incentives” (Bogost, 2011, p.3). This devaluation of games also touches Bogost on a rhetorical level. For him, it seems that terms such as “gamification” and “gamify” indicate that to gamify something is a simple task. This is in direct conflict with the notion that making games are anything but simple (Bogost, 2011). However, it is undeniable that these secondary properties have a wider appeal with players and thus it is not feasible to dwell on the discussion when the potential of gamification in education is evident (e.g. Berk, 2016, Pandey, 2015).

To better understand game enjoyment Klimmt (2003) has suggested a model derived from Oerter’s play theory (1999). He felt that gameplay enjoyability can be determined by three different levels. At the basic level, the process can be viewed as a series of feedback loops between the player and the gaming system that makes the player feel like they make a difference with the game. At the intermediate level, the process is a sequence of connected episodes caused by player’s intrinsic motivations (Wang, Shen and Ritterfield give curiosity as an example) that then unfold with a sense of suspense-relief and increased self-esteem. At the most complex level, the playing process is viewed as a whole and characterised by the player’s active engagement

with the narrative and the player's perception of the gaming world's alternative reality. This alternative reality aspect can have a tremendous potential in education surroundings as can be seen from ventures such as Google Expeditions (Google, 2016).

From the concrete perspective of computer games in education (and interculturality), Zhang offers a variety of examples of the current and upcoming trends of e-learning. Knowledge networking to him is the development of moving away from books and journals into dealing with words, images sounds and videos and all the dimensions of knowledge and information sharing. He states that “intercultural knowledge no longer exists in revealed form: learners need to explore and discover by themselves, and eliminate their cognitive blind spots independently” (Zhang, 2012, p.164). Zhang also opens the concept of arbitrary learning where the learning process is no longer merely a teacher teaching and student learning but learners having the resources to freely explore the topic at hand through electronic means. They can manage their own learning timing and space at their own convenience. He states that this freedom would increase the enjoyment of learning for anyone involved. Virtualized learning is currently on the rise. E-learning options have tremendously impacted the traditional classroom setting and face-to-face teaching as concepts such as virtual conferences and online teaching have diminished the need for contact lessons. Virtual libraries, classes, even cities and countries are all accessible from almost anywhere with the right tools. According to Zhang, traditional ways of learning cannot meet the need for personalised learning anymore. E-learning and serious games have established a platform which provides an interactive venue for working and learning in multicultural surroundings. Accessibility and personalization and freedom are key components to a meaningful learning experience which e-learning platforms like serious games can offer.

The popularity of gamification and the emergence of serious games show that games are not anymore merely for entertainment and the serious games genre is a serious effort to improve the educational sector. Gamification of our everyday life has shown that games and gaming can be incorporated to more traditional methods in a large range of activities. By this process of gamification more traditional learning methods can make teaching more fun and engaging as well while keeping the proven older methods alive. Non-digital gamification has been prevalent in the modern education techniques for quite some time, but digital games and more so serious games have not yet been used to their potential in the educational sector although there is a sense of optimism concerning the potential of serious games.

2.3.2 The field of serious games. Serious games have been a topic of intensive discussion in the recent years. Scholars and pundits alike have been dealing with the topic from television shows to serious scientific articles. In this subchapter, I am taking a closer look at the trends that were prevalent when my initial interest in the topic of my thesis arose and how the field was developing then. It is a field that rapidly develops and more recently various training entities, private organisations and even companies have adopted the concept of learning through gaming as nowadays they use different games as important and engaging tools with anything from team building exercises to providing general population with information about immigrants. Serious games are an increasingly important medium in relation to education, training, and social change (Michael & Shen, 2009). The overall development can be seen from the fact that the industry is value is expected to increase from around 2,5 billion dollars at 2014 to approximately 11 billion dollars by 2022 (PR Newswire, 2015).

As with many other engaging ideas, some of the discussion has been revolving around the concept of serious games and various measurements and classifications (varying from for

example games for change to educational gaming). Some researchers do say that even games that have been designed from pure entertainment perspective provide opportunities to learn both consciously and subconsciously (Ratan & Ritterfeld, 2009). To some extent then, all games are educational, but designers involved with serious games specifically state that their genre is explicitly designed to be educational and provide learning opportunities while still maintaining an entertainment factor. This is the main differentiation between edutainment and serious games which often get confused with each other. Whereas all edutainment (which is classified by Entertainment Software Rating Board (ESRB) as “providing users with specific skills development, or reinforcement learning of product” (ESRB, 2016), can be said to be serious games in essence, some serious games go far beyond this description and cover any game that has a serious aim within its entertainment settings (Ratan & Ritterfeld, 2009).

The concept of serious games is controversial as games are usually perceived as fun and not serious at all. Wang, Shen and Ritterfeld have taken a close look at what is fun in entertainment games and is it transferable to serious games. It is very clear that what makes an entertainment game enjoyable might not work with serious games and in the context of education (Wang, et al. 2009). Vorderer, Klimmt and Ritterfeld stated enjoyment has multiple dimensions. Namely physiological, affective, and cognitive (Vorderer, et al., 2004). The danger in this aspect is that the developers and the players may have very different notions on what is regarded as fun. This can be especially troublesome with serious games where the educational aspect is much more prevalent than in entertainment games where the education side constitutes a mere side effect in most cases. In the end, it comes down to player’s individual preferences of what constitutes as fun. This can also be seen with *Immigropoly* where the fun factor was piled under an overload of educational content in Hungarian context.

Nevertheless, it is accepted for example in psychology and education that learning through games and playing happens from very young age onwards and therefore gaming as an educational platform interests many various instances in education and training fields as well as private and public sector. There is indeed a large variety of different databases and classification systems for serious games, but none offer an “official” status or classification (Ratan & Ritterfeld, 2009). However, dimension through which the quality of the game is measured seems to be quite similar in the most popular options for classification. Educational content, primary learning principle, target age group and platform (Ratan & Ritterfeld, 2009) are the dominant factors in all classifications I familiarised myself with. These dimensions have made the grouping and promotion of different variants of serious games much easier. These groupings and divisions provide a foothold for further research on the topic. On a crudely generalised level, the main dividing lines are between learning principles since that is the aspect that seemingly varies the most when for example comparing serious games used in academia and in private organisations. Some games introduce growth through practising the various skills of the players whereas some try to increase knowledge by providing opportunities for the players to explore and cognitive problem-solving.

According to Ratan and Ritterfeld (2009), educational content is also the key factor when ascertaining the most popular fields of serious games and what makes a game “serious”. They also divided the educational content dimension into the following categories: academic education, social change, occupation, health, military and marketing. Educational content is the most prevalent of these categories in their research.

The games with educational emphasis are usually meant to teach the traditional academic material, maths, history, biology and so forth. The second most popular field of their study is the

social change sector. As can be imagined, *Immigropoly* is clearly within this sector with its noble ideals of teaching young people about the blights of the immigrants. I will go deeper into the thematic behind *Immigropoly* in the related chapter. Occupational games are following the two most popular categories. These games are designed to hone the specific occupational skill set of the player. A good example could be the simulators which are used for example by the forestry industry in Finland teaching vocational students how to use the high-tech wood harvesting vehicles and so forth. Health-related games are aimed at improving health-related knowledge in the players. Military games made up 5% of the dataset of Ratan and Ritterfield. They are meant to enhance the obvious military-related skills but can also be used as a marketing tool and a recruitment tool as it is the case with America's Army game. (Nieborg, 2004). The game is a project by the United States military and it was commissioned in 1999. Army's Chief Economist Colonel Casey Wardynski imagined "using computer game technology to provide the public with a virtual soldier experience that was engaging, informative and entertaining" (McLeroy, 2008). These are all qualities required for a meaningful learning experience. Another example of the success of the concept, albeit a negative one, is the controversy around the game. America's Army has been accused of the militarisation of society on numerous occasions and the claims that it is a recruiting tool for the military are prevalent. Marketing related primary educational content is the least common type. These are usually games that are directed towards raising brand awareness and are dedicated to identifying potential customers. However, as one can see from America's Army and other similar examples, all the other categories do have a marketing aspect to them as well, as games are fun, appealing, and interesting. The emerging pattern of what makes games such a great tool for education can thus have its commercial applications as well.

All in all, using games for education purposes is an old method. One could, however, debate if the educational component has always been there in entertainment games as well, but taking the advantage of these games in a systematic manner is a relatively new phenomenon.

Although it is said that even games which the main purpose are mostly to entertain can facilitate learning, serious games are specifically designed to have a more profound impact than mere enjoyment. Before the genre of serious games started to become a bit more recognised, concepts such as edutainment were more prominent in discussions related to gaming and games in learning processes. However, edutainment applications, as mentioned, lacked the combination of entertainment and education and mostly focused on skill improvements and training aspects leaving entertainment value of these applications relatively low. With serious games, the combination became more honed and the applications of these tools outside of “school context” learning became more apparent. This led to wider use of serious games and a broader spectrum of goals for their usage leading to i.e. games for change and the aims to induce attitude and perspective development in the players of these games. As mentioned, serious games could presumably also impact the players in other ways besides basic learning and for example, bring on positive attitude changes. As they are aimed to facilitate learning experiences and to minimise if not negate negative impact of gaming which some say, games that have pure entertainment value might have, the genre of serious games implies that playing these games will almost always elicit positive changes in players (Ratan & Ritterfeld, 2009). This seems to also be one of the motivations behind the game *Immigropoly*. What are the mechanics behind these influences serious gaming is hoped to induce in players? The current paradigm still differentiates education from entertainment. It can be said that both entertainment (and through entertainment, motivation) and education aspects should be covered for any game or distinctive method to

provide a meaningful experience and be used as an efficient education and learning tool. Harmonious experiences from both aspects are required for this as, Ritterfeld, Cody and Vorderer put it “educational component needs to be enjoyable in its own right, and the entertainment component should be closely associated with education” (Ritterfeld, et al., 2009, p.32). Additionally, this is the reason why serious games show promise in the field of education and learning. The content of the games usually provides an environment with fast feedback and enough complexity for learning opportunities. Also playing is, as mentioned before and is commonly known, in its core a motivating activity.

The fine line between the entertainment value of a game and the educational purposes they might possess is something that organisations interested in using games as learning tools must face. Although the theoretical appeal is there, it is still mostly not known whether the blend between education and entertainment impacts both the educational value or the entertainment value in a manner that is too detrimental. So-called edutainment games and unfortunately also *Immigropoly* to some extent are examples of unsuccessful marriage between these two values that are not often thought of as a package. The genre of serious games has risen to fulfil this gap between entertainment and education.

Shen, Wang and Ritterfeld have studied the possibility of combining entertainment and education in games and whether they can be more than exclusive attributes to games. They raise up multiple problems that initiatives have faced so far in this field. First of all, the budgetary constraints have been a constant issue (Shen, et al. 2009). This is also evident with *Immigropoly* as the technical execution is not particularly impressive. The fun factor of *Immigropoly* and other similar games can be limited and the desire to play them on players own volition can be rather low. This was also shown in the responses which I got from my players where only one person

(whose nationality coincided with the creators of *Immigropoly*) mentioned the fun he had playing the game. Other responses involved the appreciation of how “it could work in a classroom” and other similar responses. The lack of immersion and engagement is a death blow to any ambitions to develop a meaningful serious game that could elicit attitude change or societal paradigm change. Fortunately, the quality of games that are meant for educational purposes has been steadily increasing and in some cases rival the entertainment inclined games in production values and content quality. Through better resources and realisation of the value of serious games, we are seeing more and more such quality serious games in the market such as *America’s Army: Proving Grounds* (United States Army, 2016), and *Democracy 3* (Positech Games, 2013).

One of the possible reasons for the challenges serious games face is the sometimes intentionally used the serious label, which has an unappealing connotation and the seriousness of serious games which is absent in games that are meant mainly for entertainment (Shen, et al. 2009, p.90). Games of all kinds are associated with leisure activities and cultural practices and if the learning aspect is emphasised too much, it can cause an adverse reaction with the players. Shen, et al (2009) also question if serious games can be modelled the same as entertainment games. This tightrope between appeal and education is a constant theme with the topic and something that at least *Immigropoly*, in the context of my study, struggled with. A researcher or a game developer must be aware not to fall for the assumption is that gameplay is enjoyable no matter the content of the game. The novelty of playing a game is not the same it could have been for instance decades ago.

Wang, Shen, and Ritterfeld have designated fun factors that are grouped into five dimensions: technological capacity, game design, aesthetic presentation, gameplay entertainment experience and narrativity (Wang, et al. 2009, p.80). They applied them to entertainment games

the same benchmarks are very useful in ascertaining the validity of a serious game both as an educational and entertainment tool. Technological capacity, for instance, is something that with *Immigropoly* was lacking. Many of the answers I received from the people that played the game focused on relatively poor execution of that aspect which then had a ripple effect through their whole playing experience. Serious games, in general, seem to struggle to get the same enjoyment factors that entertainment games give to their players. This can be attributed to lack of similar resources and something that is not inherently tied into serious games as a concept.

Enjoyment and fun are the key to a successful game and something that all game developers consider first. The main point for enjoying games is universally seen as interactivity. The premise of being able to safely experiment with different elements of the game and personal decision making is something that many players value (Klimmt & Vorderer, 2007). The aspect of alternative reality is a major factor in gaming enjoyment and has a tremendous upside. Recent years the public has seen various cases of for example physically disabled people being able to enjoy themselves and interact with others in a more “normal manner” which they necessarily couldn’t do in a real-life setting. The concept of avatars, virtual representations of their respective players, comes to play. It is quite common that many players project themselves in their virtual characters and this is an angle that games like *Immigropoly* also try to take advantage of. Putting the player in the shoes of an immigrant they want to induce a sympathetic reaction in them as they have, in sense, experienced a bit how it feels to be an immigrant. So as one can see many entertainment game traits have an inherent educational aspect to them and enable personal growth and educational reflection.

As it is apparent having a fun game does not mean that the educational components should be completely missing from entertainment games. From games that are solely meant for

entertainment purposes, various historical games and games that have strategy components have been used successfully in teaching for example about history. One such example is Civilization V (Firaxis Games, 2010).

As with almost everything else related to serious games, there is a lot of variety what comes to the opinions of what are the true benefits of gaming applications and how have those benefits manifested themselves in actuality. In the current discourse about pedagogical developments, the integration of video games and educational software is poised to cause significant changes. Serious games are also a growing market as well as an interesting topic for multidisciplinary academic research. Also, their use is expanding out of the educational setting into other fields. These fields include societal influencing as can be seen from the development of *Immigropoly* and other games that have similar backgrounds and goals. Digital games are a medium that as mentioned can change quickly and continuously. So the situation calls for a classification system and definitions that are open and flexible.

During the ongoing discussion, it is important to note that serious games are not only connected to education per sé. As mentioned they are also a way to elicit larger societal changes through paradigm and attitude changes instead of only teaching specific skills like purely educational games or edutainment. Overall the new “digital native” generation of children who grew up with access to the internet and online games can require a different type of setting than the traditional classroom and teacher-student relationship to fully immerse themselves in learning. According to Zemsky and Massy students like e-learning technologies for three specific reasons, 1) connection (they want to be connected with one another), 2) entertainment value (they need to be entertained through games movies and music) and 3) presentation of their work

(they want to present themselves and their work). These are the three main building blocks of a meaningful learning experience. (Zemsky & Massy, 2004)

It is quite commonly acknowledged in the field of education that computer games could have potential as a supplementary tool to improve the learning results of students (Shapiro, 2015). Especially when teaching a specific skill (Griffiths, 2002). However, it is also mentioned that “games expose players to deeply engaging visually dynamic and rapidly paced and highly gratifying pictorial experiences that make almost any sort of conventional schoolwork seem boring” (Foreman, 2003, p.15). This potential development can mean that education as a field would have to conform to the fact that kids spend a significant amount of time around digital games while growing up.

2.3.3 Critical review – do serious games deliver? Most commonly used teaching methods such as lectures are known to provide solid information and assistance with for example factual recall (Kulik & Kulik, 1979). However, this is not the only goal anymore as due to the increasing demand of work life and later educational stages, various instances are asking for teaching to be more engaging and collaborative in order for students to be prepared for “team-based” working style they would probably face in later stages of their lives. As engagement is one of the key features of any appealing game, it can be concluded that these games could be an excellent tool for pedagogical entities to instil the ability and sense of teamwork in the people being trained. However, the lack of quantity of research is something that cannot be ignored when discussing this topic. Although, as mentioned, there is some research (especially in related fields such as media effects and educational intervention), and the topic is gaining popularity.

The one specifically difficult task is related to the whole concept of social change and its relation to different means of analysing it. Measuring social change on societal, organisational or

even group level is a daunting task. Where with larger groups the change stems from having an impact on large enough group of opinion leaders and influencers, on the individual level the social change must be processed through individual cognition and behaviour (Klimmt, 2009, p.389).

So can the effectiveness and potential of serious games be measured then? One approach that for example, Ennemoser takes, is to compare the shortcomings of those related fields and see how they relate to the field of serious games (Ennemoser, 2009). Ennemoser mentions a few main examples of the hindrances serious games research could suffer. For instance, a poor theoretical framework that can lead to simplified assumptions. According to Ennemoser, this has been the case in media effect research and specifically with the impact of the attributes of the medium (Hornik, 1981). This is mostly evident by the amount of contradicting research of which Ennemoser mentions as an example the research done about the educational programs on television, as on the other hand television had caused concern but on the other, there was significant proof of the positive impact of the educational programming. This type of contradictions that are stemmed from hasty assumptions can have a major negative influence on the methodology of any research related to serious games as well since at the root they are similar fields. There is a danger, that as a medium of serious games is intriguing, one could easily presume that by solely introducing education in a digital gaming format would suffice as an engaging educational tool (Ennemoser, 2009). Similarly, Ennemoser writes that it is important to avoid making assumptions over causal chains with medium usage as it has been done with research concentrating on television watching and its influence on the amount children would read books. Also, and one of the biggest issues with a study like mine, is the consideration of moderating variables. As is known, media effects are not similar with everyone. Attributes

such as age, social background sex, and so forth can all influence on the impact a serious game could have on its players. This is true also with *Immigropoly* studied in this study. Taking these variables into account is important when trying to validate the effects of the game with the masses or a specific audience as well as just to ascertain the circumstances these types of games could work.

Additionally, there are many other issues that can be seen in educational intervention research that could endanger a research studying whether serious games are effective in their purpose. Ennemoser (2009) mentions methodological shortcomings and the relation between practice and research as the biggest issues that educational intervention research has and which could impact serious games research as well. Biggest issue related to my study is the issue of the external and internal validity of the intervention (in this case introducing a serious game) i.e. does it actually work? This is an issue that would require further research and further study, but I am only studying the perception and possible impact a game such as *Immigropoly* might have on the players and therefore, even as they are problems, the specific validity problems related to the effect *Immigropoly* might have on its players have not been fully addressed or resolved in this study.

The problems related to research and the process of ascertaining the functionality of serious games as educational tools have been covered, but how to actually measure if the games could work? It is especially important to be able to see the effectiveness of the game when we are talking about a game that wants to and claims to elicit social change and attitude development in its players and this rings true even more so when the said game is at least partly funded by the European Union. *Immigropoly* aims to educate people about the everyday life immigrants face when striving towards perceived better life so it is important to ascertain

whether or not these promises of social change and intercultural aptitude development could be completed. By being a game with a relatively specific goal (more understanding towards immigrants), *Immigropoly* does not concern itself with the pitfall of conceptualising problems related to social change and gaming. Klimmt deals quite effectively with the issue of ascertaining and conceptualising serious games and social change. He introduces a proposal for a model with five different properties that need to exist in a successful game: multimodality, interactivity, narrative, option for social use and the specific frame of gaming experience (Klimmt, 2009). I have utilised this model in my conclusions.

Multimodality, in this case, is defined by the usage of different technological advancements in gameplay, from the first crude 3D glasses to the motion detection capabilities popularised by Nintendo with its Wii system, multimodality raises digital games above other attempts of mixing entertainment and education (Singhal, et al. 2004). The broader concept of interactivity has a long history in both gaming and communication literature. Interactivity is defined by Klimmt as “game property that allows the users to influence the quality and course of events occurring in the game world” (Klimmt, 2009, p.392). Interactive games create content where the players themselves can feel to be the centre of the action and to paraphrase Klimmt, “the driver of change and progress”. Game events affect the player in a profound way and they quickly become relevant to the player due to interactivity. This is a feat that for instance films or other means of noninteractive entertainment cannot achieve. As it can be seen, the reoccurring theme of engagement and maintaining in interest is again apparent with these two factors.

The narrative is very clearly a vital component of an effective game. A balance between open, interactive components and predefined closed elements that ensure a cohesive gaming experience is a key in creating the possibility to induce a change in individual behaviour and

light the spark of social change. Having the chance of playing games together can be considered another component of a meaningful game. It alters the experiential quality of the game quite substantially and, from a subjective perspective, it opens new venues and chances for games to have more of an impact on all societal levels. As a final characteristic of a digital game, Klimmt (2009) mentions specific frame of play situations. The psychological nuances related to playing a show that playing serves as a connection between reality and fantasy for humans (Sutton-Smith, 1997). The nature of playing a game creates circumstances without obligations or causality and therefore encourage people to try scenarios and behaviour they would not necessarily otherwise engage in.

All in all, games are perceived as an effective instrument for learning specific topics and acquiring knowledge. They are also developing a learning style that is prevalent in current society (Gros, 2007). It is known that playing games develop for example spatial awareness of its players (McClurg & Chaille, 1987) and education through serious games, and games in general can provide students with the right incentive and means for IT-literacy. In addition, playing games can, and has been, attributed to increased ability to read images, divided visual attention and other attentional skills. Gee (2003) argues that the main offering of video games to learning is the chance to share knowledge, skills, tools and resources to form a complex system of intertwined parts. Video games, in other words, provide the tools for active learning.

The studies conducted on this topic have recognised few issues. In general, the students are happy with their experiences with using games for educational purposes. In addition, the teachers report good results with them but cite a few problems for example with time use. Ennemoser, however, lays out a decent roadmap of checking whether or not serious games can be effective as an educational tool. He states six questions that need to be answered. First of all, a

researcher (or pedagogue) needs to see what does work. It is important to verify the specific elements of the game that distinguish it from other educational tool options. Then it is important to ascertain how does the game work. Next question is if it works for everybody under all conditions. The expected effects of the game also need to be clear. What is expected of the game and potential outcomes from educational and other aspects need to be taken into account and assessed. From educational perspective is also good to keep in mind if there are any unintended side-effects such as playing causing neglect in another field that is of concern for an educator. These side-effects may be positive or negative. And as always it is good to find out whether or not there are alternative explanations for observed effects. (Ennemoser, 2009)

From a theoretical perspective, the games seem to offer a lot but there are always a few factors to take into consideration. Games generally require a lot of time and it could be difficult to provide meaningful learning experiences in the allocated timeframe of a class curriculum (Bredl & Bösche, 2013). Gaming, in general, can reduce the time available for homework and that can have an adverse effect on academic performance (Roe & Muijs, 1998). Additionally, the possibility of teachers being uncomfortable with games and new technology must be taken into consideration. Also, transfer of learning is a major issue and something that could be researched more. This is more of an issue with non-educational games as the content is not designed to be educational. One validation for serious games comes from this aspect as it provides a combination of both, factual educational material and sufficient engagement for the players.

In the future advancements in different technologies can provide even better opportunities for the use of games and computers in education. For example, it is said that artificial intelligence can be used in parallel to game environments to provide intelligent tutoring systems that are tailored to learners needs (e.g., Lester et al, 2013).

Since the field is constantly developing, also the research on serious games needs to react quickly. For instance, new gaming platforms that emerge need to be taken into account. New platforms create new contributions to the different characteristic fields mentioned by Klimmt and thus can give valuable information on new ways to make serious games with genuine societal impact prospects.

What then contributes to the development and what are the future prospects of serious games? Nolan Bushnell, an entrepreneur and co-founder of Atari Inc. was interviewed in an article by Forbes called “Serious Games and Future of Education”. He stated in the interview four key areas that he believes to be the catalyst for educational change. Out of those four areas two are applicable on a global scale. The first key area is the rise of cheap hardware that gives access to these new means of education to a broader audience. Another key aspect is the development of networks that allow connectivity with less administrative constraints. Bushnell states that the “end of the day” reason for the intermingling of serious games and education is effectiveness (Tack, 2013). Computer-based learning adapts to each student's individual speed and skills making the learning process faster and more thorough for everyone.

In addition to Bushnell's views, the article had a short interview of Jesse Schell, founder of Schell Games. He pointed out that the change is already happening. He also argued that for example, tablets are rapidly gaining popularity in the school systems and in the verge of replacing school textbooks. This will eventually lead to other major changes as well. Mr. Schell also brings the previously discussed point of engagement. As mentioned before various times, the key that makes serious games such an appealing option as an educational tool is the level of engagement and interest games, based on anecdotal evidence, induce in players. (Tack, 2013)

When talking about concrete future applications Ma, Oikonomou, and Lakhmi bring out three different and relatively concrete future trends of serious games.

Pervasive Serious Games is a definition for the concept of mixed reality games. As an example, one could mention geocaching. Literally, the concept means doing things in physical space to accomplish something in both physical and virtual worlds (Ma, et al., 2012).

Some feel that the traditional input devices for computers (keyboard and mouse) are being superseded by input devices such as a PS4 controller and Wii remote. Additionally, a lot of the new technological advancements are done in this area (for example Microsoft Kinect and Playstation Move).

As with everything related to IT, social media has permeated the field of gaming as well. This trend can be perceived as quite positive, as it has been proven that social interaction enhances learning. This trend is quite apparent in entertainment gaming industry where online communities around different games are thriving.

Whatever the future holds for serious games and education, one can hope that the future platform for education is a connected one as well as multimodal, enabling training and education through processes that are tailor made and focused giving the students the best possible venue for learning.

3. METHOD

The aim of this study is to understand if and how a specific online game could have competence improving impact also in the context of intercultural literacy. In essence, the research question I wrestled with was “How do players of *Immigropoly* describe their gaming experience related to issues of learning? The intention of the study was to research if the game manages to resonate with the volunteer players in a manner that would hint at least some level of self-reflection induced by *Immigropoly*. Finding means to convey information in a manner that sticks with the recipient is a topic that touches many fields.

The goal of the study seemingly calls for the traditional approach to information gathering; personal accounts that can shed light to personal growth through rigorous analysis and implemented theoretical framework. Building a case study through these personal accounts is base on which to continue possible future research options with the topic. These small steps are required as “Media and communication science lacks a unified theory to analyse and understand the functions and mechanism of games and effects after playing” (Bigl, 2013, p.140). In addition to going deeper into “uncharted” territories with my research, I felt that it was necessary to look at the current situation in the fields of gaming, learning mechanisms and interculturality and how, if at all, they are related to each other both in and out of the current case study context. This is the reason I have chosen to go through current dominating theories in the respective fields as well as implementing some of them in my research. Especially transfer of learning from online games to real-life is a theory that is both intriguing and feasible in the context of my research. It seemed to be the logical approach to explore whether intercultural literacy growth can be induced by *Immigropoly* and gaming in general and to gain insight into the related processes.

In addition to exploring the status and theories of gaming research, I decided to conduct a small qualitative sample test with a random group of people with little or no gaming background per sé. Due to the nature of my thesis, the interview format had to be qualitative in nature. In addition, the reality that the experiment was conducted with only a few fully participating players required an approach that considered the social constructs from a constructivist point of view which helps us to ascertain how the social world is produced (Elliot, 2005). As my research focus is on identifying the possible effect a game can have in intercultural literacy development, the approach which looks into how people participate in the construction of their lives seemed appropriate.

As mentioned, the main protagonist of my study is the game *Immigropoly* developed by IDResearch. Due to its purpose as a game that is not only educational but also aimed at possibly changing the perspective and way of thinking of its players, a case study of this particular game seemed to be a feasible option to take a deeper look at the phenomenon of serious games.

Analysation of the data received proved to be interesting, but also challenging as I had a fairly small sample size which naturally had an impact on the results of my study.

3.1 Case Study

The phenomenon of possible learning assistance of online gaming is studied as a specific, exploratory, case study. There is an ongoing discussion about how appropriate a case study can be when dealing with academic research, but there are few characteristics to the method that correlate with the aims of my study goals and reasons behind the topic. First of all, case studies are focused on studying a single phenomenon and as my study is focusing on a specific game, the connection is given. Case studies are often used in research settings as an indicator whether a specific theory works in practice. Transfer of learning and improved skills through online

gaming is a topic that is currently popular yet strangely lacks research in comparison to i.e. other contemporary and new learning methods. By making the research a case study over this topic that touches both educational and intercultural aspects, some small light to the feasibility of the idea of online based learning can be shed. This exploratory phase approach is one of the few points related to the case study as a research method that even the critics of case study agree on.

Also, the topic is a fluid one due to the uncertainty of the results and the richness of context related to them so a certain level of freedom is required.

Additionally, case study as a research genre is usually regarded as a more engaging way of relaying information to new readers and other researchers (Kreps, 1984 and Akella, 2011). As the current paradigm of research seems to call for more easily approachable and even more marketable studies, a case study is a relevant approach to introducing some of the options and possible applications of alternative learning methods especially related to intercultural literacy growth.

All in all, when I chose my approach to this topic I was confident that the positive aspects of a case study format (fluidity, exploratory nature of my research, easily approachable style for the readers, and so forth.), outweigh the possible drawbacks.

3.2 Immigropoly – The game

” The primary aim of the Immigropoly online game is to present third-country migration processes in an informative, professionally balanced way to members of the Hungarian and European society.” (IDResearch Ltd, 2016).

3.2.1 Background. *Immigropoly* began its life as a type of expansion to the multifaceted project managed by IDResearch (a Hungarian brain trust based in Pécs)” Black and white – Here we are!” funded through the European Integration Fund and Hungarian Ministry of Interior

(Tarrósy, 2014). The goal of that project was to “thoroughly inform Hungarian society at large about the African immigrants living in the country, encouraging the open and stereotype-free thinking of the society in general, and the youth in particular.” (Tarrósy, 2014, p.292). The project was an awareness campaign by nature and the game was designed as a free-time activity for younger generations to enhance their message. However, the school and educational potential were not ignored (IDResearch, 2012b), as many of the partners were schools and universities that could implement the game in their education on their own volition. The project included surveys conducted amongst the youth and mapped out the trending attitudes related to immigration. Their research had “effectively helped us to motivate young people to change their attitude, and provide a positive momentum” (EWSI, 2012). Other projects focusing on the topic of integration and immigration were simultaneously funded and included supporting measures such as language teaching and media campaigns (Tarrósy, 2014, p.292).

IDResearch started to develop the first iterations of *Immigropoly* already in 2009 (IDResearch Ltd, 2016). As mentioned before, the game was not only designed purely as a “game” but it was meant to serve as a tool to educate people on immigration. The previous projects such as the “Black and white – here we are” collected data that demonstrated that especially the youth had huge gaps in their knowledge related to the topic (Immigropoly, 2013) and the game was in practice created to bridge that knowledge gap and support the integration of immigrants by putting the players in the position of the immigrants themselves in order for them to reflect on the realities the immigrants have to face during their life. This unique approach that touches the immigration process from various perspectives from sociology to psychology and ecopolitical studies and aims at providing the players with the basis for understanding the processes related. Although, as mentioned, initially *Immigropoly* was an expansion of a larger

entity, it has recently begun to grow on its own and the game has been recognized for its uniqueness in its field and has received rewards, for instance: an honorable mention from the 2012 joint Intercultural Innovation Award of the United Nations Alliance of Civilizations and the BMW Group. *Immigropoly* was a finalist again on 2013 and was invited to the 5th global conference of UNAOC (United Nations Alliance of Civilizations) in Vienna, Austria (IDReserach Ltd, 2016). The future plans for *Immigropoly* include further expansion and for example, the possibilities for a board game have been looked at.

3.2.2 Mechanics. The basic premise of the game, as mentioned, is for the player to take the role of an immigrant from any of the given six nationalities and backgrounds varying from Chinese cook to a Lebanese girl. The player is then tasked to take their chosen character from their point of origin through various routes eventually ending up within European Union borders. During the game, the player gets to read and learn about the background and culture of their chosen character, about different immigration-related legislations and policies, history and so on

The interface of the game is a static “point and click” type of screen, where the player can see their surroundings (i.e. places to visit), task list, inventory, points etc. (Figure 1).

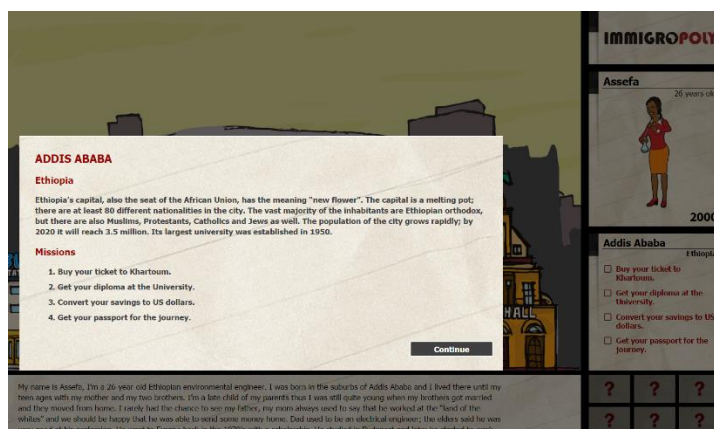


Figure 1. The interface of the game. (IDResearch Ltd.)

In the beginning of the game and after choosing your character, each character starts their story from their distinctive hometowns with a specific amount of 2000 points of resources. Successfully advancing in the game can reward the player with extra points, whereas failing with tasks can penalise the player with minus points. The eventual aim is to reach your final destination with a maximum amount of points. If the player loses all of their points, they will in effect lose the game and are forced to restart their playing. The player will have various locations to visit in the starting city and each of those locations offers the player a mission as well as information that will be useful later on in the game especially during the quiz stages. The main idea is to get the character “moving” in their journey. These missions can, in addition to dialogue options, include amongst other things, object collection and other varying tasks. For example, one of the characters has to say goodbye to their music teacher whereas another has to arrest someone before moving on. As mentioned before, the dialogue options are designed to expand the player’s knowledge of immigration and the specific circumstances (cultural background,

history and other related topics) that surround the particular character. If the player fails with the dialogue sections, they are penalised a preset amount of points.

After the player has visited all the initial buildings in their starting location, they will move on to the journey between their destination and their character's hometown. The layout is a typical board game with different steps between the ending and the beginning (Figure 2). These steps are divided into four different event fields that are educational quizzes (general knowledge and country-specific), migration quizzes and character quizzes which are quite self-explanatory. In addition, there are random events that can have either positive or negative effect on your score (such as falling asleep on the bus and getting robbed of some of the player's accumulated points) and informational field that provides more in detail information about the players' current location on the map.

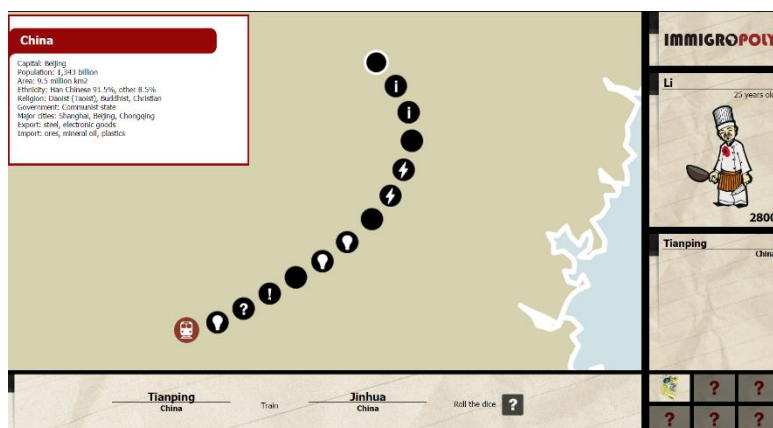


Figure 2. Travelling in the game. (IDResearch Ltd.)

Eventually, you will arrive at different stops (cities) where you again change to the previous interface and continue your game by completing tasks by visiting buildings and reading the dialogue before moving on again to your next destination and eventually your final stop.

Besides of the story and the quizzes, the game consists of various audiovisual enhancements that once again are designed to improve the learning experience of the player.

All of the stories for the six playable characters are unique in order to increase the replay value of the game as well as educating the player about the variety of circumstances the immigrants can come from. Although the backgrounds of the characters and the circumstances they are in are fictitious, some of the stories and situations in the game are based on real-life data collected during the interviews (Tarrósy, 2014, p.293). One can also replay same missions over and over again in order to gain a higher score and learn more about the various thematic topics in the game.

3.2.3 Playerbase. Currently, in October 2016, there are 1709 registered players for *Immigropoly* on the English version of the game and 8459 players on the Hungarian side. As *Immigropoly* is a project initiated by a Hungarian organisation, it is only natural that the initial playerbase mostly consists of Hungarian players. IDresearch's previous related projects were concerned with immigration images in Hungary and especially of the situation of the African community in Hungary (Tarrósy, 2014, p.293) so the international aspect has not presumably been a priority during the initial stages of the development of the *Immigropoly* concept. However, it is doubtful that the players remain the same for long; as the game develops and is being expanded with other associated products (for example the board game), it is safe to presume that the international playerbase will expand in correlation with the activities IDresearch has planned for the concept.

The game and the associated project activities have been directed to especially inform youth about immigration and the related phenomena so the marketing and player recruitment focus has been directed towards the younger age groups, secondary schools and universities. The

game was designed as a free time activity with educational applications (IDResearch, 2012b). I have not gone to any deeper with the demographical variety of *Immigropoly* players since the only relevant issue in relation to it has been the somewhat skewed representation of Hungarian players versus international players. But again, like mentioned, the reasons behind this lopsided division are understandable and there is a stream of new international players joining the website and therefore the game which most likely will change the situation in the very near future.

Overall, factors such as age, nationality, gender, and so forth, and their possible impact on the transfer process between computer activities and real life situations is something that could be looked on in future research but for which my resources are currently too limited for. As the pedagogical applications of games and IT are currently popular, I am quite sure that more similar research will be conducted soon enough.

3.3 Data collection and the informant group

Case studies have various sources for data (Yin, 1984). These include for example documents, archival records, interviews and different type of observations including direct and participatory observations. In addition, in physical artefacts can be used as a source. Case study as a method does not have to abide by one format of the data source and can be both qualitative or quantitative in its nature (Eisenhardt, 1989). I chose Tom Wengraf's Biographic Narrative Interpretive Method or BNIM (which I will introduce in a more thorough manner a bit later) as my tool for this study. In addition to looking at the earlier empirical research of possible transfer effects online gaming could have, I wanted to introduce a small group of people to *Immigropoly* and see how they approach the learning experience the game offers. In addition to my group I personally also spent a significant amount of time with the game playing various characters and storylines. This helped me to get a complete picture of the game itself as well as the issues my

players brought up and thus helped me with formulating better questions to my players and to better understand their opinions and comments.

In general, I chose narrative approach as the style to conduct my small-scale interviews due to various reasons. As Schell (1992, p.1) puts it in his paper; “a scientific tradition was built around the testing of the premises which either supported or attacked the truth and validity of the implicit arguments made by these stories”.

One of the main reasons for the narrative approach was to ensure that the process remains as uninfluenced as possible by me or any other exterior factor. This was especially important in the light of the small size of my sample, and due to volatility and importance of the findings from the interviewing process. It has also been said that narrative approach to interviewing enables the interviewees to better attach meaning to their experiences. From the various options available in narrative interviewing, I chose to utilise an adapted version of the BNIM as the abbreviation goes. According to Wengraf, BNIM as an interviewing method “is one which, if followed, will provide you with a relatively coherent ‘whole story’ or ‘long narration’ with a relatively large number of recalled ‘particular incident narratives’ (PINs) “(Wengraf, 2006, p.5). Wengraf also mentions that “BNIM is particularly suited for longitudinal process studies since it asks for retrospective whole stories and particular incident experiences “(Wengraf, 2006, p.4). It also leaves the door open to interpreting the data collected through BNIM by any other means of narrative analysis (Wengraf, 2006). The two nuances that are mentioned before; identifying of particular incidents (PINs) and the suitability of the method for a longitudinal study, were the most important attributes for me when I chose the approach. As I am looking for these type of “a-ha” moments that the players could have possibly experienced during playing *Immigropoly* as well as during their personal reflection and later or on during the

interviewing process, I felt that BNIM could offer me the resource of eliciting these moments from my interviews and discovering whether or not gaming has any causality with learning processes in real life and whether or not online games such as *Immigropoly* could be used to learn new skills and know-how. As BNIM is stated to focus on eliciting narratives and reflection on past particular incidents (or PINs) (Wengraf, 2006), I was confident it would provide a new perspective for my players during the interviewing process to do exactly that.

The structure of Biographic Narrative Interpretive Method is fairly simplistic and therefore useful to my purposes. In a BNIM interviewing situation there are at least two so-called subsessions. The first one provides the important single narrative question that gets the process going, a SQUIN “a single question aimed at inducing narratives” (Wengraf, 2006). In my case, the initial question at hand was “Please tell me about your experiences when playing *Immigropoly* and anything that comes to mind from the process”. The second subsession that follows the first in a relatively quick succession focuses on getting more narrative out of any points that have been brought up during the first subsessions. These two subsessions are usually conducted during the same interview process but as some of my interviews were non-conventional with emails and Skype, the time period in occasions was varying. In BNIM there is always room for a third subsession that is designed to be initiated after the first two subsessions have been transcribed and reflected upon. This third subsession is again aimed at inducing further narrative but additionally can consist of other activities such as non-narrative questions (Wengraf, 2006).

For this research, I had an informant group with a variety of people representing both sexes as well as numerous paths of life with varying contact with immigration and immigrants in their everyday lives. My intention was to gather a group of diverse players with different cultural

and educational backgrounds. I also hoped that they to be a bit older to avoid overlap with the research done by IDresearch before amongst the younger generations in Hungary. As average gamer has the age of 35 (Entertainment Software Association, 2015) and IDresearch's initially concluded research in the context of 'Black and white – Here we are!' (Tarrósy, 2014) was directed at younger generations. Eventually it was nice to notice that my group consisted mostly of individuals aged between 23-36, placing them between the average gamer age and the IDresearch's group.

The initial amount of people was to be quite much larger than my end result of 9 players. The first round SQUIN was sent to a total of 19 people. This sample was formed by all the initially interested parties that replied to my public inquiries for participants which I sent through my university e-mail and to my online gaming communities. These initially interested people were partly friends (for instance from my gaming groups) and partly random people (through school e-mail). Out of this amount of initially interested people I got an answer from 14 and was able to get a more detailed answer (anything beyond single syllable answers) from 9. The amount of data received from the informant group was as varied as the players themselves. The shortest answers I analysed were of few sentences whereas some players wrote me emails that were multiple pages. As my playerbase was relatively limited, the answers I got did not significantly differ I decided to focus on two interview situations where I had the opportunity to do further research and additional subsessions both face-to-face and electronically with the players. I chose two of the more active players for advanced interviews that were more structured and focused on discovering if the potential of games such as *Immigropoly* was there for them. From those two interviews, I picked out the major trends that were present in some form or another also with the less in-depth interviews, which consisted of the initial SQUIN and second subsession about any

specific points that rose, but no third subsessions nor in depth discussions. Additionally, the points that were risen were such that I encountered during my personal experience with the game.

Indeed, due to the nature of my study, I rather preferred a small group of active players who gave me better data to a bigger group of players with less interest and desire to aid me in my study and spend more time with the game. The 9 players that answered in a sufficient manner to the SQUIN, I gathered some of the themes that arose and used them as the basis for the individual subsessions focusing on the themes they found to be interesting or important, PINs. Such themes were, for instance, the quality of the game design, the amount of information that player had to go through, factual mistakes and Hungary-centric content. The replies (which varied from few short sentences to longer emails) I got from the second subsession as well as the initial SQUIN, were then the basis for my analysis in addition to my personal reflections.

As mentioned before, out of the 9 players (interviewees) that played the game in a sufficient manner, I chose two with whom I had an additional interview session after the second subsession. I considered that as the depth and scale of their initial answers indicated an interest to “take it seriously”, it would be interesting to use them as the two examples amongst my playerbase. With these two individuals, I had the chance to use multiple forms of interviewing methods, namely face-to-face, emails and skype. Besides the themes that arose from their initial SQUIN (namely, execution of the game and problems with creating enough suction in game for it to be engaging and interesting on its own accord) and the follow-up subsession related to these themes, I further engaged with them in a discussion of whether the game can be seen as an educational tool, and did the game at all influence their attitude towards immigrants.

In the spirit of gender equality, I chose a male and a female player for these subsequent and more in-depth interviews. Both represented the same nationality and educational background. The reason for the sense of homogeneity of the attributes was to have yet another (albeit in this case, non-essential) small research path related to potential differences in perception between genders. By having two individuals of relatively similar backgrounds I wanted to get a small image of how gender could affect the process of learning through gaming as a medium.

I also hoped to get as many test subject outside of any of the relevant disciplines to ensure that their experiences could be considered authentic and unaffected by their educational background. In addition, some of the players do have an extensive international, and higher education background so there was a possibility for comparative research as well. Many of the studies related to games and their impact are concluded with people that are usually overly attached to gaming and spend abnormal hours per day playing games. I felt that this type of data is providing a skewed result, as the circumstances surrounding these studies cannot be applied to everyday life circumstances and with people that do not have gaming as a prevalent hobby. By utilising people that represented a more common demography (not game-addicts) I feel that I could get a better indication of the real impact gaming could have on the personal development of the players.

One problem point for my approach was the fact that the players, the people that I introduced the game to and who I interviewed were, in the end, a relatively international crowd. This meant that face to face interviews – the method most valued in these circumstances - were not possible in all the cases. My interviews consisted of three different types of settings, Skype, e-mail and face-to-face interviews. This lead to the need to introduced alternative means of

interviewing through for example e-mails and video-calls using Skype. However recent studies have shown that face-to-face interviews are not the only viable option and for example phone interviewing can be used in narrative inquiry as well.

Although I have mostly seen the qualities of e-mail and Skype-based interviews as positive aspects, they naturally provide some hindrances to the data gathering process. Besides providing me with truly uncompromised data from my participants, the setting with a lack of instant communication and open nonverbal communication between me and my interviewees caused for example time delays in the whole process. Also, the potentially rich non-verbal data that could be collected in the face-to-face interview situations was completely void in those interviewing situations where I had to resort to using e-mail or audio-only Skype as the tool of communication. It is however pure speculation to guess how much information was missed due to relying on non-conventional means of communication during some of the interviews and I am confident, that the positive aspects heavily outweigh the negative side of e-mail and Skype use in interviews, even with narrative interviewing process

From the positive perspective, e-mail interviews continued and respect the initial idea of providing minimal interference from “both sides of the table”. Neither me as the interviewer nor the interviewees could be influenced by non-verbal cues that could impact the data collection process (Holt, 2010). It has been mentioned that attributes like age, sex, nationality, ethnicity or in other words, contextual data (Holt, 2010) can all influence the way we act and communicate with each other (Stephens, 2007). By eliminating these aspects from the interviewing process, we hopefully create unbiased circumstances for the interview itself.

Additionally, another positive aspect that comes from using non-face-to-face interviews is the liberty it offers to both parties with their physical presence and social space enabling both

to be more comfortable with the situation (Stephens, 2007). Purely hypothetically the fact that the interviewing took place in front of a computer, could have incited more personal reflection on the impact of playing *Immigropoly* since the setting was probably very similar to the time when the interviewees played the actual game.

From a more practical level, the e-mail and Skype approach offered, at least in principle, a better chance of maintaining a contact with my playerbase. Like mentioned the players that initially agreed to test *Immigropoly* were all from various nationalities and from various locations. Gaining face-to-face audience even with my relatively small playerbase would have been a physical impossibility. This drove me to look for alternative means of communicating with them and after careful consideration, I chose e-mail based interviews.

I need to stress the fact that not all of my interviews were in this format. Like mentioned, some of them were in the traditional face-to-face setting and some interviews I conducted through Skype calls (both video and audio). The benefits and negative aspects of traditional face-to-face interviews can be ascertained by reversing the aspects I have brought up with e-mail interviews and the Skype calls represented a sort of middle ground in my interviews with instant messaging possibilities but with hindered opportunities to receive non-verbal information from the interviewees.

As stated I chose to interview a few players instead of massive amounts of similar players due to the personal aspect of my interviews and the fact, that qualitative studies like these cannot be replicated nor used as a standardised measure stick. I wanted to take a look at whether or not serious games especially can be used to elicit an attitude change in the players and whether or not something like serious games can be used as an effective educational tool. In the end, my research is merely scratching the surface. This is the obvious result of a small-scale case study

such as mine. However, my findings could possibly be used to discover some nuances and trends that could merit further and more structured research. There are few common traits in the answers I received and those do demonstrate some commonalities that can be used when using serious games as means to convey information and in efforts to influence the perceptions of people about specific topics. I intended to introduce the results divided by these common findings and to see how, if at all, they can be concluded into one coherent conclusion.

3.4 Analysis

As previously stated, the initial question I asked from all of my interviewees was “Please tell me about your experiences when playing *Immigropoly* and anything that comes to mind from the process”. This was my “SQUIN” and the basic premise which I hoped to illicit some open answers and self-reflection by the participants. In some cases, this was unfortunately not the case which naturally was detrimental for my approach of small but meaningful case study. I used a five-step Development Assistance Committee (Organisation for Economic Co-operation and Development, 2011) evaluation criteria when interpreting the data, I collected as a basis for organising and analysing it. The five steps that I utilised were:

- relevance: (is *Immigropoly* addressing a real need?)
- effectiveness: (did *Immigropoly* actually induce anything related to intercultural literacy growth in the players?)
- efficiency: (were the possible effects and growth in intercultural literacy as extensive as they could have been?)
- impact: (has there been any real changes and growth amongst the players)
- sustainability: (are the possible changes sustainable)

Some of these traits would be better measured through quantitative methods, and the freedom of case study would have given me the ability to do so, but as the sample size was as small as mine, it did not seem feasible to do. Using quantitative approach would have also been in contradiction to my approach of being as flexible as possible with my research.

After sufficient data had been gathered with the interviews, the data was analysed through two distinctive pathways: chronological and subjective. The interview data was divided into segments and analysed by keeping in mind the chronological importance of events and how they might have impacted the reflection process and experience of the player at the time. Subjective pathway tried to look at how the interviewee “grew” during the interview process and how they told the story. Riessman (2006) mentions, that this approach usually considers the varying manners specific topics that might come up are addressed by the interviewee. The dialogue-like nature of narrative interviewing and the cooperation between the interviewee and the interviewer is hoped to lead to new discoveries by the interviewees as it is said that narrative interviewing enables associations, and might open new narrative paths (Riessman, 2006). This happened a few times which can be seen from comments such as with one of the players who noted after the first SQUIN that:

the game would have been more educational if the characters would have been from poorer circumstances and would have had to fight their way to Europe. Now the way to Europe seemed to be quite effortless. There were no negative aspects which refugees and immigrants might encounter such as racism, scams, human trafficking, smuggling etc. (Player A, 2015)

These narrative paths are as shown an opportunity that could lead to even further discoveries of personal growth and intercultural skills development that could warrant further research on the topic. After all, a personal reflection that the interviewees hopefully engage in

during and after their gaming and interviewing processes is one of the key elements in proving the possibility of induced intercultural literacy growth through online gaming. I acknowledged the risks of such an open-ended and free approach to trying to extract information from my players but I could not perceive another way to impartially see if *Immigropoly* influenced any of the players.

4. RESULTS

One theme that rose time and a time again from almost everyone that played the game was that the initial idea was good, but the technical execution of the game was poor. Comments such as “basic idea is with good intent” and “The game itself as an idea is probably good” were dominant in all the answers I received. In addition, the answers marked the importance of technical execution when dealing with serious games and games that are designed to have a tremendous impact on its players. Some said the game was boring, some mentioned that they disliked the heavily directed narrative, some said there was too much information and many mentioned that they had actual technical difficulties to play the game. I personally had some issues launching the site every now and then. One can deduct that when even the least bit of immersion is broken by poor execution, the foundation on which these type of games are built is gone.

In addition to the technical difficulties, the cultural nuances that were apparent in the game were something that was annoying to the players. Some of the emphasis on Hungary in the text, for instance, was an issue.

The game should cut all the excessive stuff and answers that were too simple and easy. In addition, the emphasis on Hungary needs to go and they should take out all the mentions about Hungary because Hungary probably isn't the number one country where immigrants are going for. (Player D, 2015)

Also, the lack of variety was questioned “game is too slow and doesn't give much options for playing” (Player G, 2015),

The lack of options and freedom in the game does not translate into engaged players. This is also directly against the main idea of serious games which thrive on freedom, choices and

engagement. Especially when the focus group of the game is supposedly younger generations, it is an especially big issue. They benefit from sandbox games and freedom as they enhance and support “decision-making and critical thinking skills, self-awareness and creativity (Kulman, n.d.). Even with the older populous (my playerbase) the issue of engagement and keeping oneself interested in the game when it offers little choices that the player can make was mentioned many times. Other technical issues such as factual mistakes were also mentioned. One player wrote me an email with the following:

Have to admit as a former “immigration professional”: there are a lot of factual mistakes. Or well, I heard this is the way they pass out residence permits in Greece, but not here in the Nordics! 😊. For instance, the Chinese characters visa interview “the right answers” were such that no way they would have gotten a visa from us. Of course: can you teach children that you must lie to get a visa? Ethics, although I doubt they have thought of this at all. (Player B, 2015)

From the positive side people acknowledged that this type of game can be used as an educational tool quite easily, my players realised that the lack of choices and freedom could translate into a more controlled and coherent environment for teaching. This fits the aim of the designers of *Immigropoly* since as mentioned the game was designed to be a game that is “not only a free-time activity, it has also proven to be a versatile educational tool” (IDResearch, 2012b). The danger then would lie in whether the key ideals of serious games (engagement above all) would be lost.

As mentioned, part of the BNIM interviewing method is to go a second subsession and to focus in so-called PINs (particular incident narrative). These are further discussions in order to elicit more information from the players and their views about the game. As many of the initial comments I received were related to the technical execution of the game, I hoped that the

discussion would go to the aspect of whether or not they felt that they thought more of immigration issues and whether or not, consciously or subconsciously they identified with the characters even a little thus enabling the possibility of intercultural literacy growth.

In BNIM the second question PINs are also participant focused so I had to pick a topic my players brought up while trying to, without influencing them, cover my topic. As the lack of options and the “classroom” setting of the game were constant sources of annoyance I asked my two representatives of the players how they felt about the journey taken by characters. The answers both gave were very similar. Both players focused on “real life” concerns indicating that they really had reflected upon their experience as a virtual immigrant at least a little bit.

With few of the players, I held a third subsession a few months after they had stopped actively playing the game. This happened in an organic and unplanned manner when they brought the game up during a discussion. We were discussing the immigration crisis as it was at its all-time high in Europe. I asked them whether or not they have thought of the situation from the immigrant’s perspective after playing the game. The response was a very resounding, yes, one of the players even mentioned that after he/she realised his/her more empathic stance towards the immigrants he/she wondered whether or not this was caused by playing *Immigropoly*. This can be seen as an indicator that there indeed is a potential for further social change through these games. As the players felt more empathetic towards the immigrants and felt the need to state it.

As a final breakdown for ascertaining the potential of *Immigropoly* as a catalyst for intercultural literacy growth, I wanted to return to the questions by Ennemoser I posted earlier in the expectations and reality part. I find those six questions:” what does work”,” how does it

work”,” does it work for everybody under all conditions”,” expected effects”,” unintended side-effects” and” alternative explanations for observed effects” to be useful in this case.

1) What does work

The setting seems to be something that every player valued. They found the topic, in general, to be interesting and appreciated the educational factor. My two players that were more thoroughly questioned saw the connection between the need of educating the younger generations of topics such as immigration and the usefulness of games with such a task. “I guess this is the way to approach kids nowadays” (Player A, 2015) “I get the idea, and I think games can be the way to get kids interested in these things..” (Player B, 2015).

2) How does it work

Immigropoly intentions to educate its players through quiz style stages that test the player of everything that they have encountered during the game. The problems arose from the sheer amount of text that a player was to read in order to progress. It was mentioned as a “turn off” in most of the interviews with some noting that “you really get the feeling that this is about education and not so much enjoyment” (Player C, 2015). The player further elaborated that they felt that the core game mechanics were too static to be sufficiently entertaining or engaging. If a player feels no ownership of a character, neither will they feel any ownership for the consequences of their activities which highlights the difficulty of using games of any kind to influence players on a deeper level: if the consequences of actions within the game have no real cost to us, the impact remains shallow (Heron & Belford, 2014).

3) Does it work for everybody under all conditions?

As mentioned, many of the players were very disgruntled by the Hungary-centric content. The game is initially intended to Hungarian school children and thus the localisation has a

reason. It, however, makes it then unsuitable for more global and intercultural circumstances and audience. “ I’m annoyed that Hungarians feel like they are the centre of the world, although it was funny..” (Player A, 2015). Additionally, the berated technical execution of the game, with e.g. multiple connection issues and error messages was a source of discontent players as was the amount of reading material. Some, like me personally, were able to overlook these issues and focus on the core message and idea behind the game, but for some, they were too much to keep them interested. This was reflected in short answers and general lack of interest to participate in playing the game.

4) The expected effects of the game

The game wants to thoroughly educate younger generations and open their eyes towards the hardships of the immigrants. The aim of the game is to make them more welcoming and open towards immigrants and newcomers. As IDRResearch has made an English version of the game, it can be safely said that they intended to also expand their mission of educating the masses to in a universal level. The technical execution of the game was a major hindrance with this aspect as stated. Although my only Hungarian interviewee spoke highly of the game, the reception amongst the international players was not as positive. The problematic relation between the high goals of the game (increased understanding, tolerance and interest towards immigrants) and the lacklustre execution was quite evident from personal experience and from the answers of the players. On the other hand, the idea was appreciated, but on the other, the way the game was designed didn’t generate enough interest or engagement for the players to truly get interested.

As the game is designed to educate, the effects are clearly tied into “what has one learned”, and as the desired outcome also entails a larger scale attitude change amongst the players to be more accommodating towards immigrants and to understand their hardships, there

is an extra requirement tied to the learning mechanisms in use. I previously talked about experiential learning and how it is an efficient way to teach about intercultural communication (Mak & Barker, 2004). As written before, experiential learning entails an “exchange” between the learner and the environment. This is a vital detail in learning through serious games and other similar tools, as interactivity and engagement are few of the advantages they offer. Additionally, Kolb’s model, which was also introduced earlier, argues that there are modes of experiential learning, namely, concrete experience, reflective observation, abstract conceptualization and active experimentation. When I put the data I collected from my players through this model, I was able to observe that almost all of them, in some form or another went through this process. Naturally, all of them had the concrete experience of being involved in a new experience. Through my BNIM interviewing they reflected upon their experiences and pondered on the reasons behind their experiences. Some of the answers also concluded through abstract conceptualization what explained their experiences. For instance, one of the players brought up the walls of text in the game and that they must be due to the desire to educate by the developers. This vast amount of information then caused disengagement from the game itself, A trend that was noted by 7 out of the 9 players. Taking classifications from Kolb’s model of different types of learners I noticed that the best result in relation to the desired effect was with people that could be categorised as “assimilators” (abstract conceptualization / reflective observer) in Kolb’s model of experiential learning (“Concrete.”, n.d). That refers to learners that are motivated to find out “what is there to know”. According to Kolb’s model (n.d), they are interested in accurate, organised delivery of information and they value the knowledge of the expert. This means they are not that bothered with the arduous task of reading through massive amounts of information and having less interaction and engagement. This is also reflected in the variety of

answers where some of the players focused on analysing their own frustration with excessive information flow and lack of interactivity and others made the conclusions that the game could be used in a school setting. They seemed to be more willing to take on board the information given by the game and also these were the players that later reflected on the connection between playing the game and how they, for example, reacted to the immigrant crisis in Europe. It is an indication that when a game such as *Immigropoly* has the correct mechanics and the right audience, they can influence their players.

Empathy seems to be a key component of effective cultural communication (Zhu, 2011) and intercultural literacy, so looking at the effects of *Immigropoly* can have on its players through the scope of the four principles for designing empathy-inducing games defined by Belman & Flanagan (2010) is a logical option. After all, the word empathy derives from the Greek word “*empathia*”, which means understanding others by entering their world. This is the basic tenet of *Immigropoly*.

First of the principles says that you must ask for players to empathise. Although *Immigropoly* achieves this, the lack of interaction and the walls of text that are dominant in the game quickly disengage a player from continuing to feel empathetic and connected with the characters.

Secondly, the player should be given specific recommendations to help solve the problems their characters face. Again, *Immigropoly* achieves this, by giving multiple choices of action in certain parts of the game. However, it was brought multiple times that these choices were too much “on the nose” and easy to really make the player think. One instance mentioned by a player was the situation where the character had to go to a beer shop in Brussels and get some beer as a souvenir for a colleague: the options were to buy beer or to buy hashish. Another

situation the player mentioned was the event where the character had to send money back to their mother in Ethiopia: options were “Ethiopia” or “North Korea”. This again circles back to the “interest, fun, engagement” mantra that needs to be fulfilled for a meaningful experience.

The third principle Belman and Flanagan mention is the need to show the similarities between players and the characters they are supposed to empathise with. From this perspective, I only got one mention. One of the players noted that “you could see from the beginning what kind of image they tried to give of developing world citizens. They were presented as active, educated citizens. I also felt, that their “humanity” was underlined all the time” (Player F, 2015). At first, it was hard to interpret did the player mean this note as a positive or negative, as I received the answer by e-mail. However, the rest of the player's reply for the first SQUIN indicated that they felt the game to be a positive experience. On our second subsession, I focused on the presentation of the characters and the player noted that the presentation was indeed positive which lead to a more engaging experience for the player.

The last principle for an empathy fostering game was is the recommendations of integrating both emotional and cognitive empathy. In this context, emotional empathy can be defined as physically feeling the other person’s feelings “as though their emotions were contagious” (Goleman, 2007). Cognitive empathy is the ability to understand what other feels. With this category *Immigropoly* falls short due previously mentioned issues with engagement and the fun factor.

When you put what the game and the designers want to achieve through this spectrum we notice that although they do many things right (three out of the four categories are objectively filled), The lack of engagement and fun due to the execution of the game, lead to a diluted

impact that does not give the right picture of the potential effect of games such as *Immigropoly*, which are designed for a larger scale attitude development.

Overall I was happy to see that few of the players did bring it up that they had started to reflect on the situation of the immigrants in Europe and other parts of the world.

5) Unintended side-effects

From this aspect and from the players I involved there did not seem to be anything. Either the game produced no side-effects whatsoever or the effects were in line with desired. Then again some of the negative reactions e.g. related to the Hungary-centric approach were turned into amusement and disregarding the message of the game. “I saw what they try to do but, I couldn’t take it seriously anymore after reading the text for awhile” (Player B, 2015). This could be interpreted in a way, that even though enjoyment is a key component of a successful serious game, the educational content cannot be undermined.

6) Alternative explanations for observed effects

As the topic is such a niche area, it can quite safely be claimed that the recorded and reflected effects were not caused by alternative means. On the contrary, the comments of technical difficulties, being bothered by Hungary-centric content and other similar replies correlate very strongly with the basic tenets of a successful serious game. This seems to strengthen the ideas laid down also in my study.

5. CONCLUSION

5.1 Evaluation of the study

When I started to think about feasible master's thesis topics, I wanted to diverge from the usual international themes that the field of intercultural communication touches. Mixing and maintaining of standards of both my own personal goals and those of the methods I had chosen were a constant process for me and one that I found very intriguing and rewarding. Modern society is extremely segmented and even inside families, there can be various cultures that coexist. That is why it is so important to notice that interculturality goes so much deeper than just international relations. Young versus old, parents versus children, men against women, Android users versus Apple-enthusiasts and so forth. Intercultural aspects are dominating our lives even if we do not realise it. This realisation of how deep the intercultural aspects permeate our lives was the motivation for me to find an alternative topic that includes themes intercultural communication as a field of studies and touches topics that are not as commonly researched as they should be. Therefore, I decided to conclude my studies with a thesis studying the use of the specific online game in teaching especially kids and young people, in general, to be more tolerant towards immigrants and foreign cultures. I planned to achieve this through taking a specific game (*Immigropoly*), introducing it to a small group of people who hopefully have no experience of active gaming, and seeing how the themes the game touches are relayed through the use of its technology to the users, or in other words: players. My key task was to see how do players of *Immigropoly* describe their gaming experience? The importance of this question lies in the desire to develop players' appreciation towards foreign cultures. These large scale and profound changes in people need a communications medium that is interesting and appealing enough to make the message one tries to get across to "stick" with the recipient. One can see

from the prevalence of gamification and how useful and popular game mechanics, such as point collecting for frequent customers, are with people and therefore the potential of serious games as an educational tool should be evident. Additionally, the theme of the game (immigration and the hardships immigrants trying to reach EU encounter) and other similarly “heavy” topics could be powerful catalysts in the growth process. The opposition towards serious games can crudely and anecdotally be categorised to be researchers, game developers and other individuals that feel that gamification and serious games devalue the field of game design. The absurdity of this lies in the notion that games have always been a part of the learning process for human beings, even if they have not been taken advantage of until relatively recently in a classroom setting. Maybe the more general issue that there has been a lack of knowledge in how to utilise games in education has influenced some of the opponents of serious games. New concepts always bring resistance to change and that is another “prong” of games and education opposition. People have a different perception of what type of learning is important and some educators and researchers are more apprehensive towards the experiential type of learning that can nevertheless be useful to quickly absorb information and to learn how to utilise new information in our respective lives.

As I tackled a topic that was in large part intangible, I felt the need to explore the correlating theories in detail. For example, from the perspective of interculturality, things were quite interesting. Definitions of intercultural and interculturality are as varied as are the researchers that have studied the topic. Another interesting notion from intercultural perspective is the underlying feeling intercultural conflict inside the topic, namely the potential of a new educational method such as serious games vs. conventional learning. From a communications perspective, the concept of influencing attitudes and teaching new values through games and more specifically through *Immigropoly* serves as an example of what new means of

communication could do in the field of education. When using tools such as computers and games the information is relayed through the much more varied system than for example, with face-to-face communication that is the conventional method to teach. So there is also a theme of “old versus new” inside the communication block of my study. Therefore, it was, and is, interesting to see what type of possibilities do games offer in education and generally as means of relaying information that one can absorb to their life.

The biggest hurdle I had to cross was the technical difficulties both myself and the players encountered while trying to play the game. The issues with crashes, lack of English, the website being offline and other problems caused some of my initial players to quit altogether. These problems proved to be quite damaging in relation to gathering data. It is also a clear sign how important the “packaging” of the message is when we talk about anything that is aimed at influencing people and their habits. It is a valid question whether these issues that I and the players that participated in my study encountered were enough to make *Immigropoly* invalid for a study such as this. One reason for the problematic setting was the fact that I personally played the game first, and did not encounter problems that I would have considered to be relevant. I had some connection and loading issues, but as a person who deals with computers on daily basis, and who considers himself a gamer, I noted them as normal problems and non-issues. This lax attitude towards revising the functionality of the game and making sure it works e.g. with different platforms, caused this problem. However, I consider this hurdle to have been a valuable learning experience.

There are reasons why I feel such fear regarding the suitability of *Immigropoly* is unwarranted. I, first of all, feel that one of the main criteria of data analysis, i.e. “looking for underlying patterns or conceptual categories with which the researcher begins to make sense out

of data” (Bonda, 2014) was filled. Therefore, I did not see the point to dismiss a research topic that otherwise peaked my interest and had qualities and points that fit my field of study yet offered a unique subject, just because of mechanical difficulties. In addition, seeing the extreme importance of mechanical execution in this context constitutes as an interesting finding that explains many of the views and opinions of the players. “The sense of immersion was also hindered by the loading times” (Player I, 2015), “mechanics should be fine-tuned” (Player D, 2015) and so forth. Additionally, I wanted to avoid the risk of “stripping down procedures” to provide clinical conditions for studying my research questions (Gillham, 2010), so I decided to proceed with the challenging circumstances to provide a genuine impression of the potential of *Immigropoly*, instead of just making sure the results I got would be positive no matter what.

The connection between the need for immersion, and the disruptions caused by mechanical issues is one of the main findings of my study and strengthens the earlier claims of engagement, fun and interactivity being in the core of a successful medium for conveying attitude change and sparking interest and being in the core of a meaningful learning experience.

Besides the technical difficulties, there were signs of the possibilities these serious games can offer. Many of the notes given by the players revolved around “practical issues” inside the game rather than about the game. Questions about the lack of negative issues while travelling to Europe, the high education level of the characters and the erroneous options for example with the visa application process (mentioned by an old visa officer that played the game) all point towards people getting into their characters and thinking of things from the point of view of the characters and their realities. This was achieved with a game with a very sensitive topic, a group of players that were not the intended audience of the game and with a game with technical flaws.

So with well-produced games and right focus groups, the potential of the serious games genre is very evidently there.

I am relatively satisfied with my approach to this case given the resources I have had at my disposal. As I have stated on multiple occasions in my thesis, my intentions have been to use non-conventional means of research with my non-conventional topic. There seems to be a lot of debate over what constitutes of narrative data, as well as of correct interviewing methods and if case study can constitute as good research. Similarly, there is still an ongoing discussion whether or not computer games can teach us anything and whether or not intercultural literacy can be truly trained or is it a born trait. By experimenting around and with these questions I feel that I am at the heart of education and research. I am learning new things, demonstrating acquired skills and possibly discovering something that can contribute to the society.

5.2 Directions for future research

All in all, I am happy with the result that my thesis covers both vital areas of intercultural communication studies, namely communication and interculturality, and still manages to go on to an area of gaming and youth culture. Both are topics which are relatively underrepresented in research and often misunderstood in public dialogue. Additionally, transfer of learning between games and real-life is an intriguing topic and something that the scientific community has not exactly reached an agreement on. Overall the concept of learning through computer games and the field of serious games in general warrants to be researched more closely. My study only provides a brief insight to the cultural gap between conservative approaches to teaching and IT-mediated teaching.

As mentioned various times, my initial idea for this study was to just have the perception if it is applicable at all to have serious games as educational tools and whether these games could

elicit attitude changes in their players in a grander scale. There are some studies already made about the topic both from negative and positive light. There are also case studies about digital game-based learning and there are sensational studies about games and violence.

What I found to be curious was the lack of more recent content what comes to the future of serious games. Considering the nature of the topic, one could have thought that there would be vast amounts of information readily at hand online, for anyone that is interested in the future trends of serious games. However, the material that was accessible without excessive effort was mostly dated a few years back and therefore in risk of being irrelevant. An up-to-date and thorough study on the full potential of serious games could be a feasible thing to do in today's world where everyone is chasing pokemons with their smartphones and gaming has been brought to societal "mainstream".

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