

Knowledge at play

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Studies of games as members' matters

Ulrika Bennerstedt



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ISBN 978-91-7346-742-1 (print)

ISBN 978-91-7346-743-8 (pdf)

ISSN 0436-1121

Thesis in Education at the Department of Education, Communication and Learning

The thesis is also available in full text on

<http://hdl.handle.net/2077/32674>

Photographer cover: Tobias Jansson

Distribution: ACTA UNIVERSITATIS GOTHOBURGENSIS
Box 222
SE-405 30 Göteborg, Sweden acta@ub.gu.se

Tryck:

Ineko AB, Källered 2013

For Sigrid. And in memory of Ruth Bennerstedt.

Abstract

On a general level, this thesis seeks some answers to the broad question of what one can learn from digital games. With an analytical approach informed by ethnomethodology, the main thrust of the work is an exploration of members' matters in the area of games and gaming. In response to prevailing discussions about *how*, *where* and *what* gamers learn, the aim is to examine emerging forms of *knowledge embedded in practices in and around digital games*. The first part of the thesis addresses three themes: the question of whether leisure gaming could be understood to have *transfer effects*; how games are positioned in a state of *restlessness and multistableness*; and how the domain encompassing gaming and game development is advancing in terms of *professionalization and institutionalization*. The second part is comprised of three empirical studies based on two sets of video recordings: collaborative gaming in *The Lord of the Rings Online*, and assessment practices in game development education. The studies begin to unravel the elusive phenomena of gaming by making some gameplay practices and conventions visible. For instance, the findings suggest that there are specialized coordination practices, developed through long-term engagement with the online game. Furthermore, from the perspective of the institutional framing, it is argued that understandings from other media are not applicable in a straightforward manner, but must be carefully calibrated to matters such as game genre conventions and control over gameplay conduct. By describing the reasoning and knowledge displayed by gamers and game developers, the thesis contributes to interrelated discussions about knowledge development, currently carried out in educational science, interaction studies and game studies. In conclusion, it is suggested that digital games are establishing autonomy from other forms of entertainment media and software industries as a result of the ways games and gaming as *multistable objects of knowledge* have become deeply embedded in society.

Title: Knowledge at Play. Studies of Games as Members' Matters.

Language: English

ISBN: 978-91-7346-742-1 (print)

ISBN: 978-91-7346-743-8 (pdf)

Keywords: digital games, collaborative gaming, gameplay, learning, skill, transfer, coordinated action, professionalization, game education, assessment, institutionalization, gaming literacy, ethnomethodology

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Acknowledgements

The road towards becoming a scholar is a perilous one. To get past the dark places on the road, as J. R. R. Tolkien puts it, I was given hope and confidence in a number of fellowships and among dearest friends and family. First, I am especially grateful to have had the possibility to meet such friendly gamers, game education students and teachers, and game developers. This thesis would not have been possible without the ways you kindly shared matters with respect to games, gaming, game development, teaching, learning, education, and the rest. Thank you Mal and Dawe, we had a joyful fellowship indeed.

Next, I want to thank my supervisor Jonas Ivarsson who has over the years sharpened my intellectual reasoning, academic writing, and indeed, my attention to detail. Also, I am thankful for having the support of my supervisors Jonas Linderöth and Roger Säljö who have generously shared their expertise and introduced me to several academic fellowships.

Oskar Lindwall, Helen Melander and Lisbeth Åberg Bengtsson, I am grateful for having such competent discussants at my planning, mid and final seminars. With Oskar and Helen I have also had the opportunity of intellectual exchange and friendship in some of the academic fellowships that largely contributed to my academic development, research and the texts included in this thesis. I want especially to mention LinCS, NAIL, LINT, the learning and media group, and HiGS. Within these contexts, I would also like to thank Louise Peterson, Gustav Lymer, Ann-Charlotte Bivall, Anne-Marie Eriksson, Annika Lantz-Andersson, Mona Lundin, Björn Sjöblom, Mikaela Åberg, Alexandra Weilenmann, Elin Johansson, Mathias Broth, Hans Rystedt, Åsa Mäkitalo, Staffan Björk, Fritjof Sahlström, Barry Brown, Christian Greifenhagen, Anna-Lena Rostvall, Carey Hewitt, Anders Frank, Pål Aarsand, Ulf Hagen, Jon Manker, Jeanette Sjöberg. To all of those who are not mentioned above, I extend my gratitude for all comments, feedback, and conversations over the years.

I am fortunate to have been a doctoral student at such a welcoming place as LinCS (The Linnaeus Centre for Research on Learning, Interaction and Mediated Communication in Contemporary Society) and the Department of Education, Learning and Communication. I would like to express my gratitude to many past and present colleagues and fellow PhD students who I have enjoyed conversations with during coffee-breaks and lunches, as well as at pubs and conferences. Special thanks to Louise, A-C, A-M, Annika, Mona, Mikaela, Elin, Pernilla Larsson, Livia Norström and Anne Kultti for being there and shared ups and downs. For help

and support with institutional and other matters I am indebted to Doris Gustafsson, Eva Wennberg and Ulla Mauritzson. For skillful support with language matters, I want to thank Alexander de Courcy, with reference matters, I am grateful to Camilla Olsson, and for general input, layout and design of the dust jacket, thank you Tobias Jansson. This work has been funded by the Swedish Research Council, by the Knut and Alice Wallenberg Foundation, the Bank of Sweden Tercentenary Foundation, and The Swedish Knowledge Foundation, for which I am much obliged.

My fabulous friends, Freddan, Johanna, Mia, Mia, Andrea, Julia, Maggan, Tobias, Helena, and so many more, thank you for all the memorable moments over these years. My beloved family, dad and mum, big brother and little sister, and Jörgen, I have finally ended this journey and come home. It is time for new adventures.

Kvarnholmen, Stockholm, March 2013
Ulrika Bennerstedt

Part One

KNOWLEDGE AT PLAY

CHAPTER ONE

Introduction

In a relatively short time period, digital games have evolved from marginal phenomena to a form of culture at a similar level as literature, film and other arts. One consequence of this development is that the number of stakeholders is increasing. Alongside producers and consumers, we now see professional critics, educators and legislators taking an interest in games and gaming. This rapid development raises a number of epistemological questions – issues of what are required for the consumption and production of games today. In this thesis, I will address this general topic by exploring some emerging practices through which members of the gaming culture display, manage and assess knowledge and skills with respect to digital games.

Digital gaming – i.e. games played via screens like computers, TVs, or portable devices – has become a significant leisure activity for an heterogeneous audience (e.g. Crawford, 2011; Eklund, 2012; Juul, 2010), as well as an expanding business sector – the gaming industry (Kerr, 2006). The digitalization of games has given rise to a wide range of gaming activities, such as *Tetris* (Pajitnov, 1984), but also modified versions of analog gaming and sports. Digital games are often seen as an evolved form of ‘primitive’ ancestors, such as board games, tabletop games and role-playing games (Williams, Hendricks, & Winkler, 2006).¹ Many of them were social games, as Goffman notes:

¹ Nevertheless, analog gaming has not diminished in terms of popularity. Instead, it has been observed to cater for a wider audience with a steady release of new as well as old titles (Woods, 2012).

There are games, such as poker and bridge, which seem to require the players to sit facing each other around a small table. There are other games, such as hide-and-seek and war exercises, which fix the playing organically to a time and space but nevertheless require opposing teams to be out of each other's sight. There are still other games, such as chess, that ordinarily bring the players together but sometimes are played through the mails by enthusiasts without restriction to a time and space. (Goffman, 1961, pp. 35-36)

Furthermore, Juul (2013) argues that “[g]ames are unanchored activities, with no necessary tangible consequences, and a fundamental unclarity about what it means to fail.” (p. 31). Yet it is not enough to position digital gaming activities as forms of already existing activities. When moving away from some general similarities, digital gaming activities and practices have their own unique characteristics. For instance, with the invention of digital gaming technology, often referred to as video and computer games, new ways of *gaming together* have been established. Parallel with the increased mainstream status of digital gaming, there is a persistent interest in understanding gaming culture. Consequently, researchers have explored aspects of gaming as interesting phenomena *in their own right* (e.g. Hung, 2011; Linderoth, 2004; Peterson, 2011; Reeves, Brown, & Laurier, 2009; Sjöblom, 2011; Sudnow, 1983). Such an approach allows for insights into the reasoning and knowledge development of members of the gaming culture. Consequently, this approach is adopted in the thesis. However, there are other more prominent views and ideas about gaming technology and learning in society that radically differ from this (alternative) approach.

Games and learning

It is widely recognized, in studies of learning and cognition, that new media and technology produce changes in human practices and knowledge in society (Gee, 2003; Jewitt, 2005; Kress, 2003; Säljö, 2005). Throughout the history of research on new media technologies and learning, a primary interest has been the *transfer of knowledge beyond* the digital media themselves (cf. Crook, 1994; Papert, 1980). Also in public debates, transfer ideas are taken as point of departure for understanding novel forms of media, where the gaming medium is seen as a particularly

thought-provoking case.² In these discussions, a number of topics and assumptions about digital games are continuously revisited. At the core, lie conflicting expectations about games as a medium and what is learnt when engaging in games, and the influence of this knowledge on members of society, especially children and youth. Ideas and questions about how knowledge from one situation carries over to another situation have long been researched and discussed in terms of ‘near’ and ‘far’ transfer. For instance, between tasks in the schoolroom or experiment room (Judd, 1908; Thorndike, 1913), between the schoolroom and the workplace or wider world (Beach, 1999; Billett, 1998; Packer, 2001; Tuomi-Gröhn & Engeström, 2003), or between the playground and the wider world (cf. Sutton-Smith, 2001, p. 9ff). This literature about transfer is indeed relevant in discussions about digital games. Accordingly, I have continuously been reminded of differences between the alternative approach taken in this thesis and dominant approaches that adopt transfer ideas. Next, I will briefly outline some of these differences with respect to serious and leisure games.

Serious games and transfer ideas

Since the 1950s, the field of gaming and simulation has studied learning with respect to so-called ‘serious’ games (Abt, 1970; Avedon & Sutton-Smith, 1971; for an historical overview, see Hung, 2011, pp. 10-30).³ Serious game studies take an interest in games as educational technologies and in their potential to teach, instruct and affect the gamer with respect to knowledge beyond the local game situation (Abt, 1970; Ritterfeld, Cody, & Vorderer, 2009). In his book *Serious games*, Abt (1970) discusses evidence of problem-solving transfer from one game situation to another. One central object of analysis has been the relationship between games and classrooms with the hope of transferring knowledge and skills acquired from gaming to formal classrooms. Hung (2011) observes similarities between the rhetoric in contemporary studies and old studies regarding learning outcomes. He states that the current “serious game movement has returned to pre-1960 excitement, when scholars provided largely selective, anecdotal, and subjective perspectives on games and education” (p. 18). However, a growing number of studies in this research strand do not take transfer for granted but instead provide insights into the

2 http://www.msnbc.msn.com/id/16099971/ns/technology_and_science-games/t/does-game-violence-make-teens-aggressive/#.UJ4p84aa_To
<http://news.discovery.com/tech/video-games-decision-making.html>
<http://online.wsj.com/article/SB10001424052970203458604577263273943183932.html>
<http://www.reuters.com/article/2010/09/16/us-videogames-shooters-odd-idUSTRE68E4OW20100916>

3 Historically, the notion of serious games includes both analog and digital games (Abt, 1970).

organizational requirements for accomplishing learning with respect to domain-specific knowledge (cf. Alklind Taylor, Backlund, & Niklasson, 2012; Frank, 2012). Already in his book from 1970, Abt warns of the ‘Hawthorne effect’ in studies of gaming and its effects on learning, as there is a high risk that participants respond positively because of being studied and not due to the actual intervention itself.

Leisure games and transfer ideas

Besides the more obvious expectations on educational gaming with respect to transfer, there is another body of literature building on transfer ideas that focuses on the relation between leisure gaming and the wider world. The idea of transfer is frequently taken for granted and not topicalized in discussions about digital games and aggression (e.g. Anderson et al., 2010), which of course is seen as an unwanted learning outcome of gaming.⁴ Other scholars propose that engagement in gaming instead results in socially acknowledged transfer effects. Literacy scholars, for instance, link digital gaming, perhaps unsurprisingly, with the development of literacy relevant for the 21st century (e.g. Gee, 2003; Harel Caperton, 2010; Hsu & Wang, 2010; Schrader, Lawless, & McCreery, 2009; Snyder & Beavis, 2004). Moreover, in the studies assuming positive transfer, the social dimension of learning are addressed in descriptions of players’ co-constructions of *general* forms of knowledge (e.g. Gee, 2008; Schrader, et al., 2009; Schrader & McCreery, 2008; Steinkuehler, 2008). The participation in and around online gaming practices via complex game interfaces and spectacular game worlds are often discussed in terms of *literacies* that challenge our ideas about social interaction, communication and collaboration. Still, the collaborative endeavors are also competitive and the game worlds frequently portray violence.

As such, depending on the position taken, online gaming can be linked to both undesirable and desirable transfer, i.e. in terms of aggression or collaboration. What becomes evident is that researchers differ in the ways they approach digital games and the notion of transfer with respect to negative and positive accounts, as well as whether they assume and problematize the notion. Even though I do not commit to

4 The ways I use negative and positive transfer effects in this thesis should not be confused with how the concepts of ‘positive’ and ‘negative’ are used in transfer research. I employ the term negative transfer to address phenomena that are seen as damaging, destructive and undesirable for an individual in society. This differs from how transfer research views ‘negative’ transfer: “[...] negative transfer refers to the impairment of current learning and performance due to the application of non-adaptive or inappropriate information or behaviour. Negative transfer is therefore a type of interference effect of prior experience causing a slow-down in learning, completion or solving of a new task when compared to the performance of a hypothetical control group with no respective prior experience.” (Helfenstein, 2005, p. 18)

the theoretical assumptions embedded in, and underlying, transfer ideas, I hold that it is central to have a grasp of its historical roots and its critique in order to recognize how similar ideas are made use of in studies of games and gaming.

Games as an academic discipline and field of knowledge

There is a body of literature that, in line with the interests of this thesis, puts the question of transfer on hold and instead shares an interest in, and contributes to, the field of knowledge broadly referred to as *game studies*. Even though digital games have been around since the 1950-60s, the academic literature regarding game-related knowledge largely came about after the millennium shift. A multifaceted body of knowledge has since then emerged ranging from, for example, ontological studies of digital games (Juul, 2005), theoretical studies of game development and design knowledge (Björk & Holopainen, 2004; Salen & Zimmerman, 2004; Schell, 2008), and narrative studies of digital games exploring the role of stories and the potential of story-games or game-stories (Aarseth, 1997, 2012; Jenkins, 2004; Murray, 1997). Furthermore, the boundaries of the academic discipline are hard to delineate due to its multi and interdisciplinary character, where, for instance, studies of analog games (e.g. Avedon & Sutton-Smith, 1971; Caillois, 1961) are held as essential reading.

In the literature on digital games, researchers' opinions differ on a number of matters and display a "struggle of controlling and shaping the theoretical paradigms" (Aarseth, 2001). Frequently, researchers' not only analyze digital games but *assess* and *categorize* them for a number of reasons. These normative claims have resulted in researchers positioning digital games in a number of dualistic perspectives: technology versus medium; the study of games (ludology)⁵ versus the study of narratives (narratology); childhood versus adulthood; art versus popular culture, et cetera. When taken together, Kirkpatrick (2012) argues that these dualistic perspectives constitute digital games in terms of restlessness.

⁵ Ludus is a Latin term that originally referred to activities related to play, games, and sport (Caillois, 1961). In 1938, for example, the anthropologist Johan Huizinga (1955) introduced the term 'homo ludens', the playing man, to refer to the ways in which play elements and human culture are inseparable. Today the concept is more broadly used and adapted, and variations of the term are employed to refer to game-related activities and research, such as ludology, ludic pursuits or ludoliteracy.

Professionalized production

A growing number of studies focus on the ways in which the domain with respect to digital games is advancing. These studies often refer to gaming culture in terms of professionalization. The notion of professionalization is employed to account for the ways digital games are consumed, such as the development of the professional e-sport arena (Taylor, 2012). However, the term refers particularly to the production of games and the ways game developers' technology-driven work practices are changing (Banks & Potts, 2010; Deuze, Martin, & Allen, 2007; Köppen, Lindberg, & Meinel, 2011). In order to meet gaming industry standards and gamers' expectations with respect to established practices and conventions, the teams working with games have grown larger with multiple authorships in various specializations (Keith, 2010). Historically, the educational background of people working in the gaming industry is that of being a gamer and an autodidact in terms of game development. However, game developers' identity formation did not occur in a social and cultural vacuum, but took place in informal learning hubs via, for instance, the modding community (Deuze, et al., 2007) and the demoscene community (Reunanen, 2010; Sandqvist, 2010; Scheib, Engell-Nielsen, Lehtinen, Haines, & Taylor, 2002). With a growing industry with demands on increased specialization this is now changing.

Institutionalized transmission and assessment

Additionally, the established gaming culture and industry has given rise to a growing educational sector formed around a curriculum focusing on digital games, gaming and game development. The industry's need for skilled practitioners is not solely the cause of this development, but the gaming lifestyle in society is influencing consumers' ambitions in terms of career and work. Consumers' increased game-related involvement and knowledge are linked to a growing aspiration to a profession in game development. Since the beginning of the 21st century, educational programs in game development and design at university and vocational level have expanded considerably (cf. Berg Marklund & Wilhelmsson, 2011; Bourdreaux, Etheridge, & Kumar, 2011; Onen, Stevens, & Collins, 2011). Although the need for, and the quality of, game education has been questioned in a number of instances (cf. Backlund, Berg Marklund, Björkqvall, Sydow, & Wilhelmsson, 2011; Haukka, 2011), there is a body of research investigating educational struggles and identity formation when gamers and fans are in the process of becoming game developers (Hullett, Kurniawan, & Wardrip-Fruin, 2009; Zagal, 2010; Zagal & Bruckman, 2007, 2008, 2011). Rather than portraying an unproblematic learning

process, researchers direct their attention to difficulties involved in the teaching and instruction of game-related knowledge. Also, the institutionalized ways of organizing game education come with ideologies of instruction and knowledge transmission from other curricular domains. For instance, a common way of assessing and instructing students is to have professionals from the industry at game presentation sessions, an assessment mode that has a long history in design-based curriculums (Lymer, 2010). The institutional organization of the transmission of game-related knowledge offers another take on the question of transfer as it challenges our views of who *controls and defines the objects of knowledge* (cf. Goodwin, 1994) with respect to games.

Aim

The overarching aim of the thesis is to explore emerging forms of knowledge embedded in practices of *playing, developing and assessing digital games*. In line with this, I have adopted an analytical approach that addresses gamers' and game developers' understandings of games, gaming and game development. Out of this general interest, I have chosen to focus on three interrelated themes. The first pertains to the contested question of the transfer of learning with respect to games and gaming. The second theme concerns games both as designed environments and as social arenas, and, raises issues of agency in digital game worlds as well as forms of interaction between gamers. Finally, the growing institutionalization of game development points towards the establishment of practices for their evaluation. Given the short history of the field, it is interesting to examine which concerns are regarded as central. In relation to these themes, three research questions can be formulated:

- 1 — What skills do gamers develop and in what ways can such descriptions inform the discussion about transfer?
- 2 — What are the relationships between online games as designed environments and the practices through which action is coordinated?
- 3 — What are the central criteria used for the assessment of games in development?

The design of this thesis

The first part provides a theoretical and analytical outline of the thesis, and the second part consists of three empirical studies. In the theoretical background, I combine selected parts of educational research with research on game studies. The first background chapter, Chapter Two, starts out by introducing the educational concept of *transfer* and thereafter discussing how prominent views on games and learning account for positive (and negative) transfer of knowledge, such as in terms of *game-related literacies*. Chapter Three outlines how game scholars, in their ambition to define and theorize digital games, position them in a state of restlessness, or rather as *multistable* cultural phenomena. In the final background chapter, Chapter Four, I describe a progression in the gaming domain, with an emphasis on game development, in terms of *professionalization* and *institutionalization*. Chapter Five presents the interaction-grounded analytical approach. The first section in this chapter provides a background of the *ethnomethodologically* informed approach to reasoning and knowledge. In the section that follows, I outline two bodies of interaction studies, which have somewhat differently informed the empirical studies. To answer the research questions and aim, Chapter Six is split into two parts. In the first part, I present the two research sites studied: gaming in *The Lord of the Rings Online* (Turbine, 2007) and game assessments at a *game development education school*. In the second part, the methods employed, *video recordings and fieldwork*, are described with respect to the different sites. Chapter Seven summarizes the three articles. To conclude, Chapter Eight expands the three themes by discussing the empirical findings in relation to the theoretical and analytical backdrop.

CHAPTER TWO

Digital gaming and the question of transfer

This is the first chapter of three that provide a background of the domain of gaming with respect to knowledge development. In the chapter, I account for some ways the century old idea of transfer reappears in studies of gaming and learning. In educational research, the relationship between different situations and transferability of learning ‘products’ – i.e. knowledge, skills and competence – has been a key interest for more than a hundred years. The question of transfer of learning across situations is often considered central in educational research (cf. Beach, 1999; Billett, 1998; Marton, 2007; Packer, 2001). In this chapter, I will account for some topics relevant to my studies. First, I will sketch a brief historical background of transfer research and its critique. More specifically, as the topic of transfer has mainly been debated in relation to learning outcomes in school and, in particular, in connection with the ways knowledge can transcend schooling, I summarize the notion of transfer with respect to schooling and related criticism before describing in what ways ideas prevalent in transfer research are implied in studies of gaming and learning. Lastly, I will present alternative ways of approaching the relationship between gaming and learning.

A brief historical background of transfer research

The term transfer stem from Latin (“trans-ferrere” is Latin for ‘carrying over’). In everyday life, the term transfer can refer to a wide range of different things depending on the situation: transfer as in public transit, transfer as in financial transac-

tion, and transfer as in football players' change of club. This variegated use of the term is also visible in educational science. In other words, although transfer has been a central concept for educational psychology ever since the emergence of the field, there is no agreement on how to conceptually define transfer and therefore also how to empirically measure the occurrence of transfer. In transfer research, one all-encompassing transfer definition is "how what is learned in one situation affects or influences what the learner is capable of doing in another situation." (Marton, 2007, p. 499). Different researchers have then attempted to define this idea, introduced a range of theoretical constructs and produced different transfer theories and ways to empirically measure their theories (cf. Helfenstein, 2005; Judd, 1908; Mayer & Wittrock, 1996; Thorndike, 1913). Moreover, educational science has mainly been concerned with the question whether transfer happens at all and under what conditions transfer occurs, and less with the question of how transfer takes place. The way I see it, the literature on transfer can be outlined as having five different perspectives, summarized in the figure below.

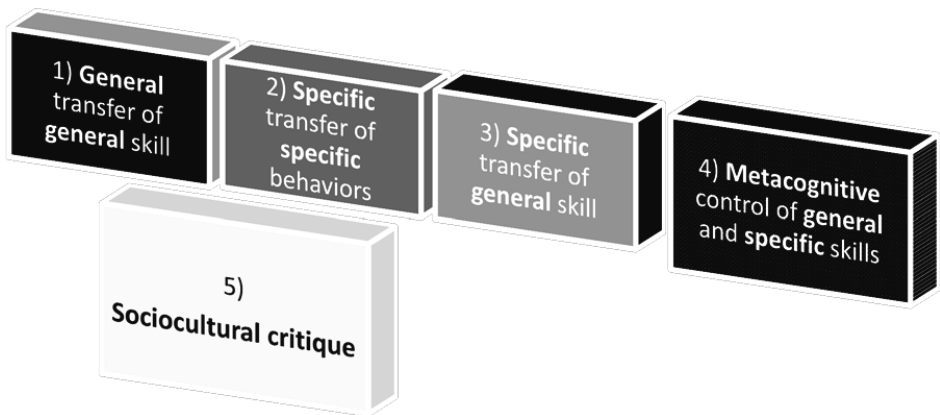


Figure 1. Four perspectives in transfer research, and a fifth critical perspective of the theoretical and conceptual foundations of transfer.

The labels of the first four are borrowed from Mayer and Wittrock's (1996) overview of educational transfer views in the 1900s. While the last one, which is also the perspective that I adopt as regards the concept, is a critique of the assumptions that the notion of transfer rests on (see Figure 1).

The first perspective is often seen as a widespread conceptualization of transfer that latter transfer research is contrasted with. According to the perspective *transfer*

of general skill, it was assumed that “training of basic mental functions [...] have general effects that would transfer to new situations” (Mayer & Wittrock, 1996, p. 49). This widespread understanding in the late 19th and early 20th century emerged around the belief that intellectual capacity correlated with particular mental ‘faculties’ in the brain. In educational practice, this view of transfer resulted in the principle of ‘formal discipline’ that rested on the idea that particular school subjects, such as Latin, enhanced students’ minds in terms of logic, discipline, memory, attention, etc. This view radically shifted when schools were not only for the elite but were required to include all children. Consequently, schools were supposed to facilitate in a broad way that what was learnt in school was also applicable in workplaces and other situations (Beach, 1999, p. 104).

A reformulation of transfer is articulated in the perspective *specific transfer of specific behaviors*. Central in this reconceptualization was Thorndike who showed in a number of studies that “on tests of intellectual development or reasoning, students who studied Latin and geometry performed no better than students who studied other subjects” (Mayer & Wittrock, 1996, p. 50). Instead, Thorndike (1913) developed a theory of identical elements that was “an empirical response to the law of mental discipline’s ‘mind as muscle’ metaphor.” (Beach, 1999, p. 104). In his experiments, Thorndike found that the transfer of learning between situation A and situation B lies in the “structuring of tasks rather than in generic exercising of the mind through study” (ibid.). Thorndike argued on the basis of his experimental research that to achieve transfer, the relationship between situation A and B with respect to content and complexity is a key feature. More specifically, it was argued that the relationship between situation A and B must be sequentially structured in ways that link basic skills with more complex skills. On the basis of his empirical studies, Thorndike also concluded that general transfer cannot occur. In other words, he claimed that the transfer effect between *two tasks of a different* character cannot be larger than what he had shown in his experiments between *tasks of a similar* character (that contain elements that are identical). In fact, his experiments showed almost no transfer effects (for a more extensive account see Marton, 2007).

The third perspective, *specific transfer of general skill*, was again a critique of a previous formulation of transfer. Judd (1908) also focused on the relation between situation A and B in terms of similarities and differences, but questioned Thorndike’s approach to the transfer issue for not taking into consideration how learners managed situation A in terms of general principles that could be applicable in situation B. Hence, this view also shared similarities with the first perspective in terms of general skill, but it differs from it as there must be some similarities in

requirements between the two situations. Mayer and Wittrock (1996) provide an example of this transfer perspective: “learning to solve one type of problem can help students solve new problems even when there are no identical components in the two tasks.” (1996, p. 50). As a consequence, in educational practice, the focus on *meaningful instructions* to help facilitate transfer of general principles was considered to be more successful than Thorndike’s drill and practice methods.

In the fourth perspective on transfer, the three previous perspectives are in some way included. The *metacognitive control of general and specific skills* perspective includes contemporary research on transfer and rests on a tradition focusing on cognitive skills and knowledge that slice transfer into specific objects of study, such as problem solving or proceduralized motor skills. A number of typological and taxonomic approaches have emerged that primarily focus on the metalevel of what the term transfer is referring to, such as ‘near’ transfer (similar situations) and ‘far’ transfer (novel or different situations), and hence do not investigate the nature of what is learnt and supposedly transferred. Another development in transfer research, according to Helfenstein (2005), is applied transfer research. For instance, he states that one such area consists of studies of human-computer interaction (HCI) with the ambition of designing for transfer via computers (Helfenstein, 2005). The HCI research strand also discovered new transfer problems, as Helfenstein puts it “HCI- and HCI-based research actually created a novel transfer problem of its own: Can skill practiced and performances measured in virtual experimental settings be validly transferred and generalized to real life environments?” (p. 30). This perspective takes as a research interest issues of self-control (e.g. impulse control, maturity, social responsibility, and even morality). The individual’s management of self is, for instance, stated in the instructional implication of the metacognitive perspective: “students need to learn when to use various cognitive processes, including being aware of their processes, monitoring their cognitive processes, and regulating their cognitive processes.” (Mayer & Wittrock, 1996, p. 51). In this approach, I include neuroscience studies as the most recent family member of the cognitive approach to transfer, as neuroscience takes an interest in the study of how “the brain works to generate transfer” (Haskell, 2001, p. 194).

As a final comment on views accepting the notion of transfer, the rethinking (Bransford & Schwartz, 1999; Marton, 2007) and transformation (Billett, 1998; Dyson, 1999; Tuomi-Gröhn & Engeström, 2003) of transfer has become an ongoing project within the field of transfer research.

The sociocultural critique

In the transfer research outlined above, the researchers engage in distinguishing between different ways of conceptualizing transfer. Without doubt, the question of transfer is strongly connected with the question of *what counts as learning*. This, of course, varies among research traditions and perspectives (for recent discussions see Alexander, Schallert, & Reynolds, 2009; Säljö, 2009). The differences in what counts as learning will be highlighted next as I turn to the sociocultural critique of transfer research by describing how scholars in the sociocultural family perceive transfer as a problematic construct and metaphor.

The sociocultural critique largely concerns the conceptual and theoretical origins of transfer research, and its metaphorical nature. Beach (1999) summarizes six shortcomings of transfer research. First, he argues that “[t]ransfer defines a narrow and isolated aspect of learning” (p.107) as it only accounts for one of several possible relations between old and new learning, and that what is seen as relevant learning content is defined in theoretical constructs set up by the researcher. Second, “[t]ransfer has an agency problem” (p. 108) as transfer research assumes the location for transfer to occur in some form of interaction between on the one hand individuals and the other environmentally structured tasks, practices and institutions. By just referring to these two forms of agency⁶ in terms of *interaction* it is impossible to gain an insight into how the production of transfer is achieved. Third, “[t]ransfer is no different than ‘just plain learning.’” (p. 108) and with this statement Beach argues that in order to be an analytically relevant concept, the transfer metaphor must be clearly distinguishable from everyday learning. Beach states that this is not the case as the provided explanations, such as that learning is effortless while transfer is effortful, are not sufficient “if the concept is to help us understand learning continuity and transformation across multiple tasks and situations” (p. 108). Fourth, Beach claims that “[t]ransfer environments are assumed to be static” (p. 109). Transfer research is based on the idea that there cannot be any changes in either tasks or situations. This results in a preoccupation with an individual learner’s ability to copy existing relations between stable tasks. Fifth, he argues that “[t]ransfer assumes a ‘launch model’” (p. 109) regarding the relation between person and environment. According to Beach, this model “has it that the initial task or situation through which a person learns largely determines what the person will do in a new task or situation that, unlike the first, does not alter the course of the individual’s learning.” (p. 109). Lastly, transfer has shown to be difficult to facilitate by design.

6 The concept of agency is also discussed in chapter three.

One of the more elaborated accounts dealing with the problems with the concept of transfer is given by Jean Lave (1988).⁷ In her book *Cognition in practice*, she discusses the question of transfer and its associated experimental paradigm by articulating the theoretical assumptions and origins underlying the idea of transfer. She argues that the concept of transfer rests on a foundation that produces normative evaluations of types of knowledge and that knowledge is understood in terms of rigid and fixed items. By conceptualizing transfer in this way, it provides a view of knowledge as a set of 'cognitive tools' in the mind that are used for reasoning and that are portable across situations and settings. In contrast to 'functionalist' views of society with an already pre-disposed structure, she emphasizes the ways cognition and learning are practical accomplishments and inseparable from specific knowledge domains that are tied to a particular time epoch and culture. As an example, she points to how mathematical reasoning is managed qualitatively differently in different settings, in school and at the supermarket, and that the relationship between them is often incommensurate. Lave's alternative understanding of cognition and learning does not separate the individual from the wider world. She argues for a shift from the individual towards the analyses of members' actions in their everyday practices and activities. This approach dissolves clear cut distinctions between the learning going on in informal and formal learning settings.

In Lave's continued work with Etienne Wenger, they explore further the idea of situated learning and introduce the term 'community of practice'. This notion is used as means of building up a unified learning theory that addresses transformations at individual and collective levels (Lave, 1996; Lave & Wenger, 1991). This term was an attempt to communicate and discuss the ways knowledge and learning are to be understood in terms of socially established norms and values relevant for members of a particular community. Lave and Wenger's accounts of communities of practice are based on summaries of ethnographic studies: Vai and Golan tailors in Liberia, butchers, recovering alcoholics, US naval quartermasters and Mayan midwives in Yucatec. Lave and Wenger seek to understand these cases of apprenticeship learning through the study of *learning in practice*. The initial phase of entering and participating in a specific social practice is referred to as peripheral participation. Legitimate participants are socially recognized only in so far as they meet the *normative expectations*, in terms of communication and

7 Although not the first, Dewey (1916 [1985]), for instance, discusses ideas in transfer research and its applicability in education.

performance in socially acknowledged ways within the particular knowledge domain. As a conclusion, they argue that the progression from peripheral to central participant is a matter of time and participation in the particular practice. For Lave and Wenger, a critical feature of any community of practice is that of *change* and “[b]ecause the place of knowledge is within a community of practice, questions of learning must be addressed within the developmental cycles of that community, a recommendation which creates a diagnostic tool for distinguishing among communities of practice” (p. 100). According to Lave and Wenger, their outlined structure constituting apprenticeship in different domains is a description of a generic feature of learning as an ongoing feature of situated action.

Some scholars with sociocultural and activity theory perspectives attempt to offer new perspectives on the transfer metaphor by including transformations of larger social organizations and units of analysis (Tuomi-Gröhn & Engeström, 2003). Others attempt to combine sociocultural insights with cognitivist approaches to transfer and discuss how knowledge can be more or less situated, and hence more or less transferable (Billett, 1998, p. 15). In other cases, scholars attempt to ‘move beyond’ the notion of transfer. For example, although Beach (1999) discards the transfer concept, he introduces the notion of ‘consequential transition’ as a means of exploring transformations between changing individuals and changing social organizations. He argues that as an analytical tool it makes it possible to discuss “continuity and transformation of knowledge, skill, and identity across various forms of social organization” (p. 112). The notion of consequential transition, he argues, is a means of addressing “broader educational focus on students’ participation across schools, families, workplaces, and communities” (p. 130), as well as “educational practices that enact change in the educational activities themselves and, thus developmental changes in the coupling of students with activities that support learning” (p. 131). Beach’s object of analysis concerns how individuals recreate knowledge and identity so that the individual becomes someone new while at the same time contributing to the transformation of social activities and society at large. In addition, Packer (2001) traces both analytical and normative ambitions and claims in the sociocultural critique of transfer research. He argues that the transfer debate, as well as the critique of it, conceals different perspectives of the aims of schooling and the type of society that is to be fostered. Packer expresses his opinion on this matter by replacing the term transfer with “transformation”. With the term transformation, he argues that it is a means of addressing the ambition of society to produce “people who can respond with

creativity and initiative to new situations, new circumstances, and find fresh solutions to stale, familiar problems” (p. 512).⁸

In 1953, Smedslund came to the conclusion that it is impossible to discriminate between the concepts of learning and transfer as the problem of “predicting transfer is the problem of predicting what will be learned” (Smedslund, 1953, p. 157). Säljö elaborates on this view and argues that an interest in understanding learning is not aided by “a detour via the concept of transfer” (Säljö, 2003, p. 315). He continues, “[a]t best this concept may serve as a general reminder of problems of seeing connections and parallels between situations and practices” (p. 315). Instead, Säljö makes use of the notion of ‘boundary crossing’ when discussing the ways in which participants move across different practices, but he nevertheless points out that a successful boundary crossing is still a learning experience in the end. The metaphorical nature of transfer research is summed up by Säljö:

Scholars studying acquisition of behaviors, the learning of nonsense syllables, the understanding of scientific principles or card-games, various kinds of cognitive processes, or situated learning activities in factories and elsewhere, all use the term with different meanings, and they design their decisive research studies accordingly. Thus, the reasoning is circular within a paradigm or research tradition, and as a consequence attempts to compare findings and arguments across traditions come very close to being a play with words. Since, different theoretical perspectives have radically different units of analysis in the study of learning (behaviors, thought processes, memory traces, problem-solving strategies etc.), there is very little of common reference when using the concept of transfer. (Säljö, 2003, p. 314)

Within sociocultural and situated perspectives, learning experiences at both individual and collective levels are understood as a feature of human life. This also means that much of what we learn and where we learn is unrecognized, and whereas some forms of learning are socially acknowledged, others are not. Crucially,

⁸ A consequence of the growing corpus of sociocultural research, which has its origin in a critique of transfer research, is the creation of somewhat abstract theoretical frameworks. For instance, Wenger continued to develop a theoretical framework around the idea of community of practice with the goal of addressing boundaries between various practices. As a way of addressing relations between different practices, he includes the term transfer: “I will call this use of multimembership to transfer some element of one practice into another *brokering*.” (Wenger, 1998, p. 109, original italics). Thus, some members of communities are able to port some element in one situation to another situation, and are referred to as brokers dealing with objects of knowledge. What becomes evident is that in parts of sociocultural research new metaphors are introduced and sometimes mixed with metaphors also used in transfer research.

this points to the challenges in designing learning situations with the intention of learning something that is required in another situation, or more precisely, that are straightforwardly applicable in another practice. As has been argued by a number of critics, the notion of transfer makes it possible to talk about learning in almost any way that suits the person using it. Yet it seems that there is a multifaceted need to *generalize* and *topicalize* prior experiences in terms of transferable skills and knowledge. This is especially prevalent in the domain of digital gaming.

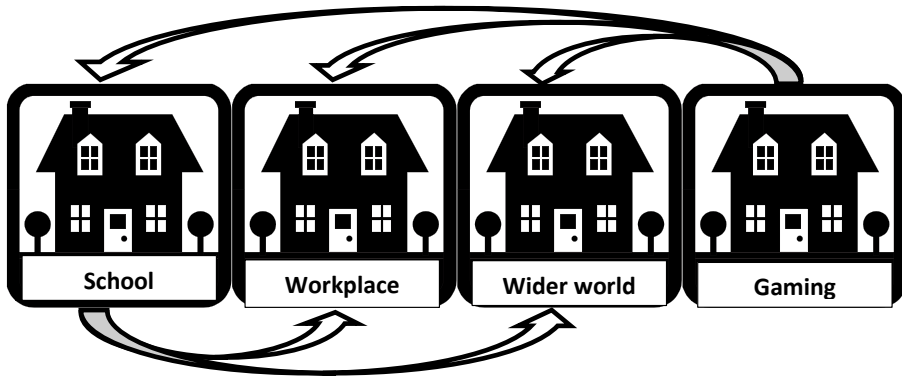


Figure 2. Ideas of transfer of learning across settings and situations in society.

Prominent approaches on combat gaming and its effects

Following the view of transfer research and its critique pictured above, Steinkuehler addresses two views on the relationship between gaming and transfer of learning:

Oftentimes, when the issue of “games and learning” is raised, there is a tendency to focus solely on the relationship between games and classrooms to the exclusion of all others – a fixation whose symptoms include a near obsessive focus on the question of what game-related knowledge and skills “transfer” to formal classrooms, despite the grand irony that it was always classrooms that were supposed to teach things that might transfer to life beyond them, not the other way around. (Steinkuehler, 2008, p. 18)

In the quote above, Steinkuehler critiques the one-sided focus on how games and transfer of learning have mainly been discussed in terms of how knowledge can be

transferred from games to students in classrooms, while forgetting that schooling was supposed to transfer knowledge from the classroom to the wider world (see Figure 2). The uncertainty about ‘transfer’ that Steinkuehler specifically marked in her text points to the concept’s problematic historical heritage. Although her take on the idea of transfer is not explicitly stated, it is presumed in the phrasing that we have overlooked the fact that gaming has positive transfer effects beyond schools and games themselves. From the earlier accounts of transfer research, we can recognize similar interests: what “things” might transfer to other situations. On the basis of the transfer research and its sociocultural critique outlined, I will discuss somewhat different game-related strands of research that rest, in my view, on a foundation of transfer ideas. I will use digital games that include combat to address the ways researchers are connecting game-related activities with transfer ideas. I hold that it is central to recall that educational science, including transfer research, has considered the notion of transfer as a problem. In other words, whatever the perspective on the issue, a common agreement is that it is highly challenging to achieve transfer. My claim here is that studies addressing the “effects” of game-related activities in other situations seldom account for the fact that they base their arguments on ideas that rests on a contested foundation.

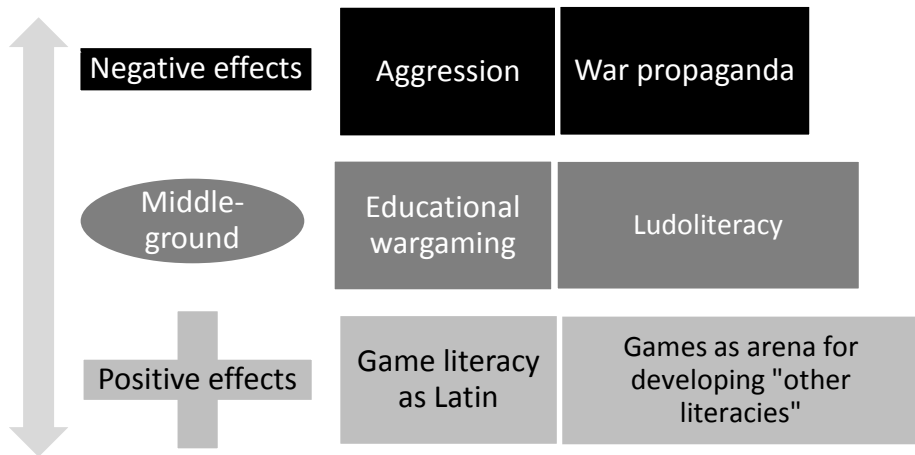


Figure 3. Different approaches to combat gaming and learning where the question of transfer is dealt with somewhat differently.

Today, millions of gamers engage in games that represent combat. During the last decade there has been rapid growth in digital games providing for team-based

gameplay around enemy objectives, either controlled by players or by the digital game. Moreover, the game worlds where the armed conflict takes place vary from fiction-based with some descriptive or historical realism⁹ to games that are fully fiction-based¹⁰. Combat in digital games can, without a doubt, be understood in different ways, but what a majority of research studies have in common is an interest in negative or positive effects (see Figure 3). In the following, I emphasise positive accounts of games and learning due to the fact that a large proportion of research focusing on games and learning is predisposed towards describing positive effects of game-related activities.

While some researchers focus on the violence and aggression portrayed in games in order to study gaming and its (negative) effects on children's behavior (e.g. Anderson, et al., 2010), other researchers are concerned with the combat elements in digital games as potential war propaganda (cf. Crogan, 2008; Halter, 2006; Ottosen, 2009; Payne & Huntemann, 2010; Stahl, 2009). The connection between games and military culture has a long history. For instance, studies of the relationship between games and military practices (e.g. the history of wargaming) often account for the fact that producers of games and toys have a tradition of using historical as well as contemporary conflicts as a backdrop. In historical accounts of previous civilizations, games were used as 'philosophical tools' for warriors and kings (for an overview see Halter, 2006). In recent times, this connection is clearly manifested in the tradition of war gaming (e.g. Kriegspiel) in Europe during the 19th century. Kriegspiel is a game activity that was formed around the management and competitions between miniature armies. Although Kriegspiel was used as a training device in Germany and other European countries, Halter attributes the growing interest and engagement partly to the 'fun factor' of playing by "judging from anecdotes about all-night kriegspiel parties at royal palaces and the bustling social scene of junior officers' clubs" (p. 46).¹¹

Besides describing how the military and the entertainment industries work together to produce battlefields of entertainment, these studies discuss how media and people in general draw on transfer ideas when discussing the military-entertainment relationship. Today, similar discussions exist around digital gaming.

9 For example, the *Battlefield series* (DICE, 2002), *Counter-Strike* (Valve, 1999), *America's Army* (U.S. Army, 2002). For a discussion on how to reference games, see Olsson (2013).

10 For example, the fantasy world of *World of Warcraft* (Blizzard, 2004), the zombie survival game *Left for dead* (Valve, 2008), or the science fiction narrative in the real-time strategy game *StarCraft* (Blizzard, 1998).

11 Apart from kriegspiel, there was an increase in toy soldiers and weapons for both adults and children during this time. As Halter (2006) puts it, before World War I and after, "[c]ollecting armies of different lands was a popular pastime, and toy companies fed this interest by releasing figures based on the armies of nations that were currently at war, often sold in sets of opposing troops" (p. 52).

These approaches to game-based combat are often referred to as the military-entertainment complex. Fundamental to such interpretative approaches is how we in everyday life attribute and distribute sense-making methods across digital games and other domains based on the central practice of (sometimes violent) combat.¹² Henry Jenkins neatly sums up some of the most frequent discourses:

The military uses games to recruit and train soldiers; the antiwar movement uses games to express the futility of the current conflict; the pro-war movement uses games to express its anger against the terrorists; the news media use games to explain military strategy; and the commercial games industry wants to test the waters to see if we are going to play war games the same way other generations watched war movies. (Jenkins, 2003)



Figure 4. Cadets engaged in an educational wargaming scenario (Figure from Frank, 2012, p. 124)

Another take on the relationship between games and war is studies in the serious gaming strand focusing on *educational wargaming* (see Figure 4). In studies of military personal training, researchers have observed that learning specific warfare-

¹² When considering the nature of military practice, it becomes evident that it is largely about the management of small and large groups engaging in combat. Today, both gaming and military culture allow for group formations that, for instance, cooperate across nationality around enemy objectives. Whereas the end-result of various forms of fighting and warfare is focused on in public debates (for example, death, violence, defeat or victory), the differences between teamwork (the competence and skills) in gaming and military practices remain somewhat neglected.

related content in educational practices via digital games does not just miraculously happen but is a result of teaching and learning activities. For instance, two studies point to three fundamental features for establishing an educational practice where learning and instruction of military-relevant knowledge can take place. First of all, the kind of learning and knowledge that is possible to enact when engaging in digital games depends on whether the students orient towards the gaming situation as ‘gamers’ or as ‘military students’ (Frank, 2012). Secondly, it depends on the role and experience of the teacher and the ongoing coaching process during the actual gaming situation. Thirdly, it also largely depends on the debriefing activity after the gaming activity (Alklind Taylor, et al., 2012; Frank, 2012). The unique feature of the studies of educational wargaming is that transfer is not assumed but instead what is potentially learnt is discussed with respect to the social and material environment. This middle-ground approach is in line with sociocultural and situated approaches to learning and cognition.

A diagonally opposite stance towards games and learning is research that more or less ignores the combat content and instead attempts to capture and display socially accredited forms of knowledge, skills and competences. In the next section, it is argued that gaming has some transfer effects on the learning of skills and literacies in other situations.

From transfer to literacy

Digital gaming (with or without combat elements) and claims of its positive effects are often found in research that positions gamers as highly motivated learners who develop forms of *literacy* (Gee, 2003, 2008; Shaffer, 2006; Snyder & Beavis, 2004; Steinkuehler, 2004). The use of the term literacy has been reconceptualized and expanded beyond what traditionally has been understood as literate activities and knowledge, e.g. the written and spoken language.¹³ By connecting ideas of transferability of knowledge with ideas of transferability of communication and

¹³ This body of research has its roots in ‘new literacy studies’, ‘multiliteracies’, ‘multimodality’, and ‘new digital media literacy’ (e.g. Gee, 1996, 2010; Jenkins, 2006; Kress, 2003; Street, Pahl, & Rowsell, 2009). The scholars with this interest come from the learning sciences, communication, media studies, and educational technology and have somewhat different, yet interrelated approaches and interests. They share, at least, an emphasis on 1) literacy as a sociocultural achievement rather than a cognitive one; 2) literacy development as being linked to the interaction potentials that tools and technologies tend to have in different contexts; and, 3) how media transform society and popular culture in terms of communication structures where consumers of media are not only readers and spectators but also participants and producers.

interaction (e.g. literacy), researchers can position digital games and gaming as worthy of study due to the fact that they have positive learning effects.

The term *literacy* clearly carries a degree of social status; and to use it in connection with other, lower status, forms such as television or computer games is thus to make an implicit claim for the latter's validity as objects of study. (Buckingham & Burn, 2007, p. 324, original italics)

In game-related research, the notion of literacy is expanded by adding other terms, such as game literacy, digital literacy, new media literacy, emergent literacies, gaming literacy, computational literacy, and ludoliteracy. Hence, in studies of games and gaming, the notion of literacy not only includes the language mode, but also the abilities to produce and understand meaning in social and cultural practices through modes and modalities inherent to new digital media (Gee, 2003; Kress, 2003). With research questions such as “[w]hat does it mean to be literate, or even fluent, in games?” (Zagal, 2010, p. 1) and “[w]hat are the implications of an interactive medium for literacy?” (Squire, 2008, p. 639), researchers have discussed what is meant by reference to game-related literacy. As an umbrella term, literacy varies in degree in the ways it refers to *general* or *specific* sets of competences, skills and knowledge – that the learner is supposed to develop and employ across situations as well as across media. Primarily, game-related literacy refers to the development of forms of knowledge that go beyond the actual gaming situation.

Next, I outline three different literacy accounts: 1) gaming and game development literacy as Latin, 2) games as arena for developing “other literacies”, 3) and ludoliteracy. Centrally, I want to highlight a parallel between transfer research and game-related literacies: both have the ambition to find and articulate positive learning effects across situations.

Gaming and game development literacy as Latin

In the first account, I have gathered a body of research that links literacy with gaming under the heading *gaming and game development literacy as Latin*. These studies use the term literacy to point out how games change the player's reasoning and intellectual ability beyond the game world. Studies in this research strand adopt assumptions that differ from the current thesis. They stress that in order to become a literate gamer and acquire socially valued attitudes and skills, it is not enough to *play games*, instead this body of knowledge is developed in the process of *designing games* (cf. Buckingham & Burn, 2007; Delwiche, 2010; Hsu & Wang, 2010;

Partington, 2010; Pelletier, 2005; Salen, 2007; Zimmerman, 2009). This idea is clearly manifested in the words of Hsu and Wang, “it is essential to examine the notion of gaming literacy from the perspective of game playing, which is equivalent to reading, and the perspective of game designing, which is equivalent to writing” (2010, p. 402; see also Harel Caperton, 2010; Partington, 2010). Studies in this strand make claims about the literate citizen in contemporary society; “[t]he game design process develops learners’ information technology competencies and the critical-thinking skills, a set of new literacies skills that people need to succeed in the 21st-century workforce” (Hsu & Wang, 2010, p. 410). Zimmerman defines gaming literacy as a specific form of literacy that is clearly separated from ‘serious games’ (games for teaching about subject matters), ‘persuasive games’ (games for communicating social agendas) or the “training of professional game designers” (2009, p. 24). According to Zimmerman, gaming “literacy [is] based on game design” (2009, p. 23) and is about learning to see the world through a system-based attitude, a play-based attitude and design-based attitude:

It is not that games will necessarily make the world a better place. But in the coming century, the way we live and learn, work and relax, communicate and create, will more and more resemble how we play games. While we are not all going to be game designers, game design and gaming literacy offer a valuable model for what it will mean to become literate, educated, and successful in this playful world. (2009, p. 30)

By defining gaming literacy as a *means of learning through game design*, Salen (2007) argues that “game-making is especially well-suited to encouraging meta-level reflection” (p. 301). A similar approach is also taken by Bogost when he states that the notion of gaming literacy is “[n]ot the literacy that helps us read books or write term papers, but the kind of literacy that helps us make or critique the systems we live in.” (2008, p. 136). With the idea of making or critiquing systems, Bogost (2008) refers to the activity of questioning and revealing the models games are based on. He argues that gaming literacy includes what he refers to as procedural literacy and procedural rhetoric:

In addition to using video games to teach kids how to write computer programs (procedural literacy), we can use them to teach kids how to write computer arguments (procedural rhetoric). When kids program, just as when they write, they can learn to make their own claims about the world in the

form of processes. Such a practice reframes video game development as a rhetorical practice, not just a craft practice or a technical practice. (2008, p. 137)

Central in this line of thinking is the idea that the activity of designing games becomes a ground for exploring and learning general forms of reasoning. The idea of general beneficial outcomes, transferable to other, more distant situations, from constructing and exploring technology can be related to previous educational research referred to as the “logo-as-Latin paradigm” (cf. Koschmann, 1996; Papert, 1980; Pea & Kurland, 1987). The argumentation presented under what I have labeled *gaming and game development literacy as Latin* is based on assumptions that *general forms of reasoning* are somehow transferred to the player when playing and designing games. To sum up, this is comparable to what was assumed in transfer research when students were educated to read and write Latin, which was supposed to lead to a higher level of intelligence in general.

Games as arenas for developing “other literacies”

A second strand of studies, collected under the label *games as arenas for developing “other literacies”*, focuses on the communication between players and players’ interaction in, and around, digital games.

For example, the game genre MMOG (massively multiplayer online games) has attracted educational interest and accumulated a larger corpus of empirical studies. In studies of activities taking place in and around MMOGs, for example, fandom communities and game-related forums, researchers propose that members develop: ‘collaborative problem solving practices’ (Steinkuehler, 2008); ‘complex forms of socially and materially distributed cognition’ (Steinkuehler, 2008); ‘new information literacy strategies and skills’ (Schrader, et al., 2009) or more broadly, ‘novel literacy practices’, (Steinkuehler, 2006b, 2008); informal science literacy (Steinkuehler & Duncan, 2008); ‘computational literacy’ (Steinkuehler & Johnson, 2009). It is argued that “[t]he interactive nature of MMOGs provides learners opportunities to access vital information via social networks and construct knowledge as the result of social collaboration.” (Schrader & McCreery, 2008, p. 570).

Steinkuehler and Duncan (2008) studied gamers’ activity and participation in a discussion forum connected to *World of Warcraft* (Blizzard, 2004). They found that the structure of players’ postings share elements similar to scientific argumentation. Based on their analysis of the players’ argumentation and counter-argumentation, the authors argue that participation in MMOGs can foster scientific habits

of mind. Hence, gaming is in this way seen as routes toward learning, so-called call informal science literacy by participating in the everyday life in a MMOG. In another study, the idea of MMOGs as arenas for developing socially accepted literacies is employed in educational practice: in an after-school club an attempt was made to re-engage youths via gaming in order to foster literacy development (Steinkuehler & King, 2009). In this study, online gaming was used as means of connecting with low-achieving students and to couple gaming engagement with school curricula and learning activities, i.e. skills and competences relevant outside MMOGs. When taken together, the picture that emerges is that MMOGs are described as social arenas that foster the appropriation of various forms of literacies and that these arenas can also be utilized in formal education.

In this cluster of studies focusing on positive effects of participation in gaming, we find, for instance, also studies in the fields of language and literacy learning and transfer. In a rare empirical study of language learning, Piirainen-Marsch and Tainio (2009) go into the details of two Finnish players' discourse during leisure gaming with an English titled console game (*Final Fantasy X* (SquareSoft, 2001)). The authors show instances of how gaming activities become an arena for learning English as a second language. Although, battling and fighting is central in the game and in the empirical material that the players' engage with, the researchers explore one particular activity and competence displayed during the gaming interaction: that of the players' imitation and repetition of English terms and phrases articulated or displayed in the game. Second language socialization and acquisition have also been observed and studied in online gaming situations, where players' time-consuming collaboration in-game as well as outside are observed to challenge players' language and literacy competencies (Rankin, McNeal, Shute, & Gooch, 2008; Soares Palmer, 2010; Thorne & Black, 2007).¹⁴

In the studies focusing on games as an arena for developing 'other literacies', there are three things that stand out. Firstly, they take predefined research questions based on ideas in transfer, literacy and language research that demarcate what forms of knowledge and learning to consider. In many cases, these studies employ literacy definitions established in other domains such as media and educational research. Hence, the activities focused on bear a resemblance to socially

14 Another strand in this body of literature, is leadership studies where researchers argue that leaders of large-scale groups in MMOGs develop general forms of leadership skills and, for instance, discuss the fact that MMOG leadership styles have similarities with real-life leadership styles in terms of managing distributed teams in an globalized and competitive world (DeMarco, Lesser, & O'Driscoll, 2007; Lisk, Kaplancali, & Riggio, 2012).

acknowledged activities in other situations, beyond the games. Secondly, although acknowledging parts of the interactive structure of game-related activities, the game-specific content – such as combat – is dealt with as a secondary issue or is entirely left out. Thirdly, it shares similarities with the ‘Gaming and game development literacy as Latin’ strand in the ways the studies address general transfer of *general* intellectual abilities. However, it also shares similarities with the transfer perspective *specific transfer of general skills* (see Figure 1) as the studies connect specific literacies, practices, and skills with the development of general principles and strategies (such as problem-solving, informal science, collaboration, and second-language acquisition) which are considered relevant beyond the game, in workplaces and the wider world (see Figure 2).

Ludoliteracy

Finally, I want to point out a less visible line of reasoning with respect to games and literacy. This alternative way of conceptualizing game-related literacies differs from the previous takes as the concept of literacy is not primarily used in the argumentation of transfer of knowledge beyond the games, but instead within the gaming domain. These studies focus on *the ability to play, understand, and produce games* and employ the notion of literacy to address forms of knowledge tied to the domain of digital gaming. Hence, they have little or no interest in how the developed knowledge can transfer to other domains. For instance, Squire states that “[g]ames literacy can be defined as developing expertise in designing rewarding experiences for oneself within a gameworld (particularly within the game’s semiotic and rule systems)” (Squire, 2008, p. 641). In this way, he sets the boundaries for this form of knowledge development with respect to games (this includes, for instance, analog as well as digital games). Furthermore, Squire’s definition of literacy is tied to “a gameworld” and thus not directly portable across games. In a similar approach, Zagal (2010) uses the notion of *ludoliteracy* when referring to the literate game consumer and producer. The term literacy is, according to Zagal, a means of addressing forms of knowledge related to playing games, learning about games, and game-related curricula for producing games in the game industry and other sectors (Zagal, 2010; Zagal & Bruckman, 2008). Zagal (2010, p. 23) divides the knowledge domain into three areas; (1) “having the ability to play games”, (2) “having the ability to understand meanings with respect to games” (this includes insights into game culture and game consumers, the effects of gaming, but also that of learning to play games), and lastly (3), “having the ability to make games”.

The notion of ludoliteracy has similarities with transfer research in that the knowledge domain is described as rather fixed and static objects. Still, what these general forms of knowledge are referring to within the domain of gaming is vague. The underlying transfer idea concerns how knowledge about a particular game can be used in a game in the same genre, or how abilities to play games can be applied when developing games. Next, I will elaborate on alternative approaches to games and learning.

Middle-ground approaches to gaming and learning

In the previous sections, I have argued that there are similarities between transfer research and research focusing on games and learning. Moreover, the studies of learning and knowledge with respect to games vary in their takes on connecting engagement to, and around, digital games with negative or positive “effects.” For instance, new media literacy scholars list what is learnt in terms of generalized accounts of skills and attributes, such as system-based thinking, problem-solving, 21st century literacies etc. As Linderoth puts it, there is a “discourse of the competent gamer” (Linderoth, 2010, p. 1). In the different takes and conceptualizations of digital games and learning discussed in previous sections, researchers vary in how they assume, propose and discuss transfer. Yet, a majority of the studies take it for granted that transfer will occur by accident, unintentionally and spontaneously. Furthermore, the knowledge that is considered transferable is defined *a priori* on the basis of established standards or assumptions. The majority of the game literacy studies presented largely sidestep the problems transfer research has with the notion of transfer, such as that it is notoriously difficult to achieve. Although the majority of studies directly or indirectly imply transfer of learning between game-related activities and life beyond games, there are studies that adopt alternative approaches and instead explore what is learnt when engaging with games.

I hold that the latter studies constitute ‘middle-ground’ approaches to the relation between gaming and the development of knowledge (see Figure 3). By middle-ground approaches, I mean studies that do not value gaming and game-related activities in terms of good or bad beyond the game situation itself. In other words, the studies have an ambition to be *non-normative*. Instead, the focus and interest lies in exploring the ways in which people engage in and around games and hence in studying gaming and game-related activities as worthy of study on

their own terms. In recent years, a growing number of empirical studies of gaming have emerged that provide detailed insights into how gamers understand and make-sense of games (Hung, 2011; Linderoth, 2004, 2012b, in press; Peterson, 2011; Sjöblom, 2011; Sudnow, 1983). These studies present a contrasting picture of gaming and the question of transfer and literacy. For instance, Linderoth (2004) explored how children made sense of digital single-player games. He presented a framework based on how the children approached the gaming activities and showed how they primarily approached the fictional terrains as a set of action potentials – figuring out what is possible to do – rather than focusing on narrative or aesthetic phenomena. Hence, the study provides empirical material arguing against the idea that players orient towards and learn about the potential transferable learning content displayed in the narratives of a particular game.

These non-normative empirical investigations have been carried out in a number of settings addressing, among others, skills and competences relating to specific games (Reeves, et al., 2009), gaming at Internet cafés (Sjöblom, 2011) and gaming discourse (Ivarsson, Linderoth, & Säljö, 2009; Steinkuehler, 2006b). They show that how players orient themselves towards a game varies depending on the player's competence and familiarity with particular games (Hung, 2011; Sjöblom, 2011), as well as how players set up their own goals and make explicit their intentions for their involvement in a game (Peterson, 2008). Crucially, these studies have shown how the *meaning potentials* in games are countless; nevertheless, experienced gamers make sense of them in highly specialized ways.

By adopting a middle-ground approach, there are two aspects of games with respect to learning and knowledge that I will continue to explore in the thesis. Firstly, instead of defining *a priori* what forms of knowledge to account for, I will explore what members of the gaming culture recognize as adequate knowledge and understanding with regard to games, gaming and game development. Thus, before asking the question of what knowledge is supposed to carry-over to other situations and settings, I intend to investigate the knowledge that members of the gaming culture display and assess. Secondly, I will describe a formation of digital gaming and game development knowledge in terms of professionalization and institutionalization. Before elaborating on the gaming culture's professionalization, in the next chapter I will give an account of parts of the growing body of studies examining the nature of digital games.

CHAPTER THREE

The gaming medium and its knowledge domain

Besides research focusing on gaming and learning, there are scholars from other research fields who study digital games as interesting objects of study in their own right. Although games and gaming in human culture are historically well-documented and have been a central point of departure in research examining ancient and contemporary societies (e.g. Caillois, 1961; Connaughton, Taché, & Burley, 2010; Crawford, 2011; Huizinga, 1955), game scholars disagree on a range of matters regarding how to conceptually define what a digital game is and how this cultural form relates to other cultural forms. In a way, the struggle among game scholars to delineate what a digital game is shares the same problem presented in the previous chapter about the impossibility of defining the term transfer so that others recognize it in the same way. As a starting point, I will make use of a study that draws attention to how members of the digital gaming culture have struggled to define the gaming medium.

The restless gaming medium

Kirkpatrick (2012) provides a historical glimpse into how digital games as a cultural form established autonomy from other phenomena, while also arguing that this autonomy never became fully established. In an analysis of the discourse and content in UK gaming magazines in the 1980s and 1990s, he describes how the game evaluation discourse developed. By drawing on theoretical frameworks to account for changes in the gaming community and the gamer identity, he argues that

digital games in the beginning were positioned as computer programs and assessed in terms of programming and engineering criteria (running smoothly, minimal amount of code, etc.). In the early years of the game magazines, game reviews were also written in a parental voice, with an ambition to educate the reader as well as positioning games in terms of educational tools. Also, in the 1980s, the magazines included a large number of pages to let the reader program his/her own games on a computer or game console. Consequently, a technical form of knowledge was applied in the process of evaluating the games on the market.

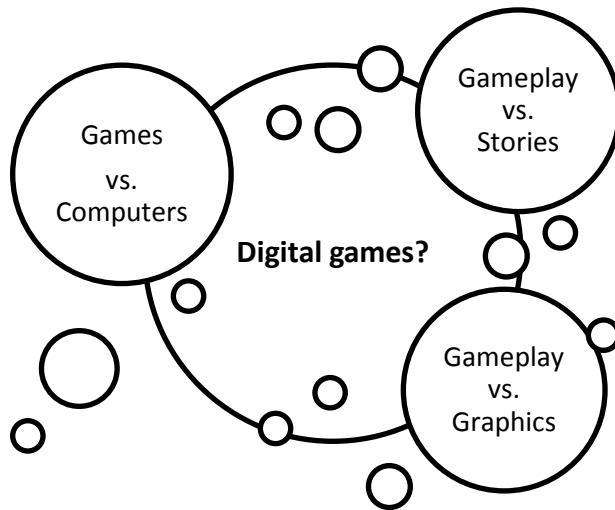


Figure 5. A number of dualistic debates have been prevalent in discussions about what the gaming medium “is” that is linked to the overarching question whether gaming culture has established autonomy from other domains.

The magazines of the 1990s, according to Kirkpatrick, address young males instead of adults of both genders. In the 1990s, the technological criteria still remained but a number of competitive readership positions were assumed as new evaluation criteria were introduced. Kirkpatrick describes this as a movement from games as technology “to technology as a factor in the appraisal of games.” Before this, games were appreciated for new technological features. This changed with the discovery of the notion of *gameplay*. The notion of *gameplay* is introduced as a concept in the middle of the 1980s as a way to talk about digital games’ uniqueness and how they differ from other technological products. According to Kirkpatrick, *gameplay* became a means to discuss how games are more than technical objects. In the late

1980s, it can be seen how gameplay becomes a central category in game criticism as it is used, for instance, in contrast to other criteria: *games versus computers*, *gameplay versus stories*, and *gameplay versus graphics* (see Figure 5). Also, the other criteria are mainly employed with respect to whether or how they support ‘good’ gameplay. Kirkpatrick argues that gameplay as discursive innovation provided the magazines with a vocabulary for the assessment of games. During this period, the magazines struggled to draw up a fixed number of criteria for judging games, for instance “getting started”, “graphics”, “playability” and “value”. Kirkpatrick states that it is in this time period that game assessment moves beyond that of evaluating games from an amateur programmer point of view or just being interested in the technical specifications of the game. Instead game assessments become more autonomous by emphasising the player’s experience.

Kirkpatrick argues that the gaming discourse studied illustrates how gaming identity is formed and that the notion of gameplay is used to ‘police’ gamer identity. A central part of this is to “understand what good gameplay” implies. He links the activity of ‘policing’ particular gamer identities with tensions among game scholars:

When game scholars and others speculate about games becoming art or being an art-form, they express frustration at the way that games discourse falters here, unable to produce truly autonomous discussion of games that clarifies their value independent of considerations like their usefulness to educators. (Kirkpatrick, 2012)

Although Kirkpatrick claims that he finds a stabilization of terms and hence autonomy for games and gaming from other technology artifacts, he observes that the reviewers still struggle to have something specific to say about the particular games reviewed and that there is a decline in new concepts (often returning to specifying the novel technological features). Kirkpatrick states that this points to a stalling effect and “sets limits to the development of games as medium.” He argues that digital games are constituted among these tensions that result in an ambiguous medium. Kirkpatrick claims that the ambiguous discourse around games is the result of an underdeveloped evaluative discourse and that the magazines started to focus more on the visual layout and images. He states that “gaming and games are constituted in a place of tension within the culture, as provocative objects that gain our attention with their false promise to become something else.” Games become what Kirkpatrick refers to as *restless* as they are positioned between dichotomizing poles. He argues that the historical trajectory and development of games impacts

on what things we recognize as games. Following this, he claims that in the 1990s gamers did not recognize educational software as games, while they took it for granted that violent graphics and gameplay are often linked to the gaming medium. Furthermore, he argues that game researchers have dealt with this restlessness and continue to deal with it when attempting to go beyond the boundaries, e.g. creating educational games, that the gaming culture has established in terms of what they recognize as games.

The described change, although ambivalent, regarding the question of autonomy with respect to digital games, is also observable among game scholars. Next, I will describe how one dualistic debate among academics has developed into a non-normative approach towards understanding digital games.

Towards an understanding of ludonarratives

Normative and critical views towards games are not only observed in game magazines, but are also observable in game scholars' writings. As Kirkpatrick also draws attention to, researchers with an interest in games disagree on a number of issues with respect to games, for example, whether games are to be perceived as art (fine art, 'high culture') or popular culture (low or 'trash' culture) (cf. Pearce, 2006; Smuts, 2005). Taking one such dualistic debate as my starting point, I will describe the ways in which the field of game studies has produced and accumulated theory-grounded claims regarding the relation between games and narratives. This academic discussion is referred to as the so-called ludology (the study of games) versus narratology (the study of narratives) debate (cf. Egenfeldt-Nielsen, Smith, & Tosca, 2008; Frasca, 2003) (see Figure 6).



Figure 6. In the academic debate known as the ludology versus narratology debate, scholars approach digital games from different points of departure.

Until recently, the status of narrative was a highly contentious topic in game studies. In these discussions, scholars debate questions such as: what is a game and should we understand them as a narrative? And whether “the concept of narrative [is] applicable to computer games, or [whether] the status of an artifact as game preclude its status as narrative” (Ryan, 2006, p. 276). Narratology is often portrayed as approaching digital games by conceiving them as a novel arena for the study of narratives. Hence, narratology approaches digital games by conceiving them as another form of media (comparable to film and literature). The analytical tools for approaching and analyzing games were borrowed and transferred from the study of literature, movies and TV. By employing these theoretical lenses, the scholars focused on how narrative is constructed and sustained, emphasizing what digital games as a new medium for storytelling and communication have the potential to become. A central book was Janet Murray’s *Hamlet on Holodeck* (Murray, 1997). In this book, Murray focused particularly on the lack of story and narrative elements in games. For example, she expressed concerns that digital games must move beyond certain game elements and consequently she adopts a normative agenda by discussing games in terms of good and bad:

[I]f the key to compelling storytelling in a participatory medium lies in scripting the interactor, the challenge for the future is to invent scripts that are formulaic enough to be easily grasped and responded to but flexible enough to capture a wider range of human behavior than treasure hunting and troll slaughter. (Murray, 1997, p. 79).

A radical narratology approach includes the idea of *emergent narratives* that implies that “games are always stories, even abstract games such as checkers or Tetris, which are about winning and losing, casting the player as the opponent-battling or environment-battling hero” (Murray, 1997, p. 2). For instance, Jenkins (2004) argues that game developers are not storytellers but *narrative architects*. He describes four ways that narratives can be designed and understood in digital games: 1) by evoking a pre-existing narrative association (evoked narratives); 2) by providing a staging ground upon which narratives may be created (enacted narratives); 3) by embedding narrative elements in the gameworld (embedded narratives); 4) by providing resources for emergent narratives (emergent narratives). A key aesthetic of this new medium, according to Murray, is the user’s sense of agency:

Agency is the satisfying power to take meaningful action and see the results of our decisions and choices. We expect to feel agency on the computer when we double-click on a file and see it open before us or when we enter numbers on a spreadsheet and see the totals readjust. However, we do not usually expect to experience agency within a narrative environment. (p. 126)

Murray talks about the new interactive storytelling medium in terms of the experience it provides for the player and how the player has the “power” to expand narrative possibilities. In her narratological approach, she is concerned with how players are able to express their own agency during the progression of a story-game or game-story. Thus, while the movie viewers and book readers do not have actual, interactive control over the decisions and events on the screen or in the text, game players’ actions exert control over how the game progresses. Murray distinguishes agency from pure participation and interactivity and links agency to the pleasure of being in more or less control of the unfolding activity. Still, she makes a distinction between “playing a creative role within an authored environment and having the authorship of the environment itself” (ibid.). The difference between authorship and agency is further highlighted:

[T]he interactor is not the author of the digital narrative, although the interactor can experience one of the most exciting aspects of artistic creation – the thrill of exerting power over enticing and plastic materials. This is not authorship but agency. (p. 153)

The other side, ludology, criticizes this narrative preoccupation, or ‘narrative turn’, in studies of digital games. In accounts of the interests of ludologists, they are said to be interested in how engagement with games differs from traditional media and how digital games belong to the larger family of games (Egenfeldt-Nielsen, et al., 2008). Studies in this domain thus attempt to establish autonomy for games by focusing on their uniqueness in terms of ludic structures. Even more so, radical ludologists maintain that there are incommensurable differences between games and narratives. Crucially, they attempt to study what constitutes games in general and video games in particular:

[...] I have tried to examine what (if any) similarities can be found between the majority of the things we call “games,” while at the same time being open to considerations of historical change and potential discussion about borderline cases. (Juul, 2005, p. 7)

In the quote, Juul presents his ambition of his study of digital games as an attempt to find similarities (relationships) between the things that we label games. In his work, he elaborates on a model consisting of a number of criteria that are used to categorize phenomena as games, as something else and as borderline cases. However, this systematic approach includes a normative agenda regarding who has the right to delineate certain forms of digitally-mediated play from that of the family of games (Linderoth, in press). An illustrative example is the case of *The Sims* (Maxis, 2000), a dollhouse simulation with game elements in it. For Juul, this is a borderline case (for an extended discussion, see Peterson, 2010). Even though it is asserted that “[t]he game model does not mean that all games are the same, but that with [...] [it] we can talk about how games are different from each other.” (p. 7), it is nevertheless based on an assumption that someone (the researcher) can point out something that is common to *all* the things that we label games. However, the researcher is still restricted to existing games when deciding what ‘things’ are games and what ‘things’ are not.

Nevertheless, Juul establishes a rather novel take on the relationship between ludo-narrative content by describing in a systematic way how digital games are not only screen-based fiction, but also interactive, rule-based systems (Juul, 2005). Hence, in his view, a game or digital environment is very unlike a real environment in which potentially any object or structure can be interacted with. Thus, *rule-based fiction* constitutes spaces that are partly ‘real’, e.g. the interactive structures set up by the producers, and partly decorations, i.e. non-interactable.

As a result of novel takes on the relation between games and narratives, a third approach to the relation between games and narratives has evolved (cf. Aarseth, 2012; Calleja, 2011; Ip, 2011; Lebowitz & Klug, 2011). This approach acknowledges that some games are ‘pure games’ but, crucially, that narratives in digital games do not come in one form but largely differ in terms of degree of narrativity (e.g. Aarseth, 2012; Lebowitz & Klug, 2011). According to Simons (2007), the dualistic tension in the game studies field is partly an artifact of the historical development of the discipline; many game studies scholars were originally trained as literary scholars. Ryan (2006) and Aarseth (2012) argue that the tension has an epistemological background by claiming that narration is a term that is applied to a wide spectrum of games and attempts at defining it either results in narrow formulations for specific purposes or in general characterizations that potentially can include any game. Also, this dualistic tension stems from what Aarseth refers to as *normative ludology*, where game scholars engage in game assessment and dictate “the potential and failings of game-based narratives” (p. 130). The moderates adopt

an approach that attempts to move beyond normative accounts and “explores [games] own unique qualities, while borrowing liberally from other art forms as needed.” (Juil, 2013, p. 24).

However, within this non-normative approach, the notion of *medium*¹⁵ is still a contentious topic. For instance, Aarseth (2012) argues that because games are played on different media platforms and also contain a range of different media, it is questionable whether it is applicable to refer to digital games in terms of a medium and that the term entertainment software is more correct.

Ontic level:	World	Objects	Agents	Events
Narrative pole	Inaccessible	Noninteractable	Deep, rich, round characters	fully plotted
	Single room	Static, usable		
	Linear corridor	Modifiable	flat characters	Dynamic satellites/ playable story
	Multicursal labyrinth	Destructible		Dynamic kernels
Hubshaped quest landscape	Creatable			
Ludic pole	Open landscape	Inventable	Bots, no individual identity	No kernels (pure game)

Figure 7. According to Aarseth, digital games vary in terms of narrativity and a specific game can be categorized through an analysis of its ludo-narratological content (Figure from Aarseth, 2012, p. 132).

A common approach among non-normative approaches is so-called ludonarrative readings of games (Ryan, 2006, p. 203). This approach is adopted in a study by Aarseth where he aims to reach “a detailed, robust understanding of the various ways computer software have been used to combine elements from narratives and

15 Ryan elaborates on the meaning potentials with respect to the notion medium: “The term medium (plural: media) covers a wide variety of phenomena: (a) TV, radio, and the Internet (especially the WWW) as the media of mass communication; (b) music, painting, film, the theater and literature as the media of art; (c) language, the image and sound as the media of expression (and by implication as the media of artistic expression); (d) writing and orality as the media of language; (e) handwriting, printing, the book, and the computer as the media of writing. The definition provided by Webster’s dictionary puts relative order in this diversity by proposing two distinct definitions: (1) Medium as a channel or system of communication, information, or entertainment; (2) Medium as a material or technical means of expression (including artistic expression).” (Ryan, 2012)

games into a number of quite different ludo-narratological constructs” (p. 130) (see Figure 7). He rejects the notion of “emergent narrative” as this makes any experience a narrative; instead, he takes as his starting point the standard definitions of narrative theory. A two-dimensional model is presented with a narrative pole and ludic pole. He argues that ludic elements structure the narrative experience; for instance, if the gamer can choose between different events he/she given some form of narrative agency. Also, narrative elements in games restrict the gamer’s agency, for instance, through spatial restrictions in the gameworld, temporally via cut-scenes or other special scripted events. According to Aarseth, with no restrictions on the gamer’s ability to control gameplay, there is no narrativity. According to this model, ‘pure games’ are, for instance, *Minecraft* (Persson, 2009), *Chess* (*Chess*, ca 850 AD), and *The Sims* (Maxis, 2000). In other words, there are different possibilities for narrative ‘listening’, where some games require the gamer to adapt more and hand over more control to the game environment and the scripted story (the designers).

To sum up, the notion of ludonarrative¹⁶ refers to how the game designers structure gameplay and narrative, and whether they work together or against each other with respect to the player’s ludic and narrative agency. It makes possible an evaluation of the intersection between what the game is about as a game and what the game is about as a story. This relationship has also been referred to in terms of ‘illusory agency’ (MacCallum-Stewart & Parsler, 2007). According to the authors, the notion of illusory agency refers to the creation of an illusion of player control of not only the ludic part but also the fiction part. More specifically, for game developers, it refers to ways of luring the gamers into assuming that there are more possibilities than the game design actually permits and to increase the possibilities that the gamers also ‘play along’ with this illusion.

16 The term ludonarrative is not only a term invented by researchers, it has also emerged from the game designer community. As an illustration, on a blog related to game criticism, the origin of the term is connected to how a game designer (Clint Hocking) discusses a particular game with respect to the relationship between the gaming practice (gameplay) and the game’s narrative content and dynamics: “The idea [ludonarrative dissonance] refers to conflicts between a video game’s narrative and its game play. Clint Hocking coined the term in response to the game *Bioshock*, which promotes the theme of self-interest through its gameplay while promoting the opposing theme of selflessness through its narrative, creating a violation of aesthetic distance that often pulls the player out of the game. On a more concrete level, ludonarrative dissonance may simply refer to logical inconsistencies between narrative and game play. Video game theorist Tom Bissell in his book *Extra Lives* (2010) notes the example of *Call of Duty 4*, where a player can all but kill their digital partner during gameplay without upsetting the built in narrative of the game.” (<http://theplayvault.com/wp/2012/04/30/why-the-ludonarrative-of-dissonance-is-video-games-biggest-challenge/>)

The stability and instability of games and gaming

The restless state of digital games is perhaps most directly observable in how they as software programs are constantly transformed and evolve (cf. Mäyrä, 2008). Historically, the software constituting a particular digital game did not change (unless it was 'hacked' and modified) and only sequentially transformed in the next version or sequel where some elements changed and others endured. Thus, games were released and then the game development team moved on to either a sequel (e.g. you could still play the role of Mario in *Super Mario Bros 2* (Nintendo, 1988)) or to an entirely new game. With the increased popularity of gaming together with online and online distribution, the speed of transformation has accelerated as game developers make updates and extra material downloadable or available via streaming technology.

The co-construction of games

Studies of game developers' practices share an interest in exploring how digital games are co-constructed by different stakeholders (Banks & Potts, 2010; Deuze, et al., 2007; Dovey, 2007; Martin & Deuze, 2009). This interest includes a focus on the ways producers are accountable for not only technological constraints and resources but also consumers' needs and expectations. In an empirical study of game developers' work conditions, Dovey (2007) focused on both the game developers and the game developed. In order to shed light on what external pressures and intrinsic passions that determine how a game develops into what it becomes, Dovey interviewed designers at a commercial game developer company developing games with war narratives and activities based on historical wars and also played one of the games. He discusses how the pleasure of his gaming experience is structured by the developers' tastes and competences but also by external factors limiting the game developers' possibilities for creation. The designers interviewed mentioned how their decisions were based on factors such as funding and the fact that the people at the company, since their youth, had had a particular interest in and knowledge of board games and the history of war and that this was used as point of departure when designing the digital games they built.

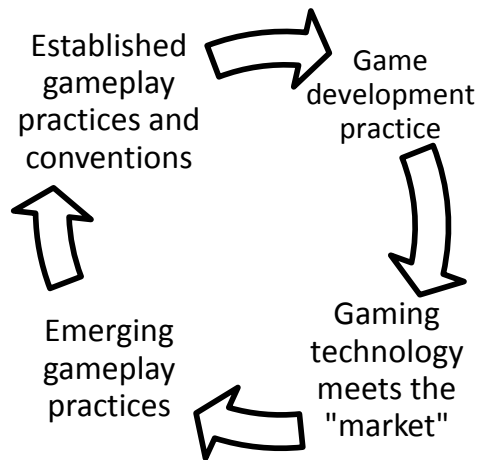


Figure 8. An illustration of the co-construction of games as an ongoing process between game developers' practices and gamers' development of gameplay practices.

In a study of both the work practices of game developers' and consumers' emergent practices, Banks and Potts (2010) explored why digital games function as they do and how games attract players. The authors examined the dealings between consumers and producers, arguing that previous models of consumer engagement are lacking. They use a case study of the rise and fall of an online game to illustrate that digital games should be understood as co-creational objects and that there are "implicit contracts involved in consumer co-creation" (*ibid.*, p. 267). According to the authors, the success of commercial games on the market is a result of a tight relationship with consumers. The co-creational relationship is supported and encouraged by the developers through, for example, editor tools, consumer-producer communication channels and online services in the game environment, user-generated content and user-created content. The study provides insights into the nature of games and gaming in terms of stability and instability (see Figure 8).

In addition, studies of game developers' practices also reveal that professionals working in the gaming industry negotiate among often conflicting interests and elements that limit their agency as authors (Banks & Potts, 2010; Deuze, et al., 2007; Dovey, 2007; Martin & Deuze, 2009). For instance, in a study seeking to explore the professional identity of game developers in especially larger game projects (so-called AAA products) a range of key issues and tensions are described (Deuze, et al., 2007). The authors describe tensions between technology-driven development versus content/cross-media driven development; creative pro-

ducer-consumer collaborations versus commercial/corporate/legal constraints. Furthermore, Deuze et al (2007) direct attention to a unique element of this cultural form: its mode of authoring through multiple-authorship. They point to a problem of clear crediting standards that can be seen in contrast to “the detailed credit roll in movies or editorial bylines in journalism: gameworkers (much like their creative colleagues in advertising) generally remain unknown to their audiences.” (p. 335).

Whereas game developers’ control over the development process is constrained with respect to a range of matters, the ways a game comes to be played and engaged in have been discussed in terms of *emergent* gameplay (Pearce, 2009; Steinkuehler, 2006a; Taylor, 2006a, 2009). Steinkuehler (2006) employs the notion of the ‘mangle of play’ (from the notion of mangle of practice) and outlines a number of short-lived practices in a newly released MMOG. For instance, she describes how the practice of harassing new players in particular areas to collect easy game points among so-called ‘player-killers’ came to a quick end when other players organized and sanctioned those player-killers. Taylor (2009) refers to the relationship between games as designed environments and gaming practices as the ‘assemblage of play’:

Games, and their play, are constituted by the interrelations between (to name just a few) technological systems and software (including the imagined player embedded in them), the material world (including our bodies at the keyboard), the online space of the game (if any), game genre, and its histories, the social worlds that infuse the game and situate us outside of it, the emergent practices of communities, our interior lives, personal histories, and aesthetic experience, institutional structures that shape the game and our activity as players, legal structures, and indeed the broader culture around us with its conceptual frames and tropes. (p. 332)

Online games and the formation of gameplay practices

The changing nature of digital games is interesting in terms of knowledge development. The update culture of software programs has long been conventionalized in the game genre MMOG, partly because of its online-based nature, which makes modifications easy to manage. For instance, Schrader and McCreery discuss the MMOG *World of Warcraft’s* unstable domain in relation to what they consider to be more stable knowledge domains:

Additionally, content and mechanics within WOW [World of Warcraft] continually evolve. In an effort to maintain balance, developers modify major aspects of the context (e.g., underlying code, geography, items, etc.) regularly. In major content updates, entire story-arcs can be created, modified, or eliminated in an effort to maintain balance. As a result, the domain of WOW is unstable and learning its content is unlike other domains (e.g., mathematics, literacy, etc.). (Schrader & McCreery, 2008, p. 570)

The authors describe *World of Warcraft* as being in a state of constant flux and hence knowledge is both stable and instable in nature. Still, what Schrader and McCreery state about unstable and stable knowledge domains is perhaps directed more at the material employed in school than the practice of academic research, as the characterizing feature of the majority of research fields is one of instability and change.

Eklund and Johansson (in press) describe how the game design for social gaming in the *World of Warcraft* changed over time and support was implemented for the organization of 'gaming together with strangers'. Based on empirical data such as interviews and gaming interaction, the authors investigate how the modification of the design of the game changed gamers' social interaction and argue that it had a negative impact on, for instance, how gamers communicated verbally and, as a result, the quality of the environment in terms of sociality.

In a study of a chat conversation between an active and an inactive gamer of the MMOG *The Lord of the Rings Online* (LOTRO), the authors describe how the gamers orient themselves towards 'continuity' and 'change' with respect to established and emerging gameplay practices (Bennerstedt & Sjöblom, 2011). In their everyday online communication outside the actual game, the active gamer sent photos from recently completed gaming sessions to the inactive gamer. In the analysis, it is shown that the gamers show themselves to be competent gamers through their management of what is stable and what is changed. More specifically, it is argued that the active gamer has a knowledge advantage as regards how the game has changed and instructs the former gamer in the workings of the current game. However, it is also argued that the inactive gamer makes visible general forms of understanding of the gaming activities, how practices continue to work, by the ways questions are asked and terms used. It is concluded that gamers are required to continuously display and manage their understanding in terms of continuity and change in order to maintain a position as competent member.

In a study of the same MMOG, Bartle (2011) comments on gamers' different expectations of fictional game worlds. He discusses how gamers who have a long

experience of previous forms of online worlds perceive LOTRO in rather different ways than new gamers or fans of LOTRO:

The Lord of the Rings Online (LOTRO) also goes out of its way to be realistic. Its landscapes are rendered to look like real landscapes; its avatars don't have cartoon features; it's faithful to the books upon which it is based; it's geographically consistent; it studiously adopts a covering fiction for useful but unrealistic massively multiplayer online (MMO) tropes such as death (Morale failure) and teleportation (fast horses). It's a great deal more realistic than most MMOs out there. Why is it, then, that a player of an early MUD [text based virtual world, Multi-User Dungeon] who time-travelled to the present day would nevertheless regard LOTRO's 'realisticness' as a joke? (p. 155)

Bartle then gives a number of illustrations of how LOTRO, although consistent with the original storyline, fails to maintain consistency with the 'non-fiction' part. For instance, "If I kill an Orc and it was carrying a sword, why was it hitting me with a stick?", "In the middle of a fight, time stopped and these combo buttons appeared – just the same as happens in real-life fights...", "How come those bad guys aren't running to stop me killing their buddies? I can see them – why can't they see me?" (p. 156). Bartle argues that what counts as realistic with respect to MMOGs has changed over time. In the early years, the 'non-fiction part' was evaluated against 'reality' while today, according to Bartle, it "refers to consensus, paradigmatic view of what an MMO 'should' be" (p. 171). In a sense, what Bartle brings up are instances where he finds ludonarrative dissonance, as well as pointing out how the understandings and views regarding ludonarrative content change over time as *practices become established and conventionalized* (see Figure 7). Hung express this knowledge development among game developers and gamers in terms of game genre conventions:

All games – whether for commercial or educational use – are influenced by pre-established conventions of a recognized genre. Despite the considerable advancement in technology, hardware, and graphics, genre conventions have remained relatively stable over the decades. [...] Just as in other media forms, innovation in videogames is a balance between creating forms of interaction that have worked before and designing new but untested activities that may or may not be readily accepted by the players. (Hung, 2011, p. 60)

Designing for the familiar and unfamiliar

Studies of gameplay design attempt to create generalizations of established gaming conventions and practices. For instance, Björk and Holopainen (2004) have accumulated a large amount of so-called gameplay design patterns that in formal language articulate and describe design choices that can guide the designer in the work of creating gameplay structures and activities. Examples of gameplay design patterns are “boss monster”, “paper-rock-scissor” and “cut-scenes”. Hung (2011) comments on the relationship between designed game environments and gaming activities: “game designs serve as plans that guide the players’ actions, but are, in and of themselves, not enough to fully account for the players’ actions in specific situations.” (p. 58). For instance, in a detailed empirical study of another MMOG, the authors describe how members in the game coordinate their actions through ‘player-invented workarounds’ in order to accomplish tight coordination, i.e. the members in the game have established practices that do not stem from the design of the game (Moore, Hankinson-Gathman, Duchenaut, & Nickell, 2007).

In her book *Inventing the medium*, Janet Murray (2012) distinguishes between what she calls a ‘mature medium’ and an ‘evolving/immature medium’. Murray includes digital games as one interesting example of the ‘digital medium’. Furthermore, she argues that the digital medium is an evolving medium as the designed digital artifacts and activities are characterized by unstable cultural forms that are also disrupting our collective cultural understanding (conventions) of older media (p. 38). She claims that designers of the digital medium are faced with the *design of the unfamiliar*:

Designers in established fields are often engaged in a process of *refinement*, creating slightly improved or distinctive versions of a familiar artifact; for example, modifying the familiar metal toaster with cooler ceramic sides or larger bagel-sized slots [...] The digital designer is more often inventing something for which there is no standard model, like word processing in the age of the typewriter, or video games in the age of pinball. (p. 3, original italics)

Basically, what Murray draws attention to is that game developers share problems and challenges with developers in a range of other evolving cultural forms that can be placed under the umbrella term digital medium.

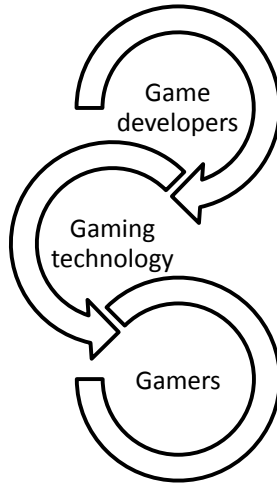


Figure 9. Digital games are in a constant state of multistableness between game developers-gaming technology relations and gamers-gaming technology relations.

Games as multistable phenomena

In an interesting essay on designer fallacies and technological imagination, Ihde questions the oft assumed, “notion that a designer can design into a technology, its purposes and uses.” (Ihde, 2006, p. 121). He compares this idea with what literary theorists refer to as ‘intentional fallacy’: the idea that the meaning of a text can be found in the author’s intentions. Such an approach excludes the unintended meanings as well as ‘fitting’ meanings that do not directly stem from the author. According to Ihde, we can view the designer’s intent as ambiguous because technology inventions always have unintended and unpredictable effects. These effects, Ihde argues, stem from the fact that technologies have “multiple uses or trajectories of development” (p. 126). Instead of adopting a ‘designer-intent model’ that considers the relation between *designer and intention as stable* by focusing on the fact “that some technologies have come into being and performed as ‘intended’” (p. 125), he put forward a human-technology-user model that accounts for how technology is *multistable*. With the notion of multistable, Ihde refers to the interrelation between designer-technology and technology-user “in which the human, material, and practices all undergo dynamic changes” (p. 130). In order to account for how technology influences practices, Ihde employs the notion of ‘technofantasy’. With a descriptive account of the High Middle Ages and the construction

of Gothic cathedrals requiring new machines and architectural techniques, Ihde links these technological changes to “a shift in imagery in the world of fantasy” (p. 126). For instance, paintings and creations of fantastical creatures and fantasy machines started to emerge. This was, according to Ihde, a development of “a specific mode of technology-imagination or fantasy” (p. 126). To sum up, Ihde attempts to problematize the idea that the designer is the one in *control* of the uses and purposes of a technology.

In this chapter, I have outlined a number of ways that scholars have approached games as cultural forms and dealt with the fact that digital games are elusive phenomena, sharing elements with, among others, analog games, technology, art, sports, media and narratives. The term restlessness draws attention to the unstable nature of games in the gaming domain. However, instead of adopting the term restlessness, I prefer the notion of multistableness as it includes the possibility that some conventions and practices are stable while others change (see Figure 9). For members of the gaming community, this means various *degrees of recognizability* with respect to digital games and gaming. Hence, the notion multistable refers to the ways games build on established conventions and practices, as well as how modifications of game artifacts and emerging practices continue to shape what is to be conceived of as a (digital) game. Also, the notion can be employed to address questions about developers’ agency in game development practice as well as gamers’ agency in designed game environments.

To sum up, the chapter outlined some central discussions and concepts in the research domain pertaining to games, gaming and game development. The establishment of a domain’s autonomy and research-based knowledge is sometimes referred to in terms of professionalization, a concept I will discuss in the next chapter.

CHAPTER FOUR

Game development as a professional field

The previous chapter addressed what constitutes digital games as a cultural form. This chapter describes a formation of the domain with respect to digital games in terms of *professionalization* and *institutionalization*. More specifically, it elaborates on the domain of gaming and game development as a professionalized field of occupation. By focusing on the boundaries between the gaming domain and other domains, I continue to elaborate on its domain-specific characteristics as well as autonomy. But first I will briefly outline how previous research addresses the elusive notion of professionalization and how I employ this notion.

The professionalization of what

A popular generalization is that occupations are becoming “professionalized.” The label is loosely applied to increasing specialization and transferability of skill, the proliferation of objective standards of work, the spread of tenure arrangements, licensing, or certification, and the growth of service occupations. (Wilensky, 1964, p. 137)

In studies of the professions and knowledge-based work, the notion of professionalization is linked to the concepts of profession and professionalism. In the quote above, Wilensky lists some classic criteria often employed to define established professions. However, based on his analysis of 18 occupations’ historical trajec-

ries towards that of becoming professions, he claims that only a few will “achieve the authority of the established professions” (p. 137) (e.g. medicine, law, etc.), and “if we call everything professionalization, we obscure the newer structural forms now emerging.” (p. 137). Although Wilensky argues that all occupations move along a continuum of professionalization, he questions the usefulness of comparing (novel) occupations with established professions and warns that the use of the term professionalization runs the risk of hiding domain-specific changes in particular occupations.

Crucially, studies of the professions and knowledge-based work have attempted to define what a profession ‘is’ and to explore the expertise required in professional work (Brante, 2011; Gorman & Sandefur, 2011; Mäkitalo, 2012). However, there is no consensus as to what separates a profession from other occupational work as the concept is not fixed but changes over time (Evetts, 2003). As such, profession and professionalism are linked to occupational change in contemporary society. Evetts (2003) argues that in different historical periods, profession and professionalism have been discussed either as ‘normative value systems’ or ‘ideologies of social control’. These dichotomized perspectives have been criticized for adopting either ‘naïve’ or ‘cynical’ approaches in their creation of one-sided lists and explanations characterizing occupational change in terms of ‘good’ or ‘bad’.

Studies of domain-specific specialization and change

According to Gorman and Sandefur (2011), both classical studies of the professions in the mid-20th century and contemporary studies of knowledge-based work centre on four attributes characterizing professionalism. Firstly, *expert knowledge*, such as ‘tacit’ knowledge, is seen as the key criterion for separating professions from occupations and is viewed as the central characteristic of professional work. Brante (2011) links expert knowledge to institutionalized transmission of ‘professional knowledge’, which is founded on science-based knowledge. As Brante puts it, “*scientific research and professional practice are governed by a shared basic model that breaks with everyday knowledge, with ‘common sense’*” (p. 14, original italics). A second attribute is a normative *service orientation* supported by community. The third attribute connects professions with high status, income and other rewards. Lastly, the fourth attribute, *technical autonomy*, refers to the ways members are in control of knowledge and understandings:

If members of a given profession have control over a body of knowledge – that is, if society recognizes their expertise and accords them the right to determine what is correct or true in this area – then no one outside the profession can legitimately dictate what those professionals do or how they do it. Other occupations may draw on the same body of knowledge, but without controlling it, they must remain subordinate, achieving at best a semiprofessional status. (Gorman & Sandefur, 2011, pp. 278-279).

However, Gorman and Sandefur (2011) argue that a shift has occurred in the field of professions and knowledge-based work, as contemporary studies include both traditional professions as well as occupations with questionable professional status. This shift originates from acknowledging the fact that “[t]he world of work is increasingly divided into two hemispheres: one which requires expert knowledge accessible only through higher education, and one which does not.” (p. 291). Moreover, according to the authors, there is a move away from “overarching but underspecified theoretical frameworks” explaining how society establish and maintain professions. Instead, the authors hold that a fruitful approach is a focus “on *processes* and the social actors [...] – individual workers, employing organizations, and formal and informal occupational groups” (p. 291, original italics). Most importantly, the authors argue for “moving beyond the study of professions per se in favor of *inquiry into the characteristics* that originally made these occupations of sociological interest.” (p. 291, added italics).

In this chapter, I adopt Gorman and Sandefur’s approach and as such it is not my ambition to make claims regarding whether occupations in the domain with respect to digital games should be called professions. I also adopt Evetts (2003) approach to move beyond normative claims in terms of providing one-sided accounts of professionalization processes as either ‘good’ or ‘bad’. Instead, I draw on some of the recurrent themes and questions in studies of the professions and knowledge-based work to describe some domain-specific characteristics and developments of occupations in the field of game development. Also, I include expert knowledge developed in higher education as well as in other forms, such as informal learning settings. More specifically, I employ the notion ‘professionalization’ to highlight processes, practices and changes that result in domain-specific specializations and knowledge requirements. I develop this account by taking as my starting point similarities and differences between game development and other occupational fields that deal with the design of the unfamiliar and the fictional.

Game development and other occupational fields

The video game industry has built itself around a mythos of cultural and creative production, one that values individual ideas, encourages broad participation, eschews traditional corporate hierarchy, and rewards innovative contributions. (Brookey, 2010, p. 14)

A particular interesting professional field relating to game development is software development and engineering¹⁷. In software development, the management of many unknowns and uncertainties with respect to what a person could accomplish, and especially when large numbers of people have to coordinate their work, is a well-studied phenomenon. In his classic book *The Mythical man-month*, first published 1975, Brooks (1995) points out a number of difficulties and myths in software development. For instance, he elaborates on the idea and solution that adding people to software projects running late will speed up the work (according to Brooks, it instead delays the work). Related to this idea is, according to Brooks, the wobbly relation between having an idea and implementing that idea in and through digital material:

In many creative activities the medium of execution is intractable. Lumber splits; paints smear; electrical circuits ring. These physical limitations of the medium constrain the ideas that may be expressed, and they also create unexpected difficulties in the implementation. [...] Computer programming, however, creates with an exceedingly tractable medium. The programmer builds from pure thought-stuff: concepts and very flexible representations thereof. Because the medium is tractable, we expect few difficulties in implementation; hence our pervasive optimism. Because our ideas are faulty, we have bugs; hence our optimism is unjustified. (Brooks, 1995, p. 15)

Brooks argues that our awareness of the limited design space of the physical medium differs from our conception of the digital medium that comes with an expanding design space that alters our expectations of the implementation process. This description of a key problem with developing software can be elaborated on with respect to digital games.

¹⁷ Hereafter, I will use the term software development to refer to the professional field of software development (i.e. the development of a software product) and the discipline software engineering (i.e. the application of engineering methods and practices in software development).

Game development has evolved rapidly, and like many software development projects the development teams have also grown larger over the years. Even though the lone developer still exists (and has gained a new lease on life through, for example, casual games and independent games developed on smartphones and tablet computers, see also Duncan, 2011), game production is to a large degree characterized by the coordinated work practices of numerous actors in technology-dense settings (Keith, 2010). By borrowing the term crisis from how software development and engineering has been described since the 1960s, Keith gives an historical background to what he calls a crisis in game development. He points to issues such as constant overtime when approaching shipping date (known as the ‘crunch’), the additions of people to projects, constant changes regarding what gameplay features and fictional content the game is to contain, unforeseen technical obstacles during the development work, and quality issues. The problems emerge, according to Keith, as a result of the difficulties encountered when at times more than 100 developers are communicating and implementing game concepts, as well as creating, finalizing and updating games.

A related discussion, which can also be referred to in terms of professionalization, concerns how game developers’ work environments have been problematized in terms of legislation because of signs of poor working conditions (Deuze, et al., 2007; Kerr, 2011). Brookey (2010) argues that the working conditions are a result of young men’s eagerness to work:

For young people, and young men in particular, working for a video game company is often regarded as a dream job (anyone who has taught courses on video games to college undergraduates know this to be true). Video game companies are well aware that they have access to a young and eager talent pool, one that is willing to work long hours for smaller salaries than those offered by other media industries. (p. 14)

However, according to Keith (2010), the problem is not that people work for ‘free’ but about the complexities arising when large number of people are required to cooperate over long development cycles in order to both reach constantly evolving industry standards and to add novel features. A shift in the production of digital games has, according to Keith, occurred. Game developers have moved away from a so called ‘hit-or-miss model’ where game developers and publishers gambled with a large numbers of titles because one ‘hit’ would generate a secure return on their investment. With the growing teams and time schedules, Keith argues, that this

has led to less innovation, less game value and a problematic work environment. The solution, according to Keith, is to adopt project and development management techniques from software development.

Domain-specific specializations and technologies

The expert knowledge and skills in the games industry are often characterized as constantly advancing (Banks & Potts, 2010; Deuze, et al., 2007; Köppen, et al., 2011). The studies draw attention to the fact that the changing work practices in the games industry are in part driven by novel technology:

With three competing platform systems each replacing their platforms almost twice a decade this results in particularly short cycles of creativity and innovation and places huge demands on education programmes and workers to re-skill. (Kerr, 2011, p. 232)

The different platform systems run for some time and continuously expand the practices, technology and conventions that game developers have to take into consideration. Moreover, these practices go beyond the actual work of producing games and include, for example, the communicative expertise of pitching, assessing and sharing not-yet-finished-nor-financed games with co-workers and publishers (cf. Hagen, 2012).

Game development thus differs from traditional software development and engineering processes. This can be illustrated by considering the diversification among the people working in the gaming industry in order to manage novel as well as old requirements. This development has resulted in specializations in a range of areas. The production and maintenance of digital games involve skills and competences spread over different roles and areas, where some are game-genre unique. For example, this can include specializations: gameplay, animation, artificial intelligence (AI) and physics programmers; gameplay, sound, user interface (UI), level and weapons designers; environment, concept and destruction artists; script writers and lighters; quality assurance and playtesting; art directors, project leaders, community managers, producers and certification experts.

Besides traditional software development, game development also shares similarities with entertainment media industries. For instance, in both game development and media production, central features are the important role of publishers, licensing practices, new distribution channels (online distribution), and globalized and/or outsourced forms of production (Brookey, 2010; Kerr, 2006, 2011). For

instance, in some countries, movie producers send their movies to organizations to check the movie in terms of ‘motion picture rating systems’. This is also a practice that game developers engage in before distributing their games on different markets. This preparation process is often referred to as game localization and globalization. One such preparation process relates to how game developers send their games to game rating organizations in different regions and countries. These organizations check and label the game in question according to particular ‘content rating systems’ with criteria for age, violent content, etc.¹⁸ However, they are also required, like many traditional software developers, to put a lot of effort into so-called release and certification processes. Game certification processes refers to the ways game developers are required to gain approval to release games on different platforms. In this process, developers have to submit their code for approval to, for instance, Microsoft (the Xbox platform)¹⁹ and Sony (the PlayStation platform), which have different criteria, requirements, guidelines and tests.

Job positions that just decades ago were nonexistent or underdeveloped are today thriving occupations in the field of game development.

Developing gameplay

Game developers not only consider usability aspects such as effectiveness, stability, efficiency and satisfaction, which are taken into account when constructing more traditional desktop systems, they also address criteria such as gameplay, playability, game usability and player experience. As Juul (2013) puts it:

Players tend to prefer games that are somewhat challenging, [...] players like to fail, but not too much. Game developers similarly talk about *balancing*, saying that a game should be “neither too easy nor too hard,” and it is often said that such a balance will put players in the attractive psychological state of *flow* in which they become agreeably absorbed by a game. (p. 5, original italics)

In comparison to other forms of software development, the act of *balancing* gaming practices and gameplay conventions has been developed into a number of specializations in the field of game development, for instance, game design, playtesting and game usability. These occupations, I argue, are domain-specific as they center on the design of features, content and events that are the underlying structure on

¹⁸ For example, the European system PEGI (www.pegi.info), the North America system ESRB (www.esrb.org), and South Korean system GRB (<http://www.grb.or.kr/english/default.html>)

¹⁹ <http://www.microsoft.com/GFWCertification/EN/US/CertificationProcess.aspx>

which gaming activities are based. Game designers, playtesters and game usability experts, and others, thus check and calibrate to ensure that a game is easy to use (i.e. has high usability), yet is ‘fun’ and ‘challenging’ rather than too easy to play (i.e. has high playability). According to Isbister and Schaffer (2008), this occupational field is expanding as a result of game developers and publishers reaching out to new as well as old audiences and playtesters and game usability experts supporting the work of large game development teams, and because games are developed for many platforms that add the numbers of gameplay and usability problems.

Furthermore, when coming up with ideas and engaging in the work of producing games, the developers cannot *only* rely on established conventions in literature, TV and movies, such as genre, image conventions, dramaturgy, etc. As Hung describes these differences:

In film and literature, *genre* can refer to one of two things: *content* (e.g., fantasy, drama, science-fiction, romance, comedy) and *form* (e.g., shortfilm/story, documentary, nonfiction, biography). In videogames, genre refers more specifically to the format of the game and how it is played. There are no formally established definitions for genre, but they serve as loose classifications systems that allow players to know what kind of gameplay a particular game contains. (Hung, 2011, p. 59, original and added italics)

As has been indicated, game developers create and update games for proficient gamers playing ‘hardcore games’ (Reeves, et al., 2009), ‘casual games’ (Juul, 2010) and games to be played in organized e-sport competitions (Taylor, 2012). Still, there are potential game consumers who lack an understanding and knowledge of established gaming practices and conventions. As such, game developers cannot only stay “close to genre conventions [...] [so] that players won’t have to learn additional rules, and can jump right into the essence of the game.” (Hung, 2011, p. 61). Hence, as consumers’ knowledge of, and initial encounters with, games vary enormously, their background knowledge creates different anticipations.

Developing ludonarratives from transmedia

An example of how anticipations of the audience are part of game development has to do with adaptations of existing narratives. Games built around established narratives have the potential to not only attract ‘hardcore’ gamers, but also to lure fans of a fictional world into engaging with a game adopting that narrative theme. The adaptations and transformations from written and cinematic original ver-

sions can be related to ideas of transmedia, convergence and participatory culture (cf. Banks & Potts, 2010; Green & Jenkins, 2009; Jenkins, 2006). According to the authors, technology and audience behavior converge at a faster speed and an increasing amount of narrative content is shipped and mixed across media and cultural forms. Thus, established narratives become adapted and/or expanded to other media formats. Also, the authors direct attention to how consumers of games are active agents, not only in the sense of being consumers and co-creators in the actual production of game artifacts, but along the lifecycle of games (Banks & Potts, 2010). Lastly, when it comes to digital games that incorporate an established narrative content, they challenge a number of assumptions of what a game is and what a story is. For example, expectations of a particular game with a well-known narrative often differ between fans of that narrative universe and gamers when they start to engage with the game.

An example of this transmedia phenomenon, also included in this thesis, is *The Lord of the Rings Online* (LOTRO), an online multiplayer game adaptation of J. R. R. Tolkien's fictional world (cf. Krzywinska, MacCallum-Stewart, & Parsler, 2011). The entry point for engaging with the narrative franchise is spread over a long time period, from that of the book series that was released at different times in different countries, to that of movies and a number of analog and digital games. It has been adapted to audio- and screen-based media, i.e. radio and movies. Furthermore, the narrative franchise has also been extended into *interaction-based media*, such as board games, computer games, including LOTRO. As this narrative franchise has been adapted to a number of different media, such as movies and analog and digital games (cf. Mathijs, 2006), the consumers' initial encounter with the narrative varies broadly. A book fan might become engaged in the narrative by picking up *The Lord of the Rings*, a movie fan when attending the premiere of the first movie, while a massively multiplayer online game player might give LOTRO a chance after his or her friends abandon a game in the same genre such as *World of Warcraft* and instead pick up LOTRO (cf. Krzywinska, et al., 2011). In terms of knowledge, game developers are required to understand not only how digital games differ from that of media with only narrative content, but how *expectations* differ among different player bases.

Summary

In this section, I have discussed how game development shares many elements with traditional software development and entertainment media, but I have also shown that it has its own domain-specific practices and occupations. I have argued

that the increased specialization in terms of occupations in the games industry is driven by changing work practices, industry standards and requirements, and gaming practices. Also, the diversity among game consumers in terms of previous experiences and expectations adds to the complexity in developing digital games. As designed artifacts, digital games are constituted in an intricate process between game developer-gaming technology and gamer-gaming technology. However, the control that the game developer has over the gaming experience is, compared to other media, rather vague and indirect.

A consequence of these interrelated issues is that people with different specializations are required to collaborate and manage complex coordination practices. This places a heavy burden on the individual members who have to display some sort of 'professionalism' because "[a]t work, professional conduct and judgment are subject to demonstration and assessment." (Mäkitalo, 2012, p. 60). To sum up, the developments in the game development domain can be referred to in terms of professionalization. Furthermore, as a consequence of the developments in the domain of gaming and game development, an institutionalization of the transmission of game-related knowledge has occurred. This I will turn to next.

The gaming domain's institutionalization

The advances in the field of game development described above have also increased the need for knowledge sharing, transmission and assessment. The domain's institutionalization is above all noticeable in higher education with respect to the consumption and production of digital games. As was mentioned earlier, one common criterion applied to indicate an occupational change in terms of professionalization is *the development of higher education systems* to supply educated and trained workers and/or manage an increasing specialization and transferability of skill (Brante, 2011; Evetts, 2003; Gorman & Sandefur, 2011; Wilensky, 1964). These institutionalized forms of education are a means of spreading and securing the objects of knowledge relevant for a particular knowledge domain (cf. Goodwin, 1994). Centrally, professional education becomes a means of knowledge transmission and assessment as "students are subjected to tests of different kinds, which are to reveal to what extent they master the core concepts and ways of reasoning that make up professional discourse." (Mäkitalo, 2012, p. 59-60). When linking this criterion with the gaming domain, it is indeed possible to state that the gaming domain, es-

pecially game development, is undergoing an occupational change in the footsteps of many other professions and occupations.

Game-related educational programs and courses emerged in the 1990s. To a large degree, these early programs centered on technical aspects, mainly programming (Parberry, 2011). However, programming games was more often used as a motivating factor to learn to program in general, than as a means for becoming game programmers. During the 2000s, there emerged a number of educational programs with a specific focus on educating for occupations in the games industry and other sectors. This trend has resulted in a variety of educational programs focusing on game-related knowledge (cf. Fullerton, 2006; Murray, Bogost, Mateas, & Nitsche, 2006).²⁰ These programs are concentrating on game production (education for technically trained personnel), game studies (education for academic research in humanities and social sciences) or programs for ‘the expressive potential of games’ (education for developing visionaries and artists) (Murray, et al., 2006). The two latter forms of programs relate to game education in a broader sense (Zagal, 2010; Zagal & Bruckman, 2008).

For instance, programs with ‘expressive potential’ include the understanding and production of games as a means for political and social change (Bogost, 2007; Flanagan, 2009; McGonigal, 2011). A more general media study approach can also be distinguished with the ambition of educating about digital games, comparable to teaching about literature and films (Buckingham & Burn, 2007). This literature also includes more critical approaches with normative and conceptual frameworks to be used when educating people in how to “minimize harmful effects” of gameplay (Klimmt, 2009, p. 28) and promoting “critical consumption and production of video game content” (Delwiche, 2010, p. 176). Also, there has been a development of more generic games courses and educational material directed towards wider populations, such as educational material from national media councils²¹. However, the most common game education program, including the number of students enrolling, is concerned with the teaching and learning of game production. Still, game education is a relatively new entry point for a job in the gaming industry.

Informal communities of practices

A decade ago, the majority of individuals working in the game industry were autodidacts or had developed technical and artistic competences in informal communities

²⁰ For an updated list of game research and related educational programs, courses and labs, see e.g. <http://www.digarec.org/gamesresearchmap/doku.php?id=start:gamesresearchmap>.

²¹ See, for example, the Swedish Media Council, www.statensmedierad.se.



Figure 10. *Floating on Air*, a piece of pixel art displayed at a demo party in 1996, by Electron *aka* Tobias Jansson and Prowler *aka* Klas Benjaminsson.

of practices (Deuze, et al., 2007, p. 346). For instance, in Scandinavia several game developers have a background in the so-called demoscene that emerged in the 1980s and 1990s (Reunanen, 2010; Sandqvist, 2010). Reunanen (2010) describes the demoscene as a community interested in designing and sharing short audio-visually and technically creative programs referred to as ‘demos’. A major initiative and motivation for creating the demos has been connected with how the demos were publically displayed in competitions at so-called demo parties (see Figure 10).²² Demo parties originated from so called copy parties where a central activity was to share computer games and other software. At the demo parties, the assessments of artwork were democratic in that all participants could vote. However, sometimes juries selected a number of works out of hundreds in order to make the organization of the competition manageable. Normally, the production and assembly of a demo required a small group with different specialties divided between programmers, graphicians and musicians.

²² These parties are still taking place. See, for instance, <http://www.datastorm.se/>.

A Swedish perspective on game education

Today, many actors are arguing that the rapid innovation and change in the gaming industry has led to constant gaps and discrepancies in skill development among educational institutions, individual game developers, and industry (Kerr, 2011). However, in recent years, the informal learning entrance to the games industry has been complemented, and sometimes replaced, with game education programs and courses at university and advanced vocational level (cf. Bourdreaux, et al., 2011; Onen, et al., 2011; Parberry, 2011; Zagal, 2010; Zagal & Bruckman, 2008). The expansion of game education can be illustrated by taking Sweden as a case in point. Between 2006 and 2011, the number of game education programs at university and vocational level expanded from 18 to 37 and the number of game students increased by 370 percent (Berg Marklund & Wilhelmsson, 2011). This trend can be viewed in relation to the number of job positions in Sweden's game industry, which increased 86 percent during this period. (Kroon & Strömbäck, 2012). In 2011, 1,476 new students enrolled in game education programs and at the same time only 1,512 persons were employed in the gaming industry (Berg Marklund & Wilhelmsson, 2011; Kroon & Strömbäck, 2012). In Sweden, as in many other countries (Haukka, 2011), the gaming industry is considered to be an important part of the creative business sector. Accordingly, the Swedish government is supporting the development of higher educational systems to cater for educated and trained workers for the gaming industry as well as innovators (Backlund, et al., 2011).

Concerns and challenges with respect to game education

A number of concerns have been raised with respect to the teaching of academic game theory. Based on surveys and interviews with different stakeholders with connections to the game industry, some concerns raised are the massive growth of training providers graduating (too) large numbers of students for the games industry in a particular country (cf. Backlund, et al., 2011; Haukka, 2011). But concerns have also been raised in relation to the lack of gaming industry experience among teachers and that game companies have tended to avoid recruiting from game education programs as the graduates are considered to be lacking in relevant knowledge and practical skills. Still, the educational settings are young institutions, and their relevance is not only related to, for instance, the state of the local gaming industry but also the need of game-related education in other sectors (for example, 3D artists and game programmers can work in other industries).

Even though game education in higher education settings is populated with highly motivated students who have extensive experience of the subject matter,

a number of challenges have been noticed. For instance, Zagal and Bruckman (2008) and Zagal (2010) describe a number of complexities in game education classes. Based on questionnaires and interviews with instructors and professors who teach in game-related courses and programs, it is argued that the mixed background of their students caused multifaceted problems. For instance, the authors describe how the teachers often saw previous knowledge of games and gaming as a hindrance to, for example, accepting new ideas about what games can be. Furthermore, they describe how teachers struggled with what background knowledge, with respect to old games and gameplay, they could presume that students were familiar with. More specifically, at some point teachers need to refer to games to illustrate their arguments and make contrasts and thus have to take for granted that students know about certain games and have experience of playing them. The authors point to this as a problem as it can result in courses designed for certain groups, while excluding others. Thus, a central problem among teachers is how to deal with students' unfamiliarity with the games referred to. Although this is not unique to game education, but a common issue in most academic practices, there are a number of specific difficulties connected to the gaming domain. For instance, the number of hours required to 'get through' a particular game often differs when comparing games with that of movies, artwork, music, etc. However, the time required largely varies within art forms. For example, in literature some novels require a large number of hours but not others. One distinct characteristic of many digital games is that they can be experienced differently depending on the 'paths' you take and activities you engage in. Also, many games offer the gamer different paths and interaction styles on different platforms, resulting in different experiences. As such, there are a number of issues involved when demonstrating and discussing the experience of practically managing particular games on different platforms.

Sharing a professional language

Another issue concerned the assignments of game analysis as students most commonly ignored the analytical tools provided in the course (such as game design patterns or other theoretically derived languages) and instead assessed games using 'journalistic' jargon commonly seen in game reviews (Zagal & Bruckman, 2008). The authors argue that the teachers attempted to give students a vocabulary to use in the design process that is grounded in game theory literature, as analytical tools to support the ways the students formulated and shared their thoughts and ideas. Moreover, the teachers considered game courses difficult because of the

multidisciplinary topics included in the courses. In the same course, a variety of subjects and knowledge domains are covered. For example, in courses focusing on game production, learning to use 3D tools (which includes analysis of image and character compositions) are shared with design reviews where students are required to “pitch [their game idea] to a panel of experts” (Zagal & Bruckman, 2008). In another study, Zagal and Bruckman (2011) had the aim of developing tools and activities that teachers could employ to support students’ understanding of games. In the study, they describe how students were required to blog about their experiences when playing games. The authors’ ambition with this approach was that the activity “would help students think about games as game designers or game scholars, rather than simply as players or fans.” (p. 10).

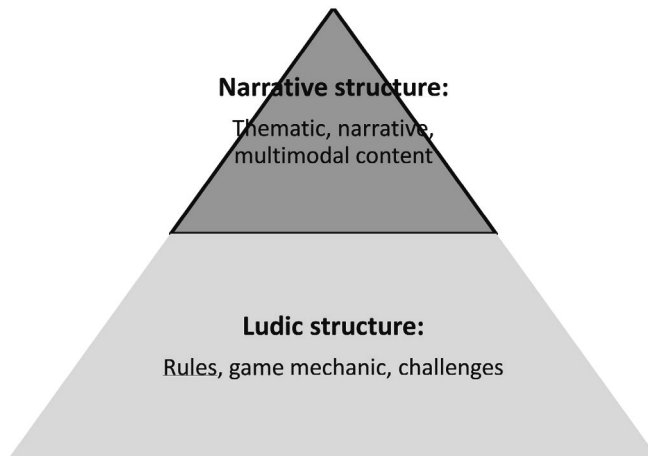


Figure 11. Students in introductory game education courses focus on the narrative level of digital games and tend to neglect the underlying ludic level.

Sharing a mutual understanding of ludic and narrative structures

Another area that has been regarded as problematic by game researchers and teachers is the relationship between games and narratives (Hullett, et al., 2009; Zagal, 2010; Zagal & Bruckman, 2008). For instance, Hullett et al. (2009) state that they as teachers in game development classes struggle to make students transition from seeing games as pure entertainment and to develop an analytical stance towards games. One difficulty, they argue, is that “[s]tudents in introductory

game design classes tend to view games in terms of genre or narrative, rather than mechanics” (p. 1). Hence, the narrative and multimodal wraparound of digital games often became the main focus while the ludic structure remained black-boxed (see Figure 11). In order to support this transition they carried out an intervention study with the aim of improving students’ ability to analyze game mechanics in digital games by playing and discussing a number of German-style board games with varied game mechanics. The students’ ability to perceive and analyze game mechanics was tested by means of surveys before and after the intervention. The authors provide empirical evidence that a more reflective and critical understanding of digital games is reached by exposing students to board games rather than solely digital games.

Summary

Although informal learning settings most likely will continue to exist as a way into the gaming industry, higher education systems offer another entrance. Moreover, game education is an interesting practice as it is a hub for addressing questions such as “What does it mean to ‘understand games?’”, “What does it mean to have a critical discussion about them?”, “What skills should [students] acquire?” and “What body of knowledge should [students] master?” (Zagal & Bruckman, 2008). In game education, students are required to show that they can recognize established conventions and practices, but also to find innovative modifications. Hence, this educational practice permits investigations of the knowledge formation and advances in the gaming community, where knowledge assessment and sharing with respect to gaming and game development are made visible. In fact, in game development education, the relationship between the knowledge that game students as gamers have developed and the knowledge required of them as game developers is explicitly at stake. This thesis contributes to previous studies of game education by empirically exploring what counts as knowledge and competence in this early form of institutionalized education by focusing on professionals’ assessment work of students’ games.

CHAPTER FIVE

Ethnomethodology and knowledge

The analytical point of departure for this thesis is outlined in this chapter. In the first section, I will present an approach for studying practical reasoning as interesting phenomena in their own right. This analytical attitude is referred to as a middle-ground approach to learning and knowledge. In the second section, two ethnomethodologically informed bodies of work, which explore and explicate domain-specific reasoning and knowledge, are described. Finally, the aim of the thesis is summarized.

Ethnomethodological studies of practice and reasoning

In the previous chapter, I described some problems regarding the foundations on which transfer research rests and how scholars in the sociocultural family solve the question of transfer by focusing on participation in practices. Furthermore, I agreed with the larger picture provided by community of practice-related theories. Also, a number of views on games and learning, which in varying degrees were based on transfer, were presented, i.e. studies that took for granted some positive and negative learning effects beyond the gaming domain. For instance, instead of employing the notion of transfer of knowledge, the term literacy is employed. Furthermore, this preoccupation with positive (and negative) effects is described as dominant approach, whereas alternative approaches focusing on the knowledge developed among members of the gaming culture are fairly scarce. Based on an interest in the understandings of the members of the gaming domain, I turned to the expanding

research domain focusing on games, gaming and game development. I presented studies describing how members of the gaming culture assess, define and discuss the gaming medium in ways that position it in a state of multistableness. Lastly, I took as my starting point the concept of professionalization to describe some occupational changes with respect to game research and development, and the institutionalization of the assessment and transmission of game-related knowledge.

The analytical approaches to games, gaming and game development in the studies included in the chapter also varied significantly, i.e. the approaches adopted in the studies structured what questions and topics were raised. For instance, many of the empirical accounts are based on surveys and interviews, i.e. practices *around* gaming, game development and game education. Even though they are not construed with the aim of exploring the survey or interview practice, the researcher sets up these situations in order to say something *about a practice other* than the survey or interview practice the research subjects engage in. Still, many studies examine the social practice where players, game developers, game students, or game teachers, engage in game-related activities.

With an interest in exploring game-related practices and reasoning, I have adopted an analytical approach informed by ethnomethodology (EM) (Garfinkel, 1967, 2002). Different scholars conceptualize the notion of practice²³ differently and as such they differ in their views on theorizing practice (Lynch, 1995, 1997). EM analytical approaches to the study of practice are based on an understanding of the actual 'practice' being lost when adding theoretical frameworks (Hindmarsh, 2010; Lynch, 1993, 1995, 1997). Thus, it is maintained that theoretical and often abstract descriptions of particular practices have a tendency to leave out what constitutes a particular practice. In other words, it is argued that theoretical accounts of practice run the risk of producing 'gaps' between *general theories* and *local practices*, as the "grand theories purport to describe and critique what the rest of us do in our daily lives" (Lynch, 1999, p. 229). Hung points to some EM concerns with an overemphasis on theory:

23 The notion of practice is a term with many common-sense understandings. As Lynch points out, one understanding refers to an occupation or field of activity, such as the law practice, and another understanding is that of learning processes, such as the performance arts ('practice makes perfect'): "Consider, for example, the difference between practicing law and practicing the piano. A professional practice like law or medicine, or an institutionalized way of life within such a profession (e.g., private practice), has impersonal status with respect to the practitioner, whereas in the performance arts and athletics, "practice" connotes a preliminary session or exercise through which performers and teams of performers get in shape, develop skills and quicken reflexes, try out strategies, rehearse and co-ordinate routines, and select players and alternates for official performances. "Practice" in the latter sense can be distinguished from a "real" or "serious" performance from which there is no time out." (Lynch, 1997, p. 337)

First, it often assumes that individuals, particularly those who are perceived as “victims” of the system, are unaware of their circumstances, and that the role of the researcher is to point out these circumstances to them. Second, it runs the risk of selective evidence, in which researchers collect the evidence that fits the theory and disregards those that don’t. This creates a problem of circular reasoning, in which the theory can never be disproved. Finally, it leads to a chicken-and-egg problem: Does the social structure determine micro-level, everyday action, or do everyday interactions shape macro-level phenomena? (Hung, 2011, p. 32)

EM studies explore and explicate how participants in a particular setting co-constitute their activities as practice that maintains and defines the very community in question (Hindmarsh, 2010, p. 219). In order to gain an insight into the production and organization of a particular practice, Hindmarsh argues that such analysis “demands an attention to the interactional production of practice in the community of practice” (p. 240). This means that, in EM studies, a theoretically grounded notion of practice does not constitute an explanatory resource, but rather a topic requiring data-grounded exploration. In fact, EM studies can potentially be said to build up accounts of ‘transmissions of knowledge’ as a social practice, but as Lynch points out: “without invoking grand metaphysical schemes in order to make those practices ‘interesting’ and ‘significant’.” (Lynch, 1995, p. 595). Lynch continues:

Readers who are interested in how the practices described are collectively organized are likely to learn something. Those who hanker after sweeping explanations that promise radical solutions to the problems of our day will perhaps get bored and remain dissatisfied. (Lynch, 1995, pp. 595-596)

In his writings and studies outlining EM, Garfinkel (1967) present his analytical approach as being based on the simple idea that in order to be meaningful, any action must exhibit an order that is recognizable to other members in the same situation. Based on this idea, EM studies attempt to explicate the common-sense knowledge and methods that participants rely on in their everyday conduct, i.e. their ‘background understandings’ and expectancies of situations. Thus, EM studies seek to be respectful of the competence of research subjects and are largely informed by an in-depth understanding of participants’ practices. As such, the *in situ* production and recognizability of practice is the prime object of analysis. Thus, instead of relying on theoretical frameworks to ‘find’ social order in practice,

ethnomethodologists explore how the participants bring order to social settings by examining how participants display their understandings in and through their practical conduct. Reeves et al. (2009) formulate the reasons for researchers to take as their starting point the interactional details of members' conduct in particular settings:

They reveal massively prevalent, yet intricately varied structures of how numerous lifeworlds and workplaces are arranged; structures normally taken for granted in their "business as usual" character for members are sustained by the ongoing efforts of those self-same members. These structures are susceptible to be either taken for granted, ironized or exoticized in academic work. (p. 207).

With respect to learning and instruction, there is a large corpus of studies with an EM approach. Although the studied settings vary broadly, focusing on games and playgrounds (Livingston, 2006; Reeves, et al., 2009; Sudnow, 1983), workplace studies (Hindmarsh, 2010; Hindmarsh & Pilnick, 2007), and formal educational settings (Lindwall, 2008; Lymer, 2010), they share an interest in situated learning and explicate in detail how teaching and learning are accomplished.

Domain-specific knowledge

Crucially, a characteristic feature of EM studies besides their analytical orientation towards the practical work carried out by members is their interest in explicating domain-specific reasoning and knowledge. The interest in domain-specific knowledge is nicely outlined in Garfinkel's study of jurors. Garfinkel was invited by a former classmate, Fred Strodbeck, to participate in a project on jury decision-making. Garfinkel, Lynch and Livingston (1981) provide a well-cited account of this study:

In 1954 Fred Strodbeck was hired by the University of Chicago Law School to analyze tape recordings of jury deliberations obtained from a bugged jury room. Edward Shils was on the committee that hired him. When Strodbeck proposed to a law school faculty to administer Bales Interaction Process Analysis categories, Shils complained: "By using Bales Interaction Process Analysis I'm sure we'll learn what about a jury's deliberations makes them a small group. But we want to know what about their deliberations makes them a jury (Garfinkel, Lynch, & Livingston, 1981, p. 133)

The quote directs attention to the differences between research focusing on the general category of ‘small groups’ and research that explores the question of *what makes a jury a jury*. Garfinkel dealt with this latter question as it was in line with his own interests, and initiated the study based on the recordings of jurors’ conversations and deliberations, as well as interviews conducted afterwards. Through the study of the jurors’ conduct in the jury room, he explored what the jurors did and what ‘common understandings’ they referred to in order to make decisions and judge acceptable behavior. Garfinkel described “the process of ‘becoming a juror’” in terms of how “the rules of daily life were modified” (p. 110). For instance, it included *common sense methods*, or practical reasoning, for developing evidence chains, for establishing matters of fact, and also for establishing the hierarchy of the participants in the jury room.

In another study, Livingston (2006) discusses *general* and *specific* skills and competences. In this study, Livingston analyses the game of checkers (*Checkers/Draughts*, ca 1500) and shows that it is observable that players, on a general level, engage in what can be described as problem solving. Yet, in order to reason and act in competent ways during the game, this requires domain-specific knowledge, i.e. expertise at checker gaming. Thus, the notion of problem-solving glosses the actual skill required. Livingston comments on this double nature in studies of competence and skill: “The study of skill is plagued by its identifying characteristics. Skill is domain specific: skill in checkers is skill at playing checkers.” (Livingston, 2006, p. 417). Livingston goes into technical detail about how checkers is played and thus shows what must be learnt; the descriptions inform the reader about the reasoning of a competent checkers player. The detailed accounts of the activities give an insight into how learning gets done as well as highlighting relevant objects of knowledge in the specific setting.

To sum up, I argue that the EM-informed analytical attitude towards empirical explorations of practice and reasoning constitutes a *middle-ground approach* towards games, learning and knowledge (see also chapter 2). This approach will be further elaborated on in the following section.

Two ethnomethodological bodies of work

As has been indicated in the previous section, the boundaries of EM studies are difficult to define. Over the years, a number of strands and interests have developed. I will point to two bodies of work that somewhat differently aim to document

and describe members' methods for producing social order, both of which have informed the analytical approaches taken in the present work. The two approaches differ in how they deal with questions regarding how I as an analyst can gain an insight into, and document, members' practical reasoning and conduct from a member's point of view.

Central to the two bodies of work is their systematic analysis of the ways in which members establish a mutual orientation to, and understanding of, objects and activities. This interest is grounded in empirical insights into indexical expressions and actions and the need to analyze participants' ongoing activities to tease out how they succeed in making sense of situations. The problem of indexical actions is neatly summed up by Anne Rawls; "[n]o object or word is clear in itself" (2008, p. 713). For the participants and analyst alike, it is "[o]ver the course of a sequence they become clear" (p. 713). That participants rely on others to approach situations in similar ways as they themselves do (for example, waiting until a co-participant has talked a bit more in order to grasp what he or she is referring to) is often condensed in the notion of trust (Garfinkel, 1963; see also Koschmann, LeBaron, Goodwin, & Feltoich, 2011; Watson, 2009). In his study of causal gaming such as tic-tac-toe (*Tic-tac-toe*, n.d.), Garfinkel realized that gamers expected certain actions to be performed by co-players. They assumed specific subsequent actions on the presupposition "that they are committed to this practice, competent to perform it, and that they trust this of you" (Watson, 2009, p. 478). Put differently, trust in ethnomethodological studies refers to the need for participants to maintain a commitment to the background expectations of situations. The notion of trust in an EM approach constitutes a moral dimension in its own right and refers to what participants *assume others know* and how they use this *background knowledge* in their further joint activities. In this thesis, assumptions and expectations are hence understood as enacted in locally situated practices and display, for co-participants and analyst alike, domain-specific reasoning (knowledge).

Studies of computer-supported cooperative gaming

The first strand of EM research that has informed my reasoning is made up of studies in *computer-supported cooperative gaming*. This strand thoroughly considers the importance of becoming a member of the setting studied. As Reeves et al. (2009) point out; these studies are postphenomenological as they "takes phenomenology's focus on the organization of the experiential but makes [them] an empirical rather than a philosophical engagement" (p. 209). The first two empirical studies in the thesis are particularly in line with emerging EM-informed literature examining

settings where computer-supported cooperative gaming is enacted (Brown & Bell, 2004; Crabtree et al., 2007; Hung, 2011; Mondada, in press; Reeves, et al., 2009; Sjöblom, 2008, 2011). They draw on fieldwork that is grounded in analysis of video-recorded material, and often based on auto-ethnographic understandings of gameplay (cf. Livingston, 2006; Sudnow, 1983). This emphasis and struggle to achieve proficiency in the domain of scrutiny is referred to as the ‘unique adequacy requirement of method’ (Garfinkel, 2002). Livingston (2006) describes this in terms of the classic game of *checkers*, that competent players of checkers “reason in ways that are embedded in the practices of playing checkers, and they reason in ways that they find are adequate to, or that they find are inadequate to, the play of that game. If one wanted to learn about this type of reasoning, one would have to learn to play checkers” (p. 410). That is, the analyst has to learn some domain-specific phenomena; however, this is not to say that the analyst must be an expert-at-play in order to analyze a particular gameplay activity and practice.²⁴ Livingston (2008) refers to such explorations as ‘reasoning in the Wild’ and takes mundane activities, such as checkers, to render visible for the reader the reasoning in a particular domain:

I want to *show* you something rather than just talk about it. I need to introduce a concrete activity so that I can *illustrate*, and so that you can *see for yourself*, what might be learned by attending to the details of an activity like checkers. (Livingston, 2008, p. 3, original italics)

These studies explore the practices and activities that emerge in and via the particular game’s interactive temporal environment. In other words, they go into the practical reasoning and practical methods used by gamers’ in their everyday conduct and show how gameplay takes place in specific games and settings. Thus, of primary concern is an interest in investigating how games are played that remains sensitive to the understandings, concepts and relevancies among game members.

²⁴ In an ethnomethodological account, Robillard (1996) makes a distinction between a weak and strong version of adequacy requirement. Robillard states that in relation to the strong version, the “analyst must be and must be seen as an adequate practitioner of the behaviour he or she is analyzing” (pp. 28-29). In relation to gaming, this means that the game researcher must ‘be’ and must ‘be seen’ as a competent gamer by other competent gamers. While “the weak version of the requirement does not dictate that you be a master of an activity but your description must be followable by professionals in that setting” (p. 29). In order to exemplify this distinction, Robillard refers to a study of a phenomenon in astronomy and points out that the authors of that study were not astronomers. In relation to this distinction of weak and strong adequacy, at a particular time (2007-2008), I had a strong version of the adequacy requirement in LOTRO. As the game is in constant flux and as I do not play this particular game today, it is possible to mention the strong version only in relation to video-recordings from that period (for an elaboration on MMOGs changes and the analyst/player’s understandings, see Bennerstedt & Sjöblom, 2011).

[...] ethnomethodological research is directed toward examining the detailed ways in which accounts are essentially tied to the activities of which they are a part. The adequacy of ethnomethodology studies depends on the way they provide technical access to that intrinsic dependency (Livingston, 1987, p. 29)

In the case of remotely located gamers' teamwork and expertise, a study of the team-versus-team combat online game *Counter-Strike* is insightful. Reeves et al. (2009) demonstrate how a critical feature for successful play in the different Counter-Strike 'maps' is the ongoing management of the player's online embodiment's location and position in order to minimize the risk of becoming an 'easy' target. Members of the game have developed local skills in a number of game-specific practices that permit gamers to move and act (use weapons, etc.) competently and collaborate by aligning with prospective courses of actions. A display of competence is to know the places (so-called flashpoints) in particular maps "where the combat is and where strategies and counterstrategies play out" (p. 220). The authors argue that this knowledge has developed over extended use of the game; "[i]n situ, experts see their activities as gestalts—not as individual actions but holistically as 'whatever they are doing.' So, in an example from CS [Counter-Strike], not 'ducking and then running,' but 'avoiding a flashpoint.'" (p. 223). Also, to a large degree, the members' *display of knowledge* with respect to Counter-Strike is non-verbal as the core gameplay is about coordinating combat operations in *specific* interactive environments tied to this game.

Studies of instruction and critique

The second strand relevant for the work conducted in this thesis is *studies of instruction and critique* that focus on so-called novice-expert settings (Goodwin, 1994; see also Koschmann, et al., 2011; Lymer, 2009; Sjöblom, 2011). These are perspicuous settings where participants' actions and interactions make explicit the background knowledge that members' of specific domains rely on.

Central in this body of work is the notion of professional vision. The notion of professional vision was originally coined in a study by Charles Goodwin (1994). The concept refers to the discursive, perceptual and embodied knowledge among members in a specific domain. In Goodwin's view, professional communities are held together by practices that allow members to collectively recognize a phenomenon in the same manner. Far from being a mental and private matter, competent perception is understood as a set of contextually bound and learnable practices. These practices both define membership in a specific community as well as defin-

ing that community in itself. Goodwin takes as the object of analysis how novices are taught and instructed to view a particular domain in a certain way. One of Goodwin's examples is about the ways in which a novice and expert archeologist discern and correctly handle the objects of knowledge that archeologists work with. Another example concerns the 'contested vision' in the Rodney King trial where a tape recording of policemen beating an Afro-American motorist is analyzed by experts in different professions who produce two contesting accounts about how to understand the actions between the policemen and Rodney (in terms of aggressive or cooperative acts). According to Goodwin, a competent member will see the world in a specific fashion, and seeing the world in that fashion also delineates one specific profession from other professions.

Recently, studies with this approach have been conducted in the field of architecture (Lymer, 2009; 2010). In his studies, Lymer explores one central educational set-up in an architecture educational program for the evaluation and transmission of architecture-specific knowledge: the critique. The analysis of the critique goes into the details of the ways in which professional and novice architects give and receive critique with respect to students' presentations of imagined buildings. For example, it is revealed that the professional architects relate the students' elaborated drawings, paper-based mock-ups and 3D renditions of proposed buildings to previous structures but also to famous but not actually constructed buildings. Furthermore, the professional practitioners find gaps by relating how students present their work, their intentions, to how the building is perceived from a professional point of view. Lymer characterizes the design reviews and the work of critique performed in direct connection with the students' drawings and mock-ups as an important instructional practice where novice architects come to see phenomena through the eyes of experts.

Studies with this interest work with fieldwork and especially video recordings of naturally occurring activities. Video recordings permit the researcher to study in detail what participants assume others to know and how they use this background knowledge in their joint projects. Often, participants' talk-in-interaction is central in the activities they engage in, yet non-verbal actions are often as important for achieving mutual understanding, orientation and coordination.

On the basis of the outlined analytical stance towards the study of reasoning and practice, referred to as a middle-ground approach, and related explications of domain-specific knowledge, it is time to move on to the empirical research.

CHAPTER SIX

Research: Sites and methods

In order to address the overarching aim and the separate questions, this thesis includes different research settings. In this chapter, I present the research sites and describe how the empirical material was collected and analyzed. The first site is a multiplayer online game and the second site is an advanced vocational educational program in Sweden. Video recordings and fieldwork have been employed as methods for the study of verbal and non-verbal interaction. In relation to the studied collaborative gaming in *The Lord of the Rings Online* (LOTRO), I conducted in-game auto-ethnographical fieldwork over several months. In the case of the studied vocational educational program, I conducted fieldwork over one course with an emphasis on assessments of students' game demos. In both cases, I collected and analyzed video recordings. The first data set is in the form of screen-captured video of players' interactional conduct and the other set is in the form of video recordings of jury members' co-located interactional conduct. As a result, the empirical materials are somewhat different in nature, but they nevertheless provide material about the social organization of action and interaction with respect to the two settings. Before going into technical details of how I investigated the different practices and worked with the video material, I will describe the sites and situations studied by focusing on their origin and similarities with other practices.

Site 1: The Lord of the Rings Online

The first site is a game in the genre of massively multiplayer online games (MMOGs) in which I conducted auto-ethnographical fieldwork between 2007 and 2008 and collected about 20 hours of screen-captured video. The object of analysis in the studies has been on how small groups, which in part are set-up and organized by the game system, carry out gaming together. In this section, I will not go into detail about the practices and situations studied as they are described at length in the studies. Although LOTRO is still up-and-running, I will briefly outline LOTRO's gameplay and narrative content and its historical origins with an emphasis on how the game functioned at the time of the fieldwork.

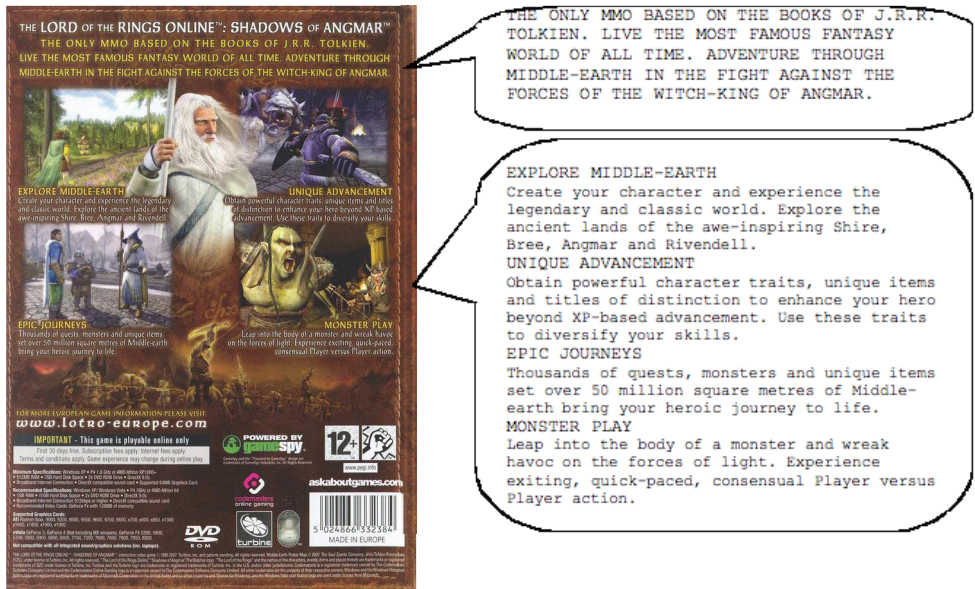


Figure 12. Back cover of the European version of *The Lord of the Rings Online: Shadows of Angmar*.

Origins of the game

LOTRO is built around J.R.R. Tolkien's *The Lord of the Rings* trilogy (1954-55). J.R.R. Since its publication in the 1950s, Tolkien's written fantasy world has had a profound and wide-ranging impact on popular culture and the narrative is recognized in many parts of the world (cf. Mathijs, 2006). Still, LOTRO not only has a connection with the narrative franchise but also has its roots in a number

of pre-existing game activities, both analog and digital. Firstly, LOTRO belong to the game genre MMOG, which has its roots in earlier digital games. Secondly, MMOGs and earlier digital games also have their roots in analog games, such as card games, board games, war-games, tabletop role-playing games, with a more than thousand year history (Williams, et al., 2006). This is especially noticeable when considering the older term MMORPG – Massively Multiplayer Online Role-Playing Games – where the notion of *role-playing* is used as way of describing a particular game genre, namely, in the 1970s with the game *Dungeons and Dragons* (Gygax & Arneson, 1974) and the game genre that was influenced by this game. *Dungeons and Dragons* is a so-called pen and pencil role-playing fantasy game, and its ludonarrative activity is especially influenced by J.R.R Tolkien's fantasy world (Fine, 1983). In this co-located gaming setting, players act by means of a character in real-time within an adventure as an archetypal figure. The game is maintained by a person having the role of a Dungeon Master who operates in accordance with certain guidelines as a director of the adventure.

Thirdly, the social arena and the technical social systems in LOTRO and MMOGs have a history and culture from older forms of computer-supported interaction and collaboration. The communication and interactional conventions in MMOGs of today build on established practices stemming from MUDs (Multiple User Dungeon/Domains (see more detailed discussion in Mortensen, 2006)), but also Internet Relay Chat (IRC) and Instant Messaging (IM). This includes abbreviations of common activities (for example 'AFK' stands for 'away from keyboard'). Electronic text game adventures are another origin and are often related to MUDs. The first text game adventure in a multiplayer format was released in 1978 under the name *MUDI* (Trubshaw & Bartle, 1978). These electronic textual adventures were played by typing in commands in text-based environments that the program responded to, or was responded to by other players. Some of the MUDs made use of the structure of pen-and-paper role-playing activities. In the late 1990s, MUD's graphical counterpart came into existence, the MMOG. The first MMOG that reached a larger population was *Ultima Online* (Origin Systems, 1997) (*Neverwinter Nights* (Stormfront Studios, 1991) is claimed to be the first graphical MMOG released in 1991 but had a limit of 50 players online at the same time on the same server). Other well-known MMOGs are *Everquest* (Sony Online Entertainment, 1999), *Lineage* (NCSOFT, 1998) and *World of Warcraft*, which was released in 2004.

The game as designed environment

LOTRO is situated in the same time period as the original text, but the developers

eliminated the ability to play as any of the members of the ring-bearers. Instead, the player creates a hero/heroine in this gameworld by means of an individually designed physical appearance and name (although the design space is rather restricted). The player starts the game by designing an avatar by choosing to play as an Elf (female or male), Hobbit (female or male), Dwarf (male) or Man (female or male). The player is also required to select one of different ‘classes’ linked to different forms of gameplay potentials (such as Captain, Hunter, and Minstrel). Other specializations were vocations (Historian, Armsman, and Explorer) and professions (such as Cook, Jeweler, and Scholar). LOTRO also permits the players to buy houses in particular areas, where players are allowed to design and decorate the house with virtual objects and invite other players into the houses for meetings, etc.

LOTRO, or *The Lord of the Rings Online: Shadows of Angmar* (see Figure 12) was released in 2007. Since that, four so-called *expansions packs* have been released. The first in 2008, *Mines of Moria*, the second in 2009, *Siege of Mirkwood*, the third in 2011, *Rise of Isengard*, and the fourth in 2012, *Riders of Rohan*. In each expansion pack, a range of new features and items have been released, the avatars’ so-called level limit has been increased, but also new storylines, challenges and settings have been added that connect loosely to the journey and events in *The Lord of the Rings*. Moreover, a number of free updates were released every second month between 2007 and 2008, opening up new playable map areas and storylines. At the time of writing, the player can play for free up to level 85, while there is a subscription-based game version with a range of so called VIP bonuses.

One unique feature in LOTRO is how the developers expanded the spatially organized narrative with a fixed, linear story arc (Krzywinska, et al., 2011). This story arc is in the form of a series of events built around, and expanding on, the ring-bearers’ struggles on their journey. Hence, the player has the possibility of following the narrative that the game designers have authored and is invited to aid the ring-bearers. This expanded story arc is presented and offered to the player via a special line of quests (the ‘Epic Quest Line’), referred to as books and chapters. These quests mix ludic engagements (such as eliminating enemies and “boss monsters”) with narrative content such as cut-scenes and other narrative techniques.

The interaction and communication system in LOTRO resembles other MMOGs in that it offers in-game chat, speech (add-on program or built-in support), and emotes (textual and/or graphical information about an avatars’ movement, feelings, attitudes, etc.) (for a detailed overlook see Moore, Duchenaut, & Nickell, 2007).



Figure 13. Public music performance outside the Prancing Pony. Zague was my main character.

What players do

In a number of ludonarrative readings and empirical studies of LOTRO (Krzywinska, et al., 2011), it is described how members of LOTRO spend a large amount of time engaged in gameplay activities. For instance, collecting items and battling monsters alone and together with others, i.e. ludic activities that in part stem from the producers of the game. A majority of these ludic activities are organized in the form of quest and quest lines presented to the player in the form of shorter and longer story arcs. However, ludic pursuits are also organized in the form of game achievements. For instance, in so-called ‘deeds’ that give points (currency to purchase various in-game content) and entitlement to equip the characters with ‘titles’ (for example, by finding a particular spot or killing a certain number of creatures in a particular area). Another type of gameplay that players engage in is ‘player versus monster player’ gameplay where players can control a pre-designed ‘monster’ fighting on Sauron’s side (the ‘dark side’) and engage in battles against players playing as ‘heroes’ in particular areas in the gameworld.

Hence, players engage in a number of ludic endeavors linked to the narrative in Tolkien's universe. However, the experience of engaging in LOTRO differs radically in comparison to some of the traditional media resources (such as reading the novels or watching the movie) (Krzywinska, et al., 2011). One central reason is that LOTRO, as well as other MMOGs, has more of a resemblance to amusement parks in how they depict narrative spaces in terms of 'environmental storytelling' (Jenkins, 2004, pp. 122-123). Both are public places where thousands of people enter simultaneously to engage in entertainment and where there is integration of social, ludic and narrative elements. For instance, LOTRO offers an elaborate music system where players can equip themselves with music instruments (such as the lute, harp, and drum), compose music, and perform in public places (see Figure 13).

Additionally, a minority of players actively engage in role-playing; the community of fantasy role-players (Krzywinska, et al., 2011). In LOTRO, this group made use of Tolkien's fantasy world, such as Tolkien's made-up language of the Elves or staged role-playing activities in the Prancing Pony, when they performed fantasy roles online (cf. Bennerstedt, 2008).

Site 2: A game education course

The second site examined is an advanced vocational education school in Sweden. The study was conducted in 2011 during a seven-week game project at the school. About 30 hours of video recordings were collected. The course ended in a game demo presentation event with professionals invited from the gaming industry. The school offered two programs, one specializing in 3D graphics and the other in game design.²⁵ Whereas the 3D graphics class was a rather mixed group with respect to gender, the game design class only had male students (one female game design student was partly engaged in the class, but had already started to work at a game company). On the game education school's homepage, prospective students are informed that students form teams and manage challenging assignments under authentic production conditions. This way of framing the education emphasizes the specialization of roles and the importance of cooperative work in game development.

²⁵ In 2011, there were 37 programs in Sweden offering game education at university and vocational education level (Berg Marklund & Wilhelmsson, 2011).

During the seven weeks of the project, the 35 students worked on demos²⁶ in small groups and managed their mutually dependent activities by means of a number of coordination practices and techniques. To produce the demos, they used a number of technologies. They were required to use the game engine Unity, which is a cross-platform game engine (supporting Windows, Mac, Unity Web Player, iOS, Android, Nintendo Wii, PlayStation 3, Xbox 360) for producing gameplay and assembling various media forms in their construction of a digital game. On the company's homepage, Unity is described in these terms:

Unity is a feature rich, fully integrated development engine for the creation of interactive 3D content. It provides complete, out-of-the-box functionality to assemble high-quality, high-performing content and publish to multiple platforms. Unity helps indie developers and designers, small and major studios, multinational corporations, students and hobbyists to drastically reduce the time, effort and cost of making games.²⁷

Also, the students were required to employ coordination practices of a more formal nature by means of an iterative project framework, i.e. Scrum. Scrum contains a set of practices and roles centered on time management units. In the course, there were two key time units of central importance for the students' organization of their collaborative work: the so-called weekly 'sprint reviews' and daily 'scrum meetings'. The teacher acted as the so-called 'product owner' of all the groups and organized weekly sprint reviews where he could monitor the teams' progress. At the sprint reviews sessions, which were public events, the groups presented the progress and challenges regarding their demos.

The students' work on transforming their ideas into playable games, including visual props, environments, levels, sound, etc., was to a large extent technology driven. More specifically, the students' tools and technology-based work restricted their original ideas and concepts. Even though they worked very long days and, in their own words, got into "crunch mode", all the teams were forced to cut back their original ideas and ambitions. Thus, they encountered problems in the organization of their work and a central challenge was that of correctly estimating the time

26 They also referred to the demos in terms of 'vertical slices'. The notion of vertical slice indicates that the game they are to present must demonstrate a fully contained gaming experience (including, for example, game design, graphics, sound) but not a complete game (by restricting the game space, character selection, the number of 'levels', etc.).

27 <http://unity3d.com/>

working with technology (with the game engine, but also animations and visual and sound features). The students who were in the position of game designers were situated at the center of the students' coordination work (cf. Suchman, 1997). Several of the game designers assembled the team members' different contributions, such as visual props and animations, scripts and sound, and constructed interactive environments by means of the game engine. The progression of the game was therefore in a number of ways dependent on members' individual contributions. Features that they intended to include were at times rejected entirely, but most often their original ideas were modified due to time restrictions as they realized that it was impossible for the team to complete, implement and playtest before the final presentation day. Another observed recurrent coordination practice of an informal nature was the ongoing management of ways of distributing and transferring large numbers of files and objects among team members and confirm that the imported prop or feature was the correct (latest) version. Hence, a lot of time was spent searching for, in cooperation with others, correct items in lists of files with short abbreviations.



Figure 14. Left: Students have presented their game demo and start to demonstrate central aspects of the gameplay by moving the character. Middle: Student stands with the character in the game's first tutorial. Right: Student demonstrates a gameplay action package (producing a melody) that results in a pillar rising from the ground, and uses it to jump to higher ground.

At the end of each week, the groups had to present their work to date. It was the game designers who presented the games. The final presentation event took place in front of an audience with invited professionals in the front row acting as a jury (see Figure 14).

The educational practice of game presentations and assessments, by an internal or invited jury, is an established format in many game educational programs (cf. Bourdreaux, et al., 2011; Parberry, 2011). The practice of presenting and assessing games can be related to two other established practices in the gaming industry and in the game development community. Firstly, it shares some similarities with *game awards* and so called *game jams*. It bears a resemblance with the

game award, as both are about evaluating a game idea in the form of a contest. Game award ceremonies can take place at game exhibitions or can be staged as game development competitions.²⁸ Game jams, such as Global Game Jam (globalgamejam.org), are opportunities to meet other developers and come up with and present new game concepts in a short period of time, often 48 hours. There is also a range of local competitions especially targeting students in game education where students' playable entries are played and assessed by a jury selected from the gaming industry. In Sweden, for instance, there is the annual Swedish Game Award.

Finally, game presentations can be seen in relation to the activity of pitching games to publishers. Both have people from the games industry assessing the ideas presented. For example, the International Game Developers Association (IGDA) in a submission guide for game developers states that “[t]he purpose of the pitch is to accurately express your game concept, demonstrate the professionalism of your development team, and inject the publisher with your excitement and enthusiasm for your game title.” (Buscaglia et al., 2003, p. 4). Furthermore, according to the IGDA's submission guide, it is very important to communicate the game's market potential and to demonstrate an understanding of publishers' need of information. Although the pitch can include text presentations, artwork, rip-o-matic (the use and combination of existing movies, games and other audiovisual material), and playable game demos, the latter are nevertheless ranked highest from the perspective of publishers (Buscaglia, et al., 2003; Smith, 2011). According to IGDA's submission guide, a playable build makes it possible for the publishers to review two things of equal importance: to evaluate the “team's ability to deliver” (p. 36) and to assess the otherwise somewhat invisible gameplay that is difficult to fully grasp without a demonstration (see also Kerr, 2006, pp. 80-81). What is at stake in both game presentations and game pitching is the ability to communicate how a game stands out and to display an understanding of consumers' needs and expectations. However, there are also major differences. Whereas game presentations is an educational practice organized in the form of a competition, pitching for publishers is organized with the ambition to make a deal happen, i.e. a mutual commitment between the pitcher and the publisher (funding and contract for a game title) (cf. Kerr, 2006). Furthermore, the students' primary objective with the production of game demos is to gather material for their portfolios in order to display their

²⁸ Global award events are, for example, Game Developers Choice Awards, Spike Video Game Awards, Golden Joystick Awards, Game Critics Awards and the Independent Games Festival.

abilities and skills for internship and work positions, but also to some degree to get recognition of their efforts from the jury members.

Next, I will describe in more detail how I worked with video recordings in the two different settings.

Working with video recordings

The empirical analyses conducted in the studies are primarily based on video recordings augmented with fieldwork. As the two sites differ with respect to communication modes, as well as collaborative activities and practices, the video recordings collected also vary in character. In the case of collaborative gaming in LOTRO, the recordings are of actions and events on the screen, while in the other setting the recordings focus on professionals' co-located assessment of students' game demos. Moreover, there are differences in how I gained access to the settings and insights into the practices from a member's perspective.

Video data are rich and can capture the details of participants' interaction and practice (Heath, Hindmarsh, & Luff, 2010; Jordan & Henderson, 1995). It is possible to study video material in detail because of the persistent nature of the medium that allows the researcher to investigate events over and over again. This also allows for collective analytical work in shared video-data sessions with other researchers, which is seen as an important step in the analytical process. In the case of gaming, video data is superior as it permits the analyst to study gamers' often hasty actions as displayed on the screen over and over again. Notably, analysis of video data, including the analyst's observations and findings based on that data, can be subject to analysis by members of the academic community and practitioners (cf. Heath & Hindmarsh, 2002). In my work with both types of video collections, I have presented the analyzed sequences in data sessions where the activities, observations and findings have been scrutinized.

Next, I will describe the work process with the two different collections of video material by addressing the work of gaining access to the setting, acquiring a member's perspective, selection of episodes, research ethics, and re-workings of the video material for publication.

Video-based studies of pick-up groups

The two studies of collaborative gaming in LOTRO are based on screen-captured video.²⁹ This material is part of a collection of a larger empirical body of English (European) speaking role-playing servers from three MMOGs.³⁰ The total amount of in-game video material consists of approximately 90 hours, where about 40 hours consist of collaborative activities, including about 20 hours from LOTRO. I used different screen-capture programs to record the activities on the screen.³¹



Figure 15. A pick-up group (nearest in the picture) initiating a fight against enemy characters (one with health and power bar observable).

29 Studies of gaming by means of video recordings have become an established practice. For instance, there are a number of video-based studies of gamers' co-located activities (cf. Linderoth, 2004; Peterson, 2008; Sjöblom, 2008, 2011) as well as gamers' online activities (Ducheneaut & Moore, 2004; Jørgensen, 2008; Moore, Ducheneaut, et al., 2007; Moore, Hankinson-Gathman, et al., 2007; Reeves, et al., 2009).

30 Besides *The Lord of the Rings Online*, the collection consists of video from *World of Warcraft* and *Age of Conan* (Funcom, 2008) (inspired by Robert E. Howard's world), which all have a fantasy-inspired setting. The ludic structure has similarities across the three MMOGs. Also, they all share similar tools for players to interact, the so-called social interaction system (Moore, Ducheneaut, et al., 2007). They have various chat channels to speak in private (often labeled 'tell', 'whisper' and 'group/party' channel) and public (for example, 'say' and 'regional' channel). All the three MMOs' chat system is up-dated in real-time, where the newest chat post pops up at the bottom and the player can use the scrollbar to re-read older posts.

31 Mainly ZD Soft Screen Recorder (ZD Soft, 2007) and FRAPS (Beepa, 2006).

The activities and practices focused on in the video-recorded material have been in small groups, so called *pick-up groups* (PUGs) (see Figure 15). PUGs are an established design pattern for managing and organizing team gameplay in online games:

Anyone who attempts to play an online game will eventually stumble into a situation that compared to everyday social interaction pose a very specific challenge. Players can find themselves in small groups of complete strangers with whom they are expected to communicate, sort out social roles and manage collaborative tasks. These Pick Up Groups (PUGs) solve the problem of always having people to play together with in teambased games, even when no friends are available. Although PUGs in online games have existed since the earliest online First Person Shooters (FPS) such as *Quake* (id Software 1996) and *Counter-Strike* (Valve 1999), the types of demands on members of a PUG has evolved during recent years. The introduction of functional roles in *Team Fortress* (Valve 1999), *Return to Castle Wolfenstein: Enemy Territory* (Splash Damage 2003), the *Battlefield* (DICE 2002) series, and *Defense of the Ancients* (Eul 2003) has made it important that players maintained a suitable role composition for their team. (Linderoth, Björk, & Olsson, 2012, p. 2)

However, in order to analyze the social organization of PUGs in LOTRO recorded on video, the analyst has to have some form of understanding of, for instance, the functional roles in this game. Ethnomethodologically speaking, proficiency in the specific domain of study is emphasized (cf. Sudnow, 1983). To sum up, in order to analyze a certain game-in-action, the analyst needs to have some experience of that game (or at least game genre), rendering the actions (this includes video-recorded actions) understandable from a member's point of view.³² In the game studies field, the idea of actually playing the game that the researcher is studying has been an established practice and prerequisite for some time. This method is confirmed in a number of studies (cf. Aarseth, 2003; Reeves, et al., 2009; Sudnow, 1983). A learning process that is considered fundamental and is considered to have similarities with doing research on literature and film, although it also differs from such endeavors. For instance, it is difficult to decide when to stop (in the case of MMOG, there is no actual ending of the game) and in what ways to approach the game (is it appropriate to cheat, etc.).

³² This can be compared to ethnographic decisions regarding the level of presence in the field site within the spectrum between 'full' participant and 'full' observer (Hammersley & Atkinson, 2007).

A number of ethnomethodologically informed studies of cooperative gaming and collaborative activities in online games have utilized video-recordings as the main material for investigations but with an auto-ethnographic understanding of gaming as part of the fieldwork (Brown & Bell, 2004; Crabtree, et al., 2007; Mondada, in press; Reeves, et al., 2009; Sjöblom, 2008, 2011). Accordingly, the first two studies are based on video-based interaction analysis grounded in an auto-ethnographic understanding of the setting. This auto-ethnographic understanding indicates that I as analyst have gained a member's perspective by engaging in recurrent activities and practices myself. I started to play when LOTRO was released in the spring of 2007 and played the game on a regular basis (during some periods for up to 10-15 hours a week) for about 1.5 years. I gradually learned how to perform in gameplay situations with strangers and friends, experienced the narrative story arc (the "book chapter" quest line), and made friends online and engaged with them in a range of social commitments (such as collaborative gaming, buying and decorating houses, becoming a member of organized player communities, such as so-called Kinships, or guilds). This auto-ethnographic understanding provided *access to the setting* in terms of specialized terminology, practices and the like, but also *access in order to video record activities* that would have been impossible without a participating researcher.

Ethical considerations

With respect to *research ethics* regarding online conduct, a number of principles have been adopted. I will describe the premises that have guided the video recordings of PUGs with respect to informed consent and privacy. With respect to ethics, the field of Internet research categorizes studies of online gaming as a subdomain.³³ The overall stance taken is in line with guidelines from the Association of Internet Researchers' (AoIR) (Ess, 2002; Markham & Buchanan, 2012) and McKee and Porters' (2009) heuristic tools for aiding researchers of virtual game worlds in ethical dilemmas with the aim of minimizing harm to gamers and users.

³³ The collection of empirical online material can be related to praxis of ethnography and auto-ethnography in virtual worlds (Boellstorff, 2008; Garcia, Standlee, Bechhoff, & Cui, 2009; Hine, 2000, 2005). For example, Hine (2008) and Linderoth (2012a) describe auto-ethnography as a central method and they direct attention to the skills the ethnographer of online games must develop to gain access to the setting and research subjects (p. 263). Virtual ethnography relates to traditional ethnography, where the subject, the person to be studied, is understood as the socially present living body and the talk-in-interaction tied to that body. The coming of Internet enabled people to interact in historically new ways. Hence, the difference that virtual ethnography deals with is how to understand the subject as a digitally mediated person. For instance, in virtual ethnography, the notion of auto-ethnography is often more focused on exploring the researcher's 'reflexivity', e.g. focusing on what it means as a researcher to experience online life and the researcher's own participation.

As has been mentioned, the focus in the studies is on the ways in which PUGs manage gameplay conduct.³⁴ My analytical interest is thus not to study the whole gamut of online gaming culture with respect to how online and offline activities are interrelated (cf. Linderoth & Bennerstedt, 2007; Taylor, 2006b). As such, I am not interested in the gamers as individual subjects, but rather in the interactional competences that members of LOTRO have developed. Accordingly, I take the view that “the concept of ‘human subject’ may not be as relevant as other terms such as harm, vulnerability, personally identifiable information, and so forth.” (Markham & Buchanan, with contributions from the AoIR Ethics Working committee, 2012, p. 6). Next, I will elaborate on matters of harm, vulnerability, and anonymity with respect to the studies in the thesis.

One key aspect when accounting for ethical issues in terms of harm and vulnerability in studies of online gaming relates to the separation between public and private with regard to the question of informed consent. The question of what constitutes ‘privacy’ in online games varies depending on the game-related activity. In studies of computer-supported cooperative online gaming, pick-up groups have been considered both public and semi-public spaces. There is a common characteristic of pick-up groups: because gamers get together for a short period of time, members of a group tend to drop in and out of the joint activities. Members of PUGs might have a sub-goal in relation to the other team members and when this is achieved the gamer drops out, or the gamer realizes that s/he must do something else, does not want to continue gaming with this particular group, the connection is broken, etc.. There are numerous reasons why people drop out. The empty spot is then often put up for ‘sale’ in a system and practice supported by the game to see whether anyone else is interested. The fact that members continuously drop in and out makes informed consent troublesome (for a discussion, see Eklund, 2012).

34 Although research on social phenomena always requires the researcher to know what she is studying, Waskul (2003) stresses that research online is more diffuse. He argues that in the study of social phenomena on the Internet it is “easy to lose sight or mistake the frame of one’s analysis; it is easy to intend upon studying one thing only to end up collecting data on something else.” (p. 144). Failure to grasp what it is the researcher has studied makes it a “more difficult tasks of communicating to others what we have studied and what was learned from those studies.” (p. 144). By referring to his own studies online in terms of “understand[ing] experiences that occur in online chat and cybersex” (p. 144) he was not concerned with the people in front of the computer screens, such as who they “really” were or their “actual” age and gender. This analytical agenda, is, according to Waskul, unproblematic if the researcher keeps to his or her analytical agenda. However, Waskul points to the relation between the text and the readers, where many researchers may make assumptions about phenomena that are not studied.

However, PUGs differ with respect to whether the games only provide social activities within the boundaries of PUGs³⁵ or provide persistent game worlds where the player's character is situated in a larger virtual 'playground' and moves between different social activities, where PUGs is one of several possibilities to interact socially (as in the case of MMOGs). In studies of games that only provide social activities *within* PUGs, encounters in these games have been considered public places (Linderoth, et al., 2012). This separation is mainly based on a technical issue regarding privacy; namely, as everyone who wants to play an online game is free to do so, these worlds are public arenas: "PUGs are open to anyone who owns the game and there is no special invitation needed or password protection." (Linderoth, et al., p. 5). The only qualifications are that the player has a computer and an Internet connection; and in some cases the player has to pay the game developers/provider for access to game servers. In the case of *MMOGs and persistent game worlds*, the engagement in PUGs is a bit more restricted as the player with the ambition to join a PUG is required to have a suitable avatar (level, functional role, and so on). As a consequence, online games that provide persistent game worlds have been considered semi-public spaces. However, players in all PUGs have a tendency to drop in and out.

Significantly, whether a study of online gaming is considered to maintain *low harm* with respect to the game's members is directly related to the researcher's interest. The members in the studied PUGs in LOTRO do not know that they are being recorded as informed consent has not been obtained. I have deliberately chosen to video record and analyze PUGs in LOTRO where the other gamers are strangers to me. In this way, I do not know who the other gamers are, nor do the other gamers know who I am. This decision is based on insights into the problem of obtaining informed consent in PUGs but also other concerns. Firstly, I consider the participation in PUGs in LOTRO as involving more of a public than a private space. From a members' perspective, the requirement regarding an adequate avatar for participation was based on, for instance, functional role, level etc. But during the time I was involved in LOTRO, I did not need to know other gamers in order to join PUGs as there were always groups with members who did not know each other available, irrespective of what kind of avatar I was controlling. Also, there were established practices and game-supported systems for forming, organizing and sustaining PUGs. As such, these sociotechnical systems support social arenas that are more public than private.

35 Instead, the game developers provide web services to maintain a social platform where players can socialize, organize and analyze gaming events, track players' achievements ('stats tracking'), discuss new features, etc. For example, Battlefield's Battlelog, <http://battlelog.battlefield.com/bf3/gate/>.

Secondly, my decision was based on my analytical approach and research interest in EM-informed studies of cooperative gaming. EM-informed studies, as has been mentioned above, focus on skills and practices that members display and engage in. Hence, my analytical interest is in the gamers as members of PUGs and LOTRO as the analysis teases out the skills and practices LOTRO's members are required to be familiar with in order to participate. Subsequently, I do not attempt to study phenomena about the members outside the PUG activity or how offline phenomena are managed by the gamers in the game.³⁶ Taken together, I consider the situations studied to offer a low level of harm to the gamers included (for more elaborated accounts of this involvement see Brown & Bell, 2004; Duchenaut & Moore, 2004; Moore, Duchenaut, et al., 2007; Moore, Hankinson-Gathman, et al., 2007).

Finally, the researcher must come to terms with how the findings are presented with respect to *anonymity*. In order to secure anonymity, I have changed or concealed the names and kinship (guild) of the avatars. As the gender of the other gamers is unknown to me as analyst, any gendered pronoun in the analysis refers to the displayed sex of the avatar. Moreover, this means that the empirical data as stored material also sustains an adequate level of anonymity, as it is impossible to find out who the persons controlling the avatars are by means of their nicknames.

Selecting episodes of normal troubles in pick-up groups

As the two empirical studies of gaming in LOTRO take an interest in explicating gamers' 'mundane expertise' (Livingston, 2006), the analysis of the video recorded material in LOTRO went through several phases. In order to be able to describe and tease out the studied members' orientations toward each other, tasks in the game, and resources, the video recordings were studied repeatedly. This means that before the analytical work of producing representations for publication, a time consuming

36 During the auto-ethnographic work, there were other ethical concerns besides informed consent regarding video recordings that I as a researcher and adult had to manage. For example, one problematic situation that often occurred involved managing established relations with young players with respect to how much time is "OK" to spend on online games. For instance, in one case I played together with two Swedish gamers where one of them was 15 years at the time I started to play LOTRO. On several occasions, the parents' control of their sons playing was sidestepped by their son. The parents' management of when and how much the son was allowed to engage in LOTRO was above all controlled via the family's Internet router, which was programmed to shut down at a certain time. Sometimes, however, this function did not work, or perhaps the son managed to get around it (without telling me how), and continued to play. In these cases, I felt that it was irresponsible for me as an adult to play collaboratively with him and include him in teams with others. Consequently, I initiated the closing of any collaborative endeavors, did not include him in groups, and restricted conversations with him so as to minimize any encouraging activities from my side.

process of selecting episodes was carried out. As an initial way of sorting and selecting episodes, I produced ‘content logs’ (Jordan & Henderson, 1995). The content log was organized by either focusing on episodes where gamers used language (in chat), or on episodes where gamers collaborated by means of other materials (the most recurrent phenomenon in the collected material).

In many approaches in the social sciences, a common method is to focus on so-called “breakdowns”, i.e. when something happens that causes the social activity to come to a halt. In *Studies in Ethnomethodology*, Garfinkel (1967) shows several episodes of what happens when the ‘common grounds’, the taken-for-granted, that people build subsequent actions on are threatened and how activities literally break down when some characteristic of this common ground is not attended to. In relation to selections of empirical episodes from video recordings, breakdown situations can in many ways be productive as they make quite directly observable the different ways gamers attend to a situation. However, Garfinkel’s collection of breakdowns is just one way of showing peoples’ background expectations of how to be an ‘ordinary’ and competent member in a particular domain. In our everyday life, there is also a backdrop to what Garfinkel refers to as ‘normal, natural’ troubles. These so-called natural troubles-at-work are events that in a sense occur between breakdowns. Thus, they occur continuously as people go about their business. These events can be regarded as ‘seen but unnoticed’. Nevertheless, these instances, however ‘tiny’ or common they may appear to a member, reveal ‘elusive phenomena’ (Heath, et al., 2010). In line with this interest and insight, I have focused on and selected episodes in the empirical material that can be characterized in terms of normal, natural troubles.

Representing screen-captured data

As has been mentioned, the studies of gameplay conduct in LOTRO are based on auto-ethnographic understandings of screen-captured video recordings. In studies of digital gaming, the use of the visual of gaming interaction is surprisingly unexploited. In my empirical studies of online gaming, I follow a tradition of re-presenting screen-captured video in the format of sequential art, e.g. comics strips (Eisner, 1985; McCloud, 1993). My inspiration for this sequential mode of representation comes from studies in the learning sciences that have discussed different ways of representing video recordings of co-located activities and that have employed sequential art as primarily an analytical tool and end product for dissemination (Ivarsson, 2007; Lindwall, 2008; Plowman & Stephen, 2008). The ambition when it comes to re-workings of video is improved readability compared

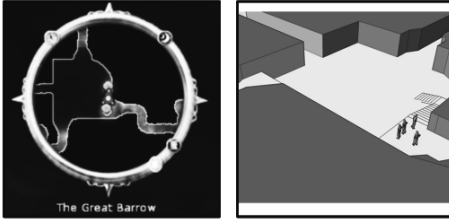
to, for instance, texts and transcriptions of language. Also, these representations are perhaps more tempting to unpack (compared to diverse language transcription systems in use) because they resemble everyday media activities, such as reading comics and the like.

Sequential art comes with some inherent implications. Above all, it juxtaposes images/frames to be read sequentially. Furthermore, it provides a way of presenting interaction without relying on language as the dominant semiotic mode. This is because comics build a multimodal storytelling artifact that provide a common ground so that “words and pictures go hand in hand to convey an idea that neither could convey alone” (McCloud, 1993, p. 155). In this way, this visual format is an alternative to transcriptions of language when producing representations of gaming conduct that often lack verbal expressions. Lindwall (2008) points out a few conventions from comics that “retain the identifying details of the activities analyzed” (p. 68), but also relevant questions the analyst must come to terms with:

[I]t is this sequentiality, together with the possibility of visually presenting what the [participants] do and say, that makes this mode of representation suitable for the activities investigated. Like transcripts, the comics are analytic renderings filled with decisions on what is important. The use of comics also necessitates additional considerations with regard to the organization of time and space: What should be put in a panel? How do the actions fit on a page? How is time represented by means of space? What must be stated explicitly in textual comments and what can be shown with pictures? (p. 68).

In order to achieve improved readability of screen-captured video of online gaming, I have put an effort into making the often non-verbal activities 1) recognizable for other competent gamers, and 2) understandable and followable for ‘outsiders’ by simplifying, and highlighting, features of relevance for gaming conduct. Based on these ambitions, I selected the comic strip format as it provides favorable ways for communicating gaming interaction. In the transformation of screen-captured video, I not only used “dumps from the video, [but] images were “fabricated” for greater clarity and readability” (Lymer, 2010, p. 65). Figure 16 is an example of this work process.

A



B

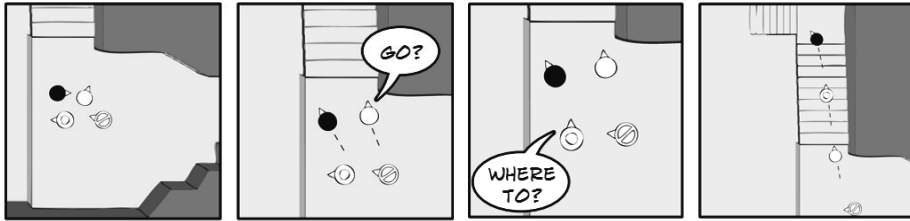


Figure 16. An illustration of a type of re-working process of screen-captured video for end-product dissemination. A) left: the in-game ‘minimap’ displaying four PUG members located in the dungeon The Great Barrow in LOTRO. A) right: a 3D sketch of the same area. B) A rendition based on the members’ actions and movements sequentially outlined over four frames, to be read from left to right, presenting the utterances in chat with speech balloons.

The selected episodes were processed into representations with the aid of Photoshop, Illustrator (Adobe Systems, 2003), SketchUp (@Last Software, 2000), and Comic Life (plasq, 2005) (see Figure 16) but also photo sessions where I recreated the game setting and employed a stop-motion photo technique.³⁷ The two studies of gaming have somewhat different technical solutions and aesthetic tone. Firstly, sketches and textual descriptions of the players’ characters’ visual orientations towards co-players’ actions and game tasks were made. Secondly, in cases where talk among members was occurring, I added transcription logs of chat and coupled them with frame grabs of avatars’ actions and movements. The various formats were used as a way of visualizing the gamers’ actions and to zoom in on features

³⁷ Certain renderings in study two (“Knowing the Way”) were produced with the help of Jonas Ivarsson, Dept. of Education, Communication and Learning, University of Gothenburg. Camera and photo equipment were borrowed from Tobias Jansson and he also helped me in the photo sessions.

in the video so as to highlight phenomena of relevance for the gamers' ongoing achievements.³⁸

The analytical process was not carried out in a series of steps but in a constant process of moving back and forth between still images, video, and transcriptions of various details, to that of the final product for representing the interactions in articles and at conferences.

A video-based study of jury members' work

At the second research site, the game education program, I conducted fieldwork during the seven weeks the course took place. The fieldwork constituted, together with the auto-ethnographic work above, a means of acquiring an understanding of the collaborative work required to produce digital games with a range of technology, as well as the collaborative work of presenting and assessing game demos at various stages. The fieldwork conducted was central for deciding on what situations to record and how to place video cameras, although the fieldwork was also important for the understanding and analysis of the video recordings (Heath, et al., 2010). About 35 hours of video were recorded and about 15 hours concern game presentations and assessments.

From a number of identified game education schools, I chose one for one central reason; namely, that they offered a course with actual production of digital games in cross-functional teams over a rather short period of time. In order to *gain access* to this setting, I contacted the teachers and board of the school and presented my

38 In the research field Conversation Analysis, Sacks, Schegloff and Jefferson (1978) started their empirical investigations by examining telephone conversations and as such, the resources used by participants and analysts are the same (as telephone conversationalists only have talk-in-interaction as a communicative resource). This situation is partly similar to the screen captured material studied, but also somewhat different. In many situations in the screen-captured material, there are actions performed with resources that have not been captured in the recordings. For instance, the comic strip format of the team members' activities is designed to present the entire group's field of view. This is, however, a restricted camera view since all video recordings are captured from one gamer's field of view - my own. The recordings thus do not account for the details of individual gamer's ways of organizing the field of view (cf. Irani, Hayes, & Dourish, 2008). The juxtapositions of snapshots are intended to outline a collective field of view that nevertheless is based on a particular team player's recordings in the course of actions. Still, decisions on what to show are grounded in the unfolding interaction as it is possible to find out what the gamers orient towards by means of a sequential analysis of how gamers respond to combat actions in-game, other audiovisual actions, and postings in chat. As the interest in the analyses focuses on what they orient toward and how they coordinate their actions, the decision of what to represent is primarily guided by this and secondly, by readability. For more finely grained precision as regards where the individual gamer looks at the screen and how his/her gaze is dynamically oriented towards resources in the game interface, eye-tracking tools are a promising device for use in combination with screen-captured video.

interests as concerning the skills and practices of students and teachers. When they gave formal permission to commence the study at their school, the head teacher asked the students if there was a team that was willing to let me study their work. I was presented to the students and I emphasized that I was interested in their practices and learning, and I informed them that they could withdraw from the study at any time. I also handed out a consent form for them to read and sign. All the students, except one, agreed to participate in the study. However, the student who did not want to participate changed her mind the same day and wanted to participate.

I began closely following the collaborative work of the group a couple of days a week. I switched between a handheld and a fixed camera when moving between the members' work in front of computers and team meetings. During the fieldwork augmented with video, I also gained insights into the work processes of the other groups. One central observation was that the students continuously prepared and dealt with feedback from presentations and evaluations of their demos. Accordingly, I also video-recorded the public game presentations and assessments that took place each week, including the final evaluation. In this way, I gained an insight into the ambitions of the students regarding the game demo they produced, besides their practical work on producing them and the professionals' ways of assessing them.

This means that the video-recordings collected are of two main types; one type contains one group's collaborative work, the other type consists of a number of game presentation sessions in various stages during the seven weeks. In the study included in the thesis, I have focused on the assessments of the invited jury on the final presentation day, both their on-stage as well as off-stage conduct. The video material analyzed was in part public. Everyone who happened to see the invitation for the final presentation day was welcome to take part in the presentations and public feedback. However, the jury's deliberations after the students' presentations were restricted in the sense that only the jury and the principal teacher were allowed in the jury room. Access to video record the jury's work in the secluded room was negotiated with the jury members and teachers in advance. The jury members were also informed of the study via the consent form. Also, the audience who participated during the day was informed of the study at the beginning of the day. I assured the participants of *anonymity* in publications and dissemination of findings.

Selecting and transcribing empirical illustrations

In the case of the jury members' assessment work, I focused on instances where the jury formulated positive and negative assessments of the students' game demos, but also meta-reflections on their assessment work when jointly coming to terms

with the winning candidate and feedback to all the groups. During the analysis of the video recordings, I drew up collections of episodes where the jury members discussed matters relevant to grading and rating the demos and how they reached agreement on decisions regarding the demos. This is described in the study in the ways resources are unpacked and considerations are dealt with. For example, what institutional expectations are required; have the students lived up to their promise; do the demos live up to the gameplay experience demonstrated on-stage; is it gameplay-based fiction or traditional narratives; and which slice is superior here and now and which ones have potential. Hence, the selected episodes are events that illustrate recurrent modes of reasoning.

A brief note is also required regarding the transcription of the jury members' accounts and explanations. Initial transcriptions of the jury's primarily verbal interaction were made with *Transana* (Fassnacht, 2001), where parts of the entire video corpus were transcribed, with a particular focus on situations where students presented games and received feedback. All the material from the last presentation day was transcribed. As the jury members' assessment work was in the format of mini 'speeches', in the transformation into the disseminated version, I removed pause lengths and other detailed transcription conventions. In line with the reasoning presented above, the idea was to improve readability and hence the detail level was set to a simplistic transcription. Also, the jury members were not native English speakers, but spoke English due to the fact that one jury member was not a native Swedish speaker. Since the empirical examples worked as illustrations of recurrent assessments modes, in a few instances a few changes in grammar have been made to improve readability.

CHAPTER SEVEN

Summary of the studies

HOW GAMERS MANAGE AGGRESSION

Published as Bennerstedt, U., Ivarsson, J., & Linderöth, J. (2012). How gamers manage aggression: Situating skills in collaborative computer games. *International Journal of Computer-Supported Collaborative Learning*, 7(1), 43-61.

This study questions the *assumption* that engagement in gaming activities fosters the development of behaviors that are transferred to situations beyond the games themselves. There are two dominant and diametrically opposed positions taken with respect to the question of the learning potential of digital games. On the one hand, there are studies that search for socially sanctioned skills and literacies and as such, link gaming with positive transfer effects. At the other extreme, there are studies addressing in what ways games primarily have negative transfer effects, e.g. teaching violent behaviors. We propose that one should refrain from directly jumping to conclusions regarding the question of transfer of knowledge and instead make a detailed examination of how gamers actually manage gameplay activities. By focusing on proficient gamers involved in a core game activity, we examine the fundamentals that must be learnt and mastered for successful gameplay.

More specifically, we describe a number of established practices by investigating video data of small-scale teams in *The Lord of the Rings Online* (LOTRO). The paper employs an ethnomethodologically (EM) informed analysis to investigate team members' interaction during online gameplay. This approach requires an understanding of gameplay in the particular game in order to make sense of actions and

relevancies from the perspective of a member. The sequences analyzed stem from situations where strangers were gaming together in so called *pick-up-groups* (PUGs). In LOTRO, this means a maximum of six members. Also, in the empirical material we selected sequences of the core game activity of enemy encounters known as ‘bosses’.

The analysis shows that a central feature of boss fights is that they are designed to challenge and disrupt the gamers’ internal organization as a team. In order to withstand such an encounter, the gamers must take into account the very mechanics of gameplay. Crucially, members of MMOGs are held morally accountable for acknowledging the zones in which enemy monsters or mobs will detect gamer presence and attack. In gaming terminology, these zones are known as ‘aggro circles’ surrounding mobs. These are invisible areas continuously calculated by the game system. Being subjected to attacks by a mob is called getting “aggro”, which is an abbreviation of the words “aggravation” or “aggression”. The size of this aggro circle, the range between the gamer and the mob, depends largely on the (experience) level of the avatars in relation to the level of the mobs. Thus, in contrast to solo play where the mob(s) normally target the gamer by default, when playing in groups gamers have to manage aggro between them. The actual initiation of combat depends on the type of mob. An aggressive mob, most commonly encountered in boss fights, will attack either when attacked by a gamer over a distance or when the gamers come into their vicinity. This means that team members must manage their movements in relation to an invisible spatial element in order not to trigger an attack from a mob (by mistake). Once triggered, the aggressive interests of the mob must be continuously monitored and held in check by the team.

This form of management is, in our view, a key to understanding much of the social order of these core gaming activities. How members execute boss fights and demonstrate their positions as competent gamers is explored on the basis of this fundamental mechanism. Boss encounters are designed so that gamers must coordinate their actions in order to keep the boss(es) attacking a specific gamer(s), typically a gamer able to withstand severe attacks. This role (tank) is often represented by an avatar that has heavy armor, shield, force field etc. Hence, members of PUGs work to secure mutual awareness of, and orientation towards, their common tasks. By detailing the ways in which gamers recognize and producing social order in boss encounters, we make visible proficient gamers’ displays of understanding. The established practices are illustrated in a number of examples explicating in detailed accounts 1) how close to a mob is ‘safe’ to stop and get ready before initiating a fight; 2) when it is appropriate to enter fights with respect to co-members’ combat functions; 3) how the spatial organization of the group is to be managed

when multiple aggro zones emerge during the fight; and 4) how members exploit structures in the game environment and spatially fine-tune the position of the gamers' avatars for a safe and efficient combat session.

The results point to “aggression” as well as “collaboration” as major components of the gaming conduct studied. However, the practices targeted by these notions are locally tied to the game. In other words, while the collaboration in the game is intricate, it is domain specific and the social skills displayed are tied to the technical details of the game environment. Seen in the light of this thesis, this conclusion competes with other understandings as the studied collaboration is intertwined with the issue of violence. *Visually* and *narratively*, members of the game engage in violent interactions, while *technically* the portrayed aggression is managed by strategic considerations of sophisticated game rules and mechanics – its ludic elements. Any potential arousal, we hold, is linked more to interacting in socially competent ways and to challenges of a technical nature when competing against the rule system, even though this rule system is visually and narratively recognizable in terms of combat narratives. From a member's point of view, the displayed understandings and skills are common sense while from a researcher's point of view, those practices are often material for generalizations. On the basis of our analysis, we argue against generalizing from the collaborative or violent aspects of the studied activities beyond the gaming domain. The detailed account of what actually is learnt in the game suggests minimal underpinning for generalizing the displayed skills either to learning and literacies outside the game or to acts of violence. At most, the account potentially makes possible generalizations about ‘aggro management’ practices and knowledge development when these are made within the gaming domain.

KNOWING THE WAY

Published as Bennerstedt, U., & Ivarsson, J. (2010). Knowing the Way. Managing epistemic topologies in virtual game worlds. *Computer Supported Cooperative Work (CSCW). An International Journal*, 19(2), 201-230.

Can studies of interaction in online game worlds teach us anything new about how humans coordinate actions? And furthermore, is there anything to be *learnt in general*, or only *specifically* in relation to computer-supported aspects of collaboration?

These two questions were our point of departure in our investigation of interaction among PUGs in *The Lord of The Rings Online*.

In contrast to earlier studies of interaction in online games and virtual environments, in this study we do not adopt face-to-face interaction in everyday settings as the baseline for assessing the behavior of members of LOTRO. Studies taking face-to-face interaction as the primer to analyze virtual environments often make claims that the interaction is in some sense flawed and impoverished due to a lack of interaction cues, and thereby in need of improvement. Although we do not argue against refinements and adjustments of computer-supported communicative means, we seek to explore how gamers actually accomplish *gaming together* despite such apparent interactional deprivation. We do so by focusing on the issue of sequentiality and without restricting the interaction resources to verbal actions or actions tied to the socially living body. Instead, we include in our analysis the methods and resources that members employ, and have learnt to employ, in order to achieve smooth gaming interaction.

As in the first study, video data from LOTRO are used as material for specifying how gamers sequentially produce and recognize virtual actions. However, instead of scrutinizing some practices for the management of boss encounters, this study examines some practices for the management of activities *before* or *between* boss encounters. With the EM-informed approach adopted, we gained access to a number of methodic practices and activities that PUG members rely on in order to monitor other members' conduct. The study explores and documents the ways that the visual behaviors of the player characters can be used as a methodological resource when investigating practices of cooperative gameplay. In the PUGs studied, the members have either one or several gameplay-related tasks assigned to them (for instance 'collect a number of items', 'kill a number of boars', 'protect x on his journey to y', 'defeat z (boss)').

Our analysis is organized around a collection of excerpts illustrating some skillful methods for achieving 'gaming together'. The analysis shows that team members engage in interactional work to sustain a close-knit group when managing a range of 'troubles' in different activities during their gaming sessions. The activities, or activity types, focused on are recurrent in the empirical material. The first activity we examined is 'grouping', which refers to an activity centered on coordinating the PUG together in a particular spot in the gameworld and keeping the players active so that the gaming session can be initiated. A second activity was that of 'moving about', this refers to all forms of travelling by the group with their avatars or horses. The third activity, 'fighting', is something that the groups recurrently

engaged in during their gaming sessions; at times this activity was engaged in an organized way and at other times the groups for a number of reasons were attacked by enemies. Lastly, the activity of 'waiting' refers to both waiting for a member's avatar that needs to regain power or health, but also on members that takes a break and leave the computer. The analysis also highlights *shifts* between the different activity types.

It is shown that central for the members conduct is the interactional work and achievement of *sticking together* as well as *fighting together*. The ways the members manage shifting between these two at times opposed activities can be, for example, re-positionings of the character in the fictional terrain that indicate shifts from one activity to another. One excerpt shows how members organize the initiation of combat through the (virtual) embodied work of setting a trap. In another example, it is described how the activity of jumping around with the character displays for the team members that although the member is waiting, s/he is still present and ready to take action. In a third example, it is demonstrated that a competent gamer can recognize non-verbal sequences of actions as displays for avoiding combat and instead requests to continue the activity of moving about as a tightly organized group.

By investigating such episodes, this study brings to fore the pervasive existence of non-verbal interaction cues when gaming together. In the different episodes, it is shown that the members' *adaptability* to gameplay conduct is grounded in their ability to *project* what happens next. Thus, gamers are expected to see at a glance what team members are *doing*. Moreover, they are expected to skillfully project what co-players' actions will result in, i.e. co-players' intentions in future actions (such as an initiation of a fight or avoidance of fight). In other words, the study shows that teams of strangers in LOTRO trust that members can master a range of basic activities, recognize shifts between activities and orchestrate role-bound action packages by means of entirely different materials than linguistic information or actions stemming from the socially present body. Consequently, the study of LOTRO members' adaptability and projectability provides detailed accounts of members' skillful reasoning and knowledge.

A conclusion drawn from the analysis is that members' action potentials are not only shaped by the interactive and rule-based structure of the game, but also by the social organization of members' cooperation. Moreover, it is argued that members are able to recognize the interactive resources and action sequences because they are part of an established practice. In other words, the development of the members' social and communicative competences is directly related to the *permanence* and

stability of the design and arrangement of the gaming technology and gameplay activities.

The study concludes with a discussion of the ways in which the interactional skills and work can be expanded beyond the gaming domain. In terms of generalization, the study contributes to previous research on how humans coordinate actions by arguing that the *phenomenon of projection* should be possible to study and design through the reconfiguration of hypothetically any material, as long as the methods and resources are *common aspects of an established practice*. Nevertheless, although the phenomenon of projection is a general topic, the social skills displayed in the study are not generalizable to other situations, as in Study 1, as they are tied to the local practices of the game.

ASSESSING PLAYABLE DEMOS

Submitted as Bennerstedt, U. Assessing playable demos:
Professionals' jury work in educational practice.

Everyone who plays a game is also evaluating its quality. Nevertheless, there are differences in how game assessments are carried out that sets gamers and fans apart from game scholars and game developers. In the final study, I investigate the criteria of assessments by which professionals make judgments about games and gaming in educational practice. Based on video-recordings at a vocational game education school in Sweden, the study examines how professional game developers evaluate students' playable demos, furnish feedback and decide on what constitutes a winning demo. By focusing on the work conducted in private deliberations, the aim is to investigate professionals' domain-specific reasoning on which they ground their judgments within an educational practice.

With an interest in how assessment work is done, I explore the professionals' practical reasoning regarding what counts as high and low quality. In order to gain an insight into the practical reasoning exhibited by the professionals, I adopt an ethnomethodologically informed approach in the analysis of professionals' assessment work. Three questions guide the study: "How are strong and weak demos, respectively, distinguished?", "What properties of the slices are referenced when making such judgments?", and "How is a winning slice demarcated from other slices?" The analysis in part focuses on the ways in which the assessment work are

managed, but mainly addressing topics and matters that the professionals discussed during their private deliberations.

The assessment day started with the head teacher welcoming the audience and, among other things, stating that the jury would assess the games by considering three fixed criteria: gameplay, graphics, and presentation. Thereafter the students, who had worked in cross-functional teams for seven weeks, presented five game demos in a number of game genres in front of the jury and audience. Next, the jury had about 20 minutes to play the games individually in a secluded room. Subsequently, the jury members jointly evaluated each demo and decided on the contribution that was regarded as the winner. The day ended with the jury presenting their feedback on stage and declaring the winner.

In the analysis, it is described how the jury organizes their deliberations so as to both decide on a winning demo and to furnish feedback to each group. As a consequence of the institutional siting, the professionals are faced with the challenge of adopting the criteria-based approach when ranking and grading the demos. Moreover, there is no documentation that defines what the fixed criteria refer to, but it is assumed by the teacher that both jury and audience can work this out by themselves. However, the analysis illustrates that the three criteria are employed as a means to organize the 'rounds' where each jury member articulates his understanding and judgment of the particular demo being discussed. During these rounds, the jury members bring up a range of matters by including additional criteria and standards when teasing out qualities and problems with each particular demo. The analysis elaborates on four themes that address different matters of judgment observed in the jury members' work.

The first theme illustrates that a recurrent question of judgment when communicating their assessments was by focusing on discrepancies between player and audience experience. More specifically, they contrasted what the students promised and demonstrated on stage with how they themselves experienced the demo during their playtest session. The second theme addresses the ways the jury compares initial game concepts with the technical and artistic implementation of the concepts resulting in demos. A third theme focuses on the relationship between gameplay and narratives in terms of how various phenomena, such as graphics, sound and narratives can support gameplay interaction. This is illustrated by the ways the jury points to problems with some of the demos in the horror-puzzle hybrid genre that do not adhere to conventionalized ways of how story and graphics should support gameplay. When articulating the problems with a particular horror-puzzle demo, it is accused of lacking gameplay priority and is instead seen

as a nice looking 3D movie following the conventions of a famous moviemaker. Lastly, a fourth point of departure adopted in their assessment work relates to how the professionals account for the winning slice by distinguishing between best demo here-and-now and demos with potential over a longer development cycle.

This study ends with a discussion of the conditions and the assessments space in which the professionals classify the demos. The study discusses the ways in which the educational practice has similarities with and differs from existing game competitions, such as so-called game awards and game jams. A conclusion drawn from this comparison is that game assessments in an educational setting create a tension between the institutional emphasis on feedback and game competitions' focus on ranking games by taking existing games as their reference point. However, the analysis shows that the jury adopts the institutional expectations with respect to feedback and the fixed criteria as the criteria is open-ended and it is up to the jury members to specify what are relevant questions of judgment. More specifically, even if they discover problems and qualities with the slices by taking the fixed criteria as starting point, they furnish feedback and make decisions by drawing on a range of established standards and matters of relevance. This shows that the body of knowledge the jury draws on to grade and sort the demos builds on established conventions of what counts as a digital game and what counts as high quality with respect to digital games under development. The study shows that assessments of demos are formed by considering the ways gameplay matters are communicated on stage and can be perceived in future development. Although the students' demonstrate expertise in gaming, it becomes evident that the jury finds gaps in their presentations and demos with respect to an array of interactional, visual, technical, narrative and discursive matters. Furthermore, the ways the jury displays a mutual understanding of the relation between gameplay and fiction also shows that for them games as objects of analysis have established autonomy from traditional media. In other words, the study uncovers some ways that professionals, who are both gamers and developers, mutually orient towards established game standards and genre conventions to identify and elaborate on what a game should look and feel like. The study provide insights into the question of how games become what they 'are' and the ways this question relates to judging games-in-development in terms of technical and artistic artifacts that should support gameplay experiences.

CHAPTER EIGHT

Discussion

The overarching aim of this thesis has been to explore emerging forms of *knowledge embedded in practices in and around digital games*. This general interest was broken down into three interrelated themes; *transfer of learning with respect to games and gaming*, gamers' and game developers' *agency with respect to digital game worlds*, and *the institutionalization of game development*. In relation to these themes, three research questions were formulated:

- What skills do gamers develop and in what ways can such descriptions inform the discussion about transfer?
- What are the relationships between online games as designed environments and the practices through which action is coordinated?
- What are the central criteria used for the assessment of games in development?

My approach to address the overarching aim of the thesis, thus, has been to emphasise a set of interrelated themes that target games, gaming, and game development from somewhat different perspectives. By bridging the research fields of game studies and interaction studies with educational research, the thesis elaborates on the relationship between game-related practices and the development of knowledge, and how this body of knowledge is advancing. The point of departure for the

exploration in this thesis has been to *empirically* investigate gamers' and game developers' understandings and concerns as interesting phenomena in their own right.

In this final chapter, I address the implications of my findings in relation to each of my three themes. At the end, I will make some concluding remarks about the study as a whole. The first theme and the related results are about the transfer of *knowledge*. This is discussed in relation to the ongoing educational debate about leisure games and learning. The second theme is about the *knowledge* relied on when coordinating gameplay. This is discussed in relation to the conversation about systematic empirical studies of gaming, coordination practices and designed online game environments. The third theme is about the *knowledge* relevant for assessing games. This is discussed in relation to issues regarding professionalization and institutionalization of game practices. It should be noted that while the three themes overall are related to one specific study, there are overlapping findings and implications, i.e. I draw on all the studies when I discuss my three themes.

Games, learning and transfer of knowledge

A vast body of literature presents either great hope or great despair when it comes to considering the role of digital games in the 21st century in promoting learning. In the thesis, these approaches are described as dominant in discussions about games. At the heart of these ideas lies the assumption that game-related activities develop (positive and negative) skills, behaviors, and knowledge that *transfer across situations, beyond the games*. In this thesis, I have on a number of occasions pointed to and problematized the assumptions underlying such ideas. Approaches that link game-related knowledge to other knowledge domains rest on specific transfer ideas that can be questioned. The results in studies 1 and 2 show that the knowledge that it takes to handle game-related tasks is utterly specific and local, which *per se* raises questions about ideas about transfer *from* the gaming domain. The results of study 3 suggest that knowledge about other forms of media is not always useful when assessing games. This problematizes ideas about transfer *to* the gaming domain. This could be read as if I was saying that gamers never learn anything 'useful', which is not the case. To counteract such an interpretation, let me give an example illustrating knowledge development.

The example illustrates a sociocultural approach to learning where a central argument is that a consequence of participating in a social arena is that participants adapt to the behaviors and ways of reasoning that are relevant for a particular com-

munity of practice. When gamers from Sweden or other countries with minority languages engage in online games, such as *The Lord of the Rings Online*, they are required to take part in a social arena where the lingua franca is English. As a consequence of participating in this arena, they develop their proficiency in English, and this is clearly something that they can make use of in situations outside the game. Accordingly, it is possible to come to the conclusion that gamers engage in second-language acquisition and learning during leisure gaming.

However, the example can also be used to unpack some of the rhetoric about games and learning. What is often overlooked when describing gamers' participation in this way is that gaming is not necessarily more 'efficient' than other forms of language learning when considering the *time and commitment invested*. There is also a risk that by studying the relation between language learning and gaming, the analysis neglects what gamers actually do in terms of expert technology use (Reeves, et al., 2009). These lines of reasoning draw our attention to issues that make us disregard the fundamental knowledge that gamers develop in order to be able to participate in game worlds *in the first place*.

When the "issue of 'games and learning' is raised, there is a tendency to focus solely on the relationship between games and classrooms" (Steinkuehler, 2008, p. 18), but increasingly the focus is on the relationship between leisure games and the wider world. Instead of addressing how learning 'products' transfer from gaming to schooling, the question in contemporary studies of games and learning is about how leisure gaming may transfer knowledge to other situations (see Figure 2, chapter two). However, as a consequence of leaving situation A ('leisure gaming') and situation B ('wider world' or 'workplace') somewhat unspecified, I argue that boundary crossings outside the gaming domain are taken for granted while boundary crossings within the domain, such as between leisure gaming and the gaming industry, are neglected. Whereas the first boundary crossing addresses general forms of knowledge, the latter boundary crossing is a result of gamers' development of a sense of belonging and identity in the 'wider world' that is somehow grounded in knowledge with respect to digital games and gaming.

Packer (2001) argues that the sociocultural critique of transfer research is about a clash of different views on the meaning of schooling and its relation to the wider world. In a similar way, I would like to frame the discussions about gaming and transfer ideas as a clash between different views on the significance of gaming and its relation to other activities. Accounts of negative effects are indirectly a critique of our society of today and projections on what society will be like in the future. On the other side of this argument, in positive accounts of gaming effects, there

is a preoccupation with how digital games can be linked to positive skills and elements in both present and future societies. However, when using digital games to launch explicit or implicit critique or to formulate anticipations regarding *society at large*, it is problematic to make one cultural form accountable for ‘destroying’ or ‘rescuing’ society.³⁹ Instead, I would argue that these concerns lie beyond the issue of digital games. Embedded in these discussions are concerns that the domain of gaming makes *other* domains invisible and that other social arenas fail to connect with youth and people in general.

What is striking when comparing the prevailing accounts of games and learning with the empirical studies of gamers’ and game developers’ understandings is their respective objects of knowledge (cf. Goodwin, 1994). In the former, what *counts* as knowledge is defined by the researchers as *something* that is relevant to ‘other’ domains. In the latter case, relevant forms of knowledge and learning are endogenous to the domain of digital games. This is clearly observable when considering the early stages of the formation of institutionalized transmission and assessment of game-related knowledge in Study 3. The study shows how professional game developers assess and rank students’ not-yet-finished-games by means of a number of criteria and standards. The criteria and standards make visible a body of expertise that is taken for granted and well known to them. It also becomes evident that in the time-restricted evaluation process, the professionals draw on conventionalized game genre contents and standards on the game market to account for their decisions.

It is remarkable that in discussions about games and learning adopting transfer ideas without considering the problems that transfer research has encountered with the concept is widely accepted. Especially since transfer scholars themselves have come to the conclusion that transfer is difficult to prove. At the core of the criticism of dominant approaches is thus a critique of the ways they adopt ‘tunnel vision’ with respect to knowledge development and knowledge descriptions. In studies of digital games, research questions and hypotheses are posed, against

39 It is problematic to place such responsibility on digital games as they are designed to facilitate ludic pursuits in fictional worlds with the ambition of producing interesting activities in their own ways and on their own terms. If there are other ambitions, the software products are also called something else, such as educational technology, persuasive games, and serious games. Still, digital games may be accused of diverting our attention from real-world problems – but this is something that all leisure activities risk, even the activity of reading books. A related dilemma is the question of how much time we can spend on a particular activity in our ‘spare time’ before other activities, needs and obligations begin to suffer. In relation to gaming, there is no general answer to this dilemma as it, among other things, depends on the individual gamer’s situation. Still, by gaining insights into the mechanisms that increase the time invested in particular games, the more tools for dealing with issues involving high consumption and problematic usage we have (cf. Linderoth & Bennerstedt, 2007).

which phenomena related to gaming are contrasted and measured. Although all research to some degree is informed by the researchers' understandings of the domain studied, there are differences in how these understandings structure the way the research is performed and the outcome of the research. A researcher studying media effects (e.g. aggression, war propaganda etc.) and literacy learning will to some degree focus on parts of the scrutinized domain that can be used as evidence of the 'searched for' learning outcome, i.e. its 'transfer effect'. For instance, studies incorporate in their research designs constructs such as gaming literacies (see chapter 2) and models such as the General Aggression Model (cf. DeLisi, Vaughn, Gentile, Anderson, & Shook, 2013). Hence, in many cases researchers use preconceived ideas about games as a backdrop for conducting studies of digital games.

In the study *How gamers manage aggression*, the point of departure is a public debate. However, what we also did was that we accounted for the members' understanding of gaming conduct and described in detail the established collaborative gaming practice that MMOG gamers refer to as "aggro management". It is shown that the gamers have developed highly specialized forms of knowledge as a result of the technical nature of the game. The examples provide insights into their developed skills with respect to *techniques and methods for dealing with enemies* (managing invisible 'aggro zones' and utilizing structures in the designed environment, such as walls) as displayed in *language* (such as 'adds', 'mobs'), non-verbal *practices* (such as 'boosting', 'pulling') and *social skills* (in terms of rights and responsibilities with respect to the assigned roles that are in part structured by the ludic structures of the game). On the basis of these findings, we problematize ideas that gamers learn general forms of collaboration or aggression outside the gaming domain. More specifically, our account provides access to a form of knowledge that differs significantly compared to ideas conceptualized in the somewhat abstract concepts "aggression" and "collaboration".

Although we do not investigate how the displayed proficiencies will carry over to the world outside the gameworld, the study directs attention to the ways metaphorical concepts are employed as matters of fact regarding the question of transfer. This argument holds despite taking into account the fact that the study investigates a fully fiction-based genre and nonfiction-based genres with some descriptive or historical realism, for instance, the game genre 'first-person shooters', that studies of aggression normally focus on.

My main argument is a critique that studies do not make explicit their theoretical positions with respect to the question of transfer. In other words, they do not account for how such connections may be realized. In one of the few studies that

attempts to investigate aspects of how such connections may be realized, Ortiz de Gortari, Aronsson and Griffiths (2011) explore the ways in which gaming experiences become associated with situations beyond the games themselves. By interviewing gamers about when and how skills, knowledge and behavior related to the games they play are manifested in other situations, this study provides glimpses into how gamers' local and situated learning sometimes becomes intentionally and unintentionally relevant phenomena outside games.

In the two studies of gaming (studies 1 and 2), a central topic and argument is thus a *caution against generalizations*. This caution stems from insights into how dominant approaches create theoretical frameworks, constructs and conclusions that make it unclear what is actually learnt in a particular practice, and they therefore pave the way for somewhat abstract discussions about digital games. In other words, when the ambition is to provide generalizable theories it means that the researcher is forced to construct abstractions. For instance, a modern and general form of transfer is produced when connecting the notion of literacy with game-related practices. I argue, throughout the thesis, that generalizations of game-related activities increase the likelihood that we risk drawing on assumptions in our discussions about digital games that are problematic since they rest on *non-substantiated accounts of how and what gamers learn*. Although abstractions do not have to be a problem, there is, I argue, a high risk of them being employed in rather unpredictable manners. As a way to maintain control over the descriptions of knowledge that the gamers have developed, the individual studies attempt to stay close to the understandings of gamers in their everyday gaming conduct. As such, the adopted middle-ground approach does not easily lend itself to sweeping statements with respect to games and learning.

The knowledge for coordinating actions in games

[...] bridge players do not respond to each other's actions as behavioral events. They do not treat the fact that the other player withdraws a card from his hand and places it on the table as the event "putting down a pasteboard" or "effecting a translation of position of a card," but rather through the translation of the card's position the player signalizes that "he has played the ace of spades as the first card of the trick." From the player's point of view the question "What can happen?" is for him correctly decided in terms of these rules. (Garfinkel, 1963, p. 7)

In this description of bridge players, Garfinkel describes how a game played in the same location has a local social order. In the example, certain actions are relevant for the participants' co-construction of gaming. Still, bridge comes in a number of variations, such as contract bridge, duplicate bridge, rubber bridge, in which competent bridge players recognize and sustain different rules for action, or as Goffman (1961) puts it, 'rules of irrelevance'. Describing these rules for action from the point of view of players around a table engaging in a game of bridge is rather the opposite of making abstract and general accounts of the nature of knowledge.

Gaming together in the 21st century is increasingly done online. For instance, playing bridge *online* has been possible for many years, where the rules of the game are intact but the ways in which the social order is managed differs. However, new forms of gaming together have emerged and have required that gamers develop new forms of interactional and communicative competences around gameplay matters. In line with Dourish, Adler, Bellotti, & Henderson's (1996) early study of media space environments, I did not adopt "face-to-face communication" (p. 34) or "the impact of communication technologies on verbal conduct" (p. 35) as the baseline for *evaluating* online gaming communication in studies 1 and 2. Instead, the point of departure was to study understandings and skills that gamers had developed as a result of long-term engagement in the online game.

In study 2, *Knowing the Way*, the object of analysis was the sociology of gameplay interaction, communication and collaboration in LOTRO. By exploring a number of established practices and explicating the interactional work of gaming together, the study showed that the members competently produced and sustained a range of practices as well as coordinated shifts between different activities. The study goes into the particulars of how members of LOTRO competently recognize and adapt to visual interactional phenomena displayed on the screen. The analysis ventured into the particulars of how to best take on a small group of enemies, how the activity of 'waiting' should be publicly displayed in an online game, and how 'travelling' in the gameworld is organized. It is possible to discuss the displays of competence in ways that we have tried to capture in the title *Knowing the Way*. The displays should literally be understood as knowing how to get to a specific place in the gameworld. Any gamer possessing this information can also assume leadership and thereby mark their competence. At the core of our analysis, *Knowing the Way* can be understood as knowing how to make sense of other gamers in-game actions. Only by being able to *recognize* certain actions, as precursors to unfolding events, will the individual gamer be able to build his/her own subsequent actions, in line with the projected structure, without being *told*

how. The study shows that the relations between the designed environment and the developed practices of player coordination only makes sense as a whole, i.e. the meaning of an action is deeply embedded in the gamers' shared understanding and knowledge of the game.

In order to somewhat expand the results from Knowing the Way, the Confucian concept "Dao," whose meaning incorporates those of "method" and "principle", can be taken as a point of departure. A classic Daoist text is *The Art of War* (Cleary, 1988), attributed to the legendary Chinese general, Sun Tzu. This is one of the oldest military treatises in the world, nevertheless, its teachings are applicable to, and resonates with, the practices observed in contemporary MMOGs. Members of MMOGs negotiate strategic courses of action, such as leaving combat scenes and avoiding or initiating fights, when traveling with their characters in the game terrain. *The Art of War* offers thought material that in many ways pinpoints relevant considerations constitutive of the gameplay conduct. For example, "When you know others, then you are able to attack them. When you know yourself, you are able to protect yourself" (Zhang Yu, from Tzu, p. 83), or "Those who know when to fight and when not to fight are victorious." (Master Sun, from Tzu, pp. 80-81). The last sentence can be seen in relation to the example in Study II, where it is shown that members expect of co-members that they are able to recognize when other members intend to engage in combat through the laying of a trap and when to avoid combat through various non-verbal displays and instead request that the group move about. In this way, the particular practices, e.g. pulling, boss fights, boosting, and aggro management, are described in terms of skillful combat strategies tied to a particular digital game genre.

It should be stressed in relation to my thesis that by referring to gaming practices in terms of Daoism expressions, there is a risk that this is understood as evidence that the members of LOTRO learn general forms of warfare interaction applicable to situations outside the game. A central argument in the studies of online gaming is that members' displays of knowledge are not only locally tied to the game but genre-specific with respect to *gameplay matters*. Gameplay refers to gaming activities in general, i.e. activities that gamers engage in and that partially originate from the design of a game. Following this argument, these skills and practices can potentially be generalizable across games in the same genre, i.e. to other massively multiplayer online games. In other words, these interactional and communicative competences that the members display are based on familiarity with the practices and conventions of MMOGs as well as with game-specific features of LOTRO (cf. Bartle, 2011).

On the whole, studies 1 and 2 direct attention to the idea that the development of social and interactional competences in online gaming is tied to the stability of a particular game's gameplay practices. More specifically, the studies make visible how long-term engagement with online games results in the development of novel human behavior tailored to the nature of gameplay, which in part are structured by the design of the game, as long as the gameplay practices remain stable for some time. Hence, they illustrate that over time human practices and communication with respect to game artifacts become stabilized.

The professional knowledge about games

In terms of professionalization, I have argued that digital games have similarities with developments within other entertainment media and software industries with respect to work, research and education. For instance, the occupations in the gaming industry and the game research field have become specialized, and knowledge transmission and assessment of games as subject matter have become institutionalized. Instead of outlining one-sided accounts of these professionalization processes in terms of "good" and "bad", I have attempted to describe under what conditions games are developed and assessed.

In terms of culture, Kirkpatrick (2012) describe digital games as 'restless'. This restlessness is said to stem from the fact that games can be positioned between a series of dichotomizing poles, such as (analog and digital) games and computer software, gameplay and stories, gameplay and graphics, etc. Accordingly, digital games attain an ambiguous status in relation to other entertainment and software products and activities. One debate that illustrates some unsettled ideas and expectations with regard to games is the question of whether games are a medium or not. Whereas some researchers argue that digital games cannot be discussed in terms of medium but instead as particular entertainment software or ludonarrative work that includes a number of media (such as movie clips, audio, text) (cf. Aarseth, 2012; Juul, 2005), others refer to digital games as a subdomain of the umbrella concept of digital medium (Murray, 1997, 2012). In the first account, the interest is in games as interesting phenomena in their own right, while in the second account games are analyzed for other reasons, such as comparing games with traditional storytelling media (Murray, 1997) or using game design to inform interaction design in general (Murray, 2012). In a way, the problem seems to be about finding a concept that is inclusive enough with respect to the trajectory of

digital games, such as analog games, computers and traditional media, yet still establishes *autonomy* from these historic roots. The results of study 3 in this thesis agree to some degree with the idea of games as hard to grasp, and the study illustrates how the restlessness about games is a part of the professional practice of assessing game design in students' work. As illustrated in the examples, the students are held accountable for acknowledging and managing a number of conventions and standards when presenting and demonstrating game demos.

According to Hung (2011), this is also an issue for consumers who only recognize established designs and genre conventions as potentials for particular practices:

The existence of genre conventions has both benefits and drawbacks. On the one hand, these conventions allow games to be recognized as members of a genre, so that players who buy, for example, a first-person shooter knows ahead of time what type of interaction and content the game would contain before playing it. On the other hand, once genres stabilize, they can become somewhat resistant to change. (Hung, 2011, p. 60)

Members of the gaming community expect particular game genres to afford particular forms of *gameplay* activities. In the thesis, a number of established designs of gameplay have been described, such as 'boss monster' (cf. Björk & Holopainen, 2004), and game students' use of hybrid genres for describing their demos (e.g. rhythm, platform, open-world, puzzle, horror, adventure). In the studies of gaming, it is observed that adaptability to, and projectability of, gameplay activities are fundamental.

On the basis of the individual studies, I see it as possible to make a modest formulation of what I refer to as a *grammar of games*. By this I mean some basic elements of the domain's knowledge and skills. The three studies together with the background chapters touch upon the ways short and long-term engagement with particular games alter *the level of control* in terms of knowledge and skill development. For example, the studies of gaming illustrate some ways in which a game's permanence and stability shift the knowledge advantage from producers to consumers as the latter learn how to manage the game over time, developing practices that go beyond producers' intentions and imaginations. Study 3 provides another perspective on the relationship between designed environment and gaming practice. The professional jury approaches the demos as both consumers and producers when they unpack games-in-development and the gaming activities they evoke. Whereas the students have developed a rather refined competence in controlling their demos and as a result manage to demonstrate them in rather

selling ways, the jury encounters a number of discrepancies between the students' demonstrations and their own gaming involvement restricted to 20 minutes per demo. As one jury member comments on such a discrepancy: "the controls were quite bad [...] it was really hard to control..." The discrepancies between how the experience of gaming is demonstrated on-stage with how the jury themselves experienced the engagement with a demo could be understood in terms of being in control or out of control.

The notion of control can be further elaborated on in terms of ludic and narrative control. In the studies of gaming in LOTRO, the gamers orient towards the ludic content while the fictional setting is the stage where the ludic engagements are played out. In the study of game assessment, the jury brings the relationship between ludic and narrative content to the fore as a particular criterion of assessment. It becomes obvious that the jury members explore the demos as software programs that are to produce activities recognizable as forms of gameplay. It is illustrated that the quality of gameplay is the core object of analysis for the professionals when assessing the game, even though graphics, sound, story, etc. are included as these modes can enhance the gameplay experience. The jury members furnished critical and normative assessments by considering the relationships between gameplay and other phenomena. In their assessment of one of the game demos, the visual graphics as designed environment is referred to as "really nice" in itself, while at the same time also contributing positively to the gameplay experience whereas in a demo in the horror genre, the jury argues that it is organized in ways that make it recognizable as a film. One member argues that he has seen this problem before and that it is about a discrepancy between gameplay and story. He claims that gameplay has not been given priority and as such, game assessment criteria are not applicable. Instead, the jury member shifts the object of evaluation to 'film', and the criterion to 'narratives' and the sequentially organized experience is assessed positively in terms of "crazy camera shots" sharing similarities with a famous filmmaker. In a way, the demo in the horror genre can be said to fail to convey an adequate illusory agency (MacCallum-Stewart & Parsler, 2007).

To sum up, study 3 illustrates how game developers *in situ* consider the relationship between gameplay design and gaming interaction and explicate and communicate the somewhat elusive phenomena of gameplay. They employ criteria for assessing this relation with respect to a range of matters, such as game concept, development phase, technological, artistic, and narratological implementation. The examples illustrate that the professionals rely on a shared understanding with respect to an emerging body of 'standards' as regards gameplay matters.

Concluding remarks

A central line of reasoning in this thesis is that the *knowledge embedded in practices in and around digital games* is becoming a knowledge domain in its own right and that this domain is constantly advancing. What also becomes evident in the thesis is the ways in which normative perspectives underlie many of the discussions pertaining to digital games. When describing the gaming domain from a member's perspective, the area of knowledge described differs from dominant conceptualizations of games and learning. A consequence of this is that for outsiders, the forms of knowledge accounted for are difficult to understand, a remark, however, that is not unique to gaming but characterizes all specialized practices. This thesis outlines a non-normative approach to digital games that moves beyond dichotomized poles in terms of good and bad. As such, it is possible to get fairly concrete examples of, and insights into, the ways in which games and gaming are embedded in everyday practices and reasoning among gamers and game developers. The specialized practices investigated in the thesis provide insights into the knowledge and skills fundamental for playing, developing, and assessing games of today. Instead of relying on metaphorical abstractions, the empirical studies specify how participants in game-related practices come to organize their activities and how they understand their engagements and the game worlds themselves. The thesis paints a picture of the grammar of games as both rigid (stable in terms of rule-bound and genre-bound) and elastic (instable in terms of emerging rules and practices). This multistable nature obliges its members to continuously refine skills and practices in order to be in control. The expert knowledge describes cultivated ways of projecting, recognizing and adapting to practices and conventions with respect to gameplay matters. To conclude, the gaming domain establishes autonomy from other cultural forms within the entertainment and software sector as a result of the ways games and gaming as an object of knowledge have become deeply rooted in society.

CHAPTER NINE

Swedish summary

KUNSKAP GENOM SPELANDE

Studier av digitala spel och spelande som kunskapsdomän

Introduktion

Det övergripande intresset i avhandlingen är att söka svar på frågan: vad kan man lära sig från digitala spel? Avhandlingen har sin utgångspunkt i aktuella diskussioner om hur, var och vad spelare lär sig. Fokus är på den framväxande kunskapsmassa som är inbäddad i praktiker i och omkring spel. Mer specifikt avser jag att synliggöra delar av den kunskap som är relevant för spelare och spelutvecklare.

Digitala spel, d.v.s. spel som spelas via skärmar som datorer, TV-apparater eller bärbara enheter, har blivit en betydelsefull fritidssysselsättning bland en heterogen grupp spelkonsumenter (se t.ex. Crawford, 2011; Eklund, 2012; Juul, 2010), liksom en expanderande näringslivsgren, spelbranschen (Kerr, 2006). Digitaliseringen av spel har gett upphov till ett brett utbud av spelaktiviteter, men också modifierade versioner av analoga spel och sporter. Digitala spel ses ofta som härstammande från "primitiva" förfäder, såsom brädspel, kortspel och rollspel (Williams, Hendricks, & Winkler, 2006). Flertalet av dessa analoga spel var sociala spel. Förutom att digitala spelaktiviteter har likheter med existerande analoga spel, går det även att beskriva skillnader med utgångspunkt i hur digitala spelaktiviteter och praktiker har sina egna unika egenskaper och villkor. Till exempel har nya sätt

att spela tillsammans utvecklats. Denna utveckling har i sin tur krävt att spelare utvecklar nya former av interaktionella och kommunikativa kompetenser.

Parallellt med den ökade utbredningen av digitalt spelande finns ett växande intresse av att förstå spelkulturen. Därför har forskare undersökt aspekter av spel som intressanta fenomen på sina egna villkor (t.ex. Hung, 2011; Linderoth, 2004, Peterson, 2011; Reeves, Brown, & Laurier, 2009; Sjöblom, 2011; Sudnow, 1983). Detta forskningsintresse ger tillgång till förståelser och kunskap som utvecklats bland medlemmar av spelkulturen. Jag har därför anammat detta förhållningssätt för att utforska den snabbväxande kunskapsmassa som etablerats kring spel, spelande och spelutveckling. Det här (alternativa) förhållningssättet skiljer sig från andra mer framträdande perspektiv och ställningstaganden kring spel och lärande, vilket utvecklas vidare under frågan om transfer nedan.

Den första delen av avhandlingen redogör för besläktade diskussioner i utbildningsvetenskap, interaktionsstudier och spelvetenskap. Tre olika teman har utmejslats mot bakgrund av dessa diskussioner. Förutom frågan om transfer beskrivs hur spel positioneras i ett tillstånd av rastlöshet, eller snarare multistabilitet, av spelare, spelutvecklare och andra aktörer. Slutligen adresseras spelandedomänens professionalisering och hur den utvecklingen har resulterat i en institutionalisering av kunskapstradering.

Den andra delen består av empiriska studier i och omkring digitala spel.

Bakgrund

I forskning om nya medier, teknik och lärande har ett centralt intresse varit spridningen – transfer – av kunskap bortom de digitala medierna själva (Crook, 1994; Papert, 1980). Även i den offentliga debatten har frågan om transfer varit en central utgångspunkt för att förstå nya former av medier, där digitala spel ses som särskilt intressanta. Denna diskussion bygger på motstridiga förväntningar kring spel som medium och vad spelare lär sig, samt hur spel påverkar barn och ungdomar.

Frågor om hur kunskap från en situation kan föras över till en annan situation har under lång tid varit föremål för forskning. Forskare har studerat och diskuterat transfer av lärande mellan uppgifter i skolan eller i experimentsituationer (Judd, 1908; Thorndike, 1913), mellan skolan och arbetsplatsen eller omvärlden (Beach, 1999; Billett, 1998; Packer, 2001; Tuomi-Gröhn & Engeström, 2003) eller mellan lekplatsen och omvärlden (jfr Sutton-Smith, 2001, s. 9ff). Samtidigt har en större mängd forskning inom sociokulturella forskningstraditioner beskrivit transfer som

problematiskt vad gäller teoretiska antaganden och begreppets metaforiska natur (Lave, 1988; Beach, 1999). Istället påpekas att transferfrågan i grunden handlar om frågan vad som räknas som lärande (Smedslund, 1953; Säljö, 2003). I diskussioner om digitala spel ignoreras dock ofta de problem som transferforskning själv redogjort för.

Forskningsområdet kring spel och simulering, idag ofta benämnt ”serious games”, har sedan 1950-talet studerat spelbaserat lärande med avseende på transfer (Avedon & Sutton-Smith, 1971; för en historisk översikt se Hung, 2011, s. 10-30). Dessa studier intresserar sig för spel som pedagogiska verktyg och deras potential att undervisa, instruera och påverka spelaren med avseende på kunskaper som är relevanta utanför den lokala spelsituationen (Abt, 1970; Ritterfeld, Cody, & Vorderer, 2009). Under senare år har det blivit allt vanligare att uttalanden görs om fritidsspelandets transfereffekter. Exempelvis tas transfer av lärande ofta för givet i diskussioner kring sambandet mellan digitala spel och aggressivitet (t.ex. Anderson et al., 2010), vilket naturligtvis ses som en oönskad effekt av spelande. Andra forskare föreslår att spelarnas engagemang i digitala spel istället resulterar i socialt accepterade och eftertraktade transfereffekter. Literacyforskare, till exempel, kopplar engagemang i digitala spel med utveckling av literacies relevanta för framtiden (t.ex. Gee, 2003; Harel Caperton, 2010; Hsu & Wang, 2009; Schrader, Lawless, & McCreery, 2009; Snyder & Beavis, 2004). I studierna av spelrelaterade literacies och färdigheter betonas den sociala dimensionen av lärande i form av kommunikation och samarbete. Exempelvis anses onlinespelande skapa en social arena där generella former av kunskap utvecklas (t.ex. Gee, 2008; Schrader et al., 2009; Schrader & McCreery, 2008; Steinkuehler, 2008). Samtidigt bygger deltagandet på tävlingsincitament och spelvärldarna skildrar ofta våld. Beroende på ståndpunkt kan onlinespel därmed kopplas till både oönskad och önskad transfer, d.v.s. i termer av aggression eller samarbete.

Den akademiska kunskapen om digitala spel och frågan om transfer är framförallt uppdelad med avseende på normativa kunskapsbeskrivningar i termer av positiva och negativa lärandeeffekter. Dock finns det forskare som inte tar transfereffekter för givet utan empiriskt studerar och problematiserar på vilka sätt kunskap i en situation kan bli relevant bortom spelsituationen, som exempelvis studier av militära utbildningsspelsaktiviteter (Alklind Taylor et al., 2012; Frank, 2012).

Det finns spelvetenskaplig litteratur som lägger frågan om transfer åt sidan och istället bidrar till att beforska kunskapsdomänen kopplad till digitala spel, spelande och spelutveckling. Även om digitala spel har funnits sedan 1950-talet har den

akademiska litteraturen om spelrelaterad kunskap till stor del tillkommit efter millennieskiftet. En mångfacetterad samling litteratur har sedan dess etablerats kring forskningsfältet spelvetenskap. Fältet kännetecknas till exempel av ontologiska studier av digitala spel (Juul, 2005), empiriska studier av spelares erfarenheter och spelkompetenser (Reeves, Brown, & Laurier, 2009; Sjöblom, 2011; Sudnow, 1983), teoretiska studier av spelutveckling och designkunskap (Björk & Holopainen, 2004; Salen & Zimmerman, 2004; Schell, 2008) och studier av relationen mellan berättelser och spel (Aarseth, 1997, 2012; Jenkins, 2004; Murray, 1997). I den spelvetenskapliga litteraturen går forskarnas åsikter isär inom ett antal områden. En fråga som ofta återkommer handlar om hur digitala spel skiljer sig från andra närliggande produkter och aktiviteter, såsom mjukvaruutveckling och underhållningsmedia. Detta har resulterat i ambivalenta argumentationslinjer där forskare positionerar digitala spel i ett antal dualistiska perspektiv: teknologi kontra medier; studiet av spel som ludiska artefakter (ludologi) kontra studiet av spel som berättelser (narratologi); barndom kontra vuxendom; konst kontra populärkultur etc. Dessa framskrivningar positionerar digitala spel i ett tillstånd av rastlöshet (Kirkpatrick, 2012). I dessa dualistiska framskrivningar är en central fråga vilka handlingsmöjligheter och begränsningar spelare, spelutvecklare och andra aktörer har vid skapandet av dagens spel och spelaktiviteter. Forskningsintresset har gått från ensidiga beskrivningar till att studera på vilka sätt spel samproduceras i en dynamisk process mellan spelare och spelutvecklare (Banks & Potts, 2010; Deuze et al., 2007; Dovey, 2007; Martin & Deuze, 2009). Spelandedomänen beskrivs även å ena sidan som föränderlig och instabil, och å andra sidan som stabil där ett stort antal spelkonventioner och praktiker har etablerats.

Det finns även forskning som mer direkt uppmärksammar hur kunskapsfältet kring digitalt spelande utvecklas genom att beskriva spelkulturen i termer av professionalisering. Den ökade användningen av begreppet professionalisering avser inte endast hur digitala spel konsumeras, såsom utvecklingen av den professionella e-sportarenan (Taylor, 2012), utan används framförallt till att beskriva förändringar i arbetet med att utveckla spel (Banks & Potts, 2010; Deuze, Martin & Allen, 2007; Köppen, Lindberg, & Meinel, 2011). När det gäller professionalisering har digitala spel likheter med utvecklingen inom andra underhållningsmedier och mjukvaruutveckling med avseende på arbete, forskning och utbildning. För att uppfylla kraven i spelbranschen och spelares förväntningar med avseende på etablerade spelpraktiker och konventioner har antalet personer som utvecklar spel kraftigt ökat (Keith, 2010). Historiskt sett har personer som arbetar i spelbranschen varit autodidakter, och spelutveckling en praktik man tar del av genom

informella sammanhang. Med en växande industri med ökade kunskapskrav kan man numera skönja en begynnande professionalisering.

En konsekvens av denna professionalisering är att den framväxande spelkulturen har resulterat i en expanderande utbildningssektor med fokus på digitala spel, spelande och spelutveckling. Spelbranschen med dess behov av kompetenta medarbetare är dock inte ensamt ansvarig för denna utveckling. Den spellivsstil som utvecklats i dagens samhälle bidrar till att fler aktörer ser det som relevant att sträva efter ett yrke med koppling till spelbranschen och spelutveckling. Sedan början av 2000-talet har utbildningsprogram inom spelutveckling och speldesign på universitet och yrkesutbildningsnivå expanderat kraftigt (Berg Marklund & Wilhelmsson, 2011; Bourdreaux, Etheridge, & Kumar, 2011; Onen, Stevens, & Collins, 2011). Även om behovet av och kvaliteten på formell utbildning har ifrågasatts (jfr Backlund, Berg Marklund, Björkvall, Sydow, & Wilhelmsson, 2011; Haukka, 2011), finns en växande mängd forskning som undersöker kunskapsutvecklingen och identitetsskapandet när spelare och fans är på väg att bli spelutvecklare (Hullett, Kurniawan, & Wardrip-Fruin, 2009; Zagal, 2010; Zagal & Bruckman, 2007, 2008, 2011). De institutionaliserade spelutbildningarna har koppling till andra utbildningsdomäner vad gäller undervisning och kunskapsträdning. Till exempel är det vanligt att bjuda in professionella från spelbranschen för att bedöma och kommentera på studenters speldemos. Detta är en form av bedömning som har en lång historisk bakgrund i designorienterad undervisningspraktik (Lymer, 2010). Den institutionella organiseringen av spelrelaterad kunskapsträdning ger en annan ingång till frågan om transfer av lärande där vår syn på vem som ska kontrollera och definiera relevanta kunskapsobjekt (Goodwin, 1994) avseende spel utmanas.

Syfte och analytiskt förhållningssätt

Det övergripande syftet med avhandlingen är att *utforska framväxande former av kunskap inbäddad i praktiker i och omkring digitala spel*. För att få tillgång till denna kunskaps-etablering har ett etnometodologiskt analytiskt förhållningssätt (Garfinkel, 1967, 2002) antagits. Därmed antas ett analytiskt förhållningssätt till frågan om digitala spel och lärande där det inte förutsätts att spel och spelande leder till utveckling av generella former av kunskap som är överföringsbara utanför spelandedomänen. Det här förhållningssättet beskrivs i avhandlingen som ”melanvägen” eftersom det inte tar utgångspunkt i normativa föreställningar om spel och lärande. Med andra ord antas det inte på förhand om spel är bra eller dåliga

utanför spelandedomänen. Med bakgrund av en etnometodologisk förståelse av kunskap som något som medlemmar i en praktik skapar och känner igen, görs ingen strikt åtskillnad mellan den kunskap som spelforskare genererar och den kunskap som exempelvis spelkonsumenter och producenter uppvisar. Båda utgör i avhandlingen kunskapsdomänen spelvetenskap. Genom att studera de sätt på vilka medlemmar av spelkulturen uppvisar, hanterar och bedömer kunskap i relation till digitala spel, avser avhandlingen att synliggöra spelares och spelutvecklares bakgrundskunskap och förförståelser.

Utifrån detta allmänna intresse har jag valt att fokusera tre besläktade tematiker. Den första handlar om den omtvistade frågan om transfer av lärande i relation till spel och lärande. Det andra temat berör spel både som designade miljöer och som sociala arenor, och på vilka sätt denna relation väcker frågor om spelares och spelutvecklares agens i relation till digitala spelvärldar samt former av interaktion mellan spelare. Det sista temat tar utgångspunkt i den tilltagande institutionalisering av spelutvecklingsutbildning och på det sätt som denna framväxt pekar på en etablering av praktiker för bedömning av spel och spelande. Givet den korta framväxten av fältet blir det intressant att undersöka vilka frågor som har etablerats och blivit centrala. Med utgångspunkt i det övergripande intresset och de framskrivna tematikerna har tre forskningsfrågor formulerats:

- 1 — Vilka färdigheter utvecklas genom spelande och på vilka sätt kan sådana beskrivningar bidra till diskussionen om transfer?
- 2 — Hur ser sambanden ut mellan onlinespel som designade miljöer och de praktiker genom vilka handling är koordinerade?
- 3 — Vilka centrala kriterier används för att bedöma och fastställa spel under utveckling?

Forskningsmiljöer och metod

För att synliggöra den kunskap som spelkulturens medlemmar har utvecklat och som de förväntar av varandra för kompetent deltagande, utforskas i tre empiriska studier i två olika miljöer spelares och spelutvecklares interaktionella, visuella och diskursiva färdigheter. Den första miljön är ett så kallat *massively multiplayer online spel* (MMOG) baserat på J.R.R. Tolkiens Sagan om ringen. I denna miljö

studeras hur spelare spelar tillsammans i onlinespelet The Lord of the Rings Online (LOTRO). Den andra miljön är en institutionell praktik vid en kvalificerad yrkeshögskoleutbildning (YH/KY) i Sverige och i fokus står professionella utvecklarens bedömningar och analyser av spelstudenters spel-under-utveckling.

För att studera spelarnas och spelutvecklarnas verbala och icke-verbala aktiviteter och handlingar, har videodata tillsammans med fältarbete använts som metoder.

Sammanfattning av artiklarna

Studie 1 – How gamers manage aggression

Denna studie ifrågasätter antagandet att engagemang i spel främjar utvecklingen av beteenden som överförs till situationer utanför själva spelen. Genom att fokusera på skickliga spelare som deltar i en grundläggande spelaktivitet undersöks den kunskap som spelare måste lära sig att behärska. Mer specifikt beskrivs ett antal etablerade praktiker baserat på videodata av spelare i grupper upp till sex personer (så kallade pick-up groups, PUGs) som möter så kallade boss-monster i LOTRO. Ett boss-monster är en mer komplicerad och tidskrävande datorstyrd fiende att övervinna.

Analysen visar att en central aspekt av sammandrabbningar med ”bossar” är att de är utformade för att utmana och störa spelarnas interna organisation som grupp. För att hantera dessa sammanstötningar, måste spelarna ta hänsyn till spelmekaniska spörsmål, så kallad gameplay. Avgörande för dessa spelaktiviteter är att medlemmarna i MMOGs kan avgöra de zoner där spelets datorstyrda monster kommer att upptäcka deras närvaro och attackera. I spelterminologi kallas dessa områden ”aggro-cirklar” vilka omger datorstyrda fiender. Dessa är osynliga områden vilka dynamiskt beräknas av spelsystemet. Att utsättas för angrepp av en datorstyrd fiende kallas att få ”aggro”, som kommer från de engelska orden ”aggravation” och ”aggression”. Praktikerna som beskrivs i artikeln refererar spelarna själva till som ”aggro-hantering”. Genom att specificera på vilket sätt spelare känner igen och producerar den sociala ordningen i sammandrabbningar med ”bossar” synliggörs spelares förståelse och kompetenser som de uppvisar för varandra under spelandet. De etablerade praktikerna illustreras i ett antal exempel som redogör för 1) hur nära en fiende som är ”säkert” att vara för att göra sig redo innan sammandrabbningen inleds, 2) när det är lämpligt att ”gå in” i sammandrabbningen med avseende på gruppmedlemmarnas funktioner i strid, 3) hur den rumsliga organisationen

av gruppen ska hanteras när flera aggro-zoner tillkommer i samband med att fler fiender framträder under sammandrabbningen, och 4) hur medlemmarna utnyttjar strukturer i spelmiljön och rumsligt finjusterar positionen av spelarens karaktär för en säker och tidseffektiv strid.

Analysen pekar på att ”aggression” och ”samarbete” är viktiga komponenter i de studerade spelaktiviteterna, men att praktikerna kopplade till dessa begrepp är lokalt bundna till spelet. Vidare diskuteras några av de förutfattade meningar som tillskrivs spelande och informellt lärande. I artikeln hävdas att för att kunna säga något om vad dessa spelvärldar kommer att lösa för pedagogiska ”problem” är det centralt att först undersöka vad spelarna gör för att redogöra för den kompetens de utvecklar genom spelande. Dessutom argumenteras för att studier som gör uttalanden om spel och lärandeeffekter utanför spelsituationen explicit måste uttrycka teoretiska antaganden om transfer.

Studie 2 – Knowing the Way

I studie 2 ställer vi frågan om studier av interaktion i virtuella världar kan lära oss något nytt om hur människan koordinerar handlingar, och är det lärande som sker av mer generell karaktär eller bara specifikt i relation till datorstött- och spel-designat samarbete. I motsats till tidigare studier av interaktion inom onlinespel tar vi inte utgångspunkt i ansikte-mot-ansikte-interaktion. Istället försöker vi visa hur spelarna åstadkommer samarbete i spelaktiviteterna genom att synliggöra deras rörelser och handlingar i spelvärlden. Studien syftar till att bidra till tidigare forskning om hur människor koordinerar handlingar. Vi antar ett etnometodologiskt influerat analytiskt synsätt för att få tillgång till de metoder och praktiker som PUG-medlemmarna använder för att hantera spelaktiviteter.

I motsats till den första studien, som fokuserade på möten med boss-monster, undersöker denna studie gruppmedlemmarnas aktiviteter och praktiker mellan sådana möten. I de studerade grupperna har medlemmarna antingen ett eller flera bestämda uppdrag (t.ex. samlar ett antal objekt, dödar ett antal fiender). Vilka uppgifter gruppen ska fokusera på har i allmänhet förhandlats i förväg. Ett interaktionellt arbete krävs av gruppmedlemmarna för att upprätthålla en sammansvetsad grupp och hantera en rad hinder och störningsmoment som uppstår under spelets gång. Till exempel omförhandlas gruppens mål och uppgifter regelbundet.

Vår analys är organiserad kring en samling excerpt vilka illustrerar några kompetenta sätt att spela tillsammans. De vanligt förekommande aktiviteterna i det empiriska materialet som beskrivs är: 1) att gruppera sig, 2) att förflytta sig som en enhetlig grupp, 3) att initiera strid på ett koordinerat sätt, 4) och att synliggöra

och koordinera väntande. Fokus i analysen är hur spelarna skiftar mellan olika aktiviteter. Ett exempel på hur sådana skiften görs är hur spelare ompositionerar karaktären i spelterrängen och på så sätt indikerar ett skifte från en aktivitet till en annan. I studien illustreras icke-verbala skiften med en beskrivning av en strid som initieras genom att en ”fälla” läggs ut. En kompetent spelare känner igen dessa sekvenser av handlingar och kan avgöra om de visar att gruppen ska initiera eller undvika strid (och istället fortsätta förflytta sig framåt i spelterrängen). Således visar studien att dessa interaktiva resurser som spelare bygger efterföljande handlingar på möjliggör analytiska undersökningar av hur spelare kan indikera nästkommande handlingar med virtuella resurser. Studien visar att i MMOGs kan grupper med främlingar skifta aktiviteter och iscensätta roller bundna till vissa spelares karaktärer med hjälp av helt andra resurser än språklig kommunikation eller handlingar som härrör från den socialt närvarande kroppen. Dessutom dras slutsatsen att utvecklingen av dessa kommunikativa kompetenser är direkt relaterad till varaktigheten och beständigheten hos spelteknologin (att spelet finns tillgänglig under en längre period) och de etablerade spelaktiviteterna (ofta refererat som *gameplay*).

Studie 3 – Assessing playable demos

I den sista studien undersöks en utbildningspraktik där spelutvecklare bedömer spelstudenters demoversioner av digitala spel. Studien utforskar på vilka sätt en inbjuden jury vid en yrkeshögskola (en YH/KY-utbildning) för spelutveckling rangordnar studenters spelbara demos. Genom att fokusera på det arbete som juryn gör är syftet att synliggöra det praktiska resonerande genom vilka professionella delger för varandra hur de gjort sina bedömningar och fattat beslut. Den studerade pedagogiska praktiken är organiserad på ett sätt som emulerar befintliga spelbedömningspraktiker (t.ex. så kallade *game awards*). Tre frågor är vägledande i studien: Hur bedöms demos som svaga respektive starka? Vilka egenskaper redogörs för när juryn ger sina bedömningar? Hur urskiljs ett vinnande bidrag från andra demos?

Bedömningsdagen började med att studenterna, som har arbetat i tvärfunktionella grupper i sju veckor, presenterar sina speldemos för den inbjudna juryn och en allmän publik. Därefter hade juryn cirka 20 minuter att spela spelen individuellt i ett avskilt rum. Därpå diskuterar juryn varje demo och beslutar om ett vinnande bidrag. Dagen avslutas med att juryn ger respons på alla demos och till sist delger det vinnande bidraget.

I analysen beskrivs att juryn under den privata överläggningen orienterar sig mot ett antal institutionella förväntningar. De organiserar sin överläggningsaktivitet

utifrån att både fatta beslut om en vinnande demo och att lämna feedback till varje grupp. Dessutom använder de en given uppsättning kriterier kopplade till den institutionella inramningen: gameplay, det visuella/grafiken och presentationen. I analysen av jurymedlemmarnas bedömningsarbete framkommer att de för att granska och poängsätta varje enskilt bidrag utgår från de fasta kriterierna men adderar andra bedömningsfrågor. Ett sätt juryn utvärderar kvaliteten på de olika spelen är att jämföra studenternas intention med spelet med hur spelet faktiskt upplevs under speltestningen. Juryn fokuserade även på relationen mellan spelidén och implementeringen av idén, förhållandet mellan gameplay och grafik, samt gameplay och berättande. Till exempel observerar juryn problem med demos som inte ansluter sig till vad de bedömer som etablerade och professionella förståelser kring relationen mellan spel och berättande. Ett sista bedömningsförhållningssätt handlade om hur de urskiljer ett vinnande bidrag genom att separera bästa demo här-och-nu från demos som har potential under en längre utvecklingscykel. Studien synliggör några av de villkor och etablerade förståelser som används för att bedöma spel- under-utveckling i en pedagogisk praktik. Resultaten diskuteras i förhållande till vilka utmaningar som existerar i att bedöma demos i förhållande till etablerade kriterier baserade på spel som finns på marknaden och andra kriterier såsom innovation och pedagogiska spel.

Diskussion

Det övergripande syftet med denna avhandling har varit att undersöka framväxande former av kunskap som medlemmar av spelkulturen uppvisar i och omkring digitala spel. För att empiriskt undersöka spelares och spelutvecklares förståelser och angelägenheter bröts syftet ned i tre relaterade teman och därefter formulerades tre forskningsfrågor. Studiernas resultat och empiriska fynd diskuteras med utgångspunkt i dessa tematiker.

Avhandlingen synliggör hur dominerande forskningsperspektiv på digitala spel utgår från rakt motsatta idéer och förväntningar. Dessa framträdande förhållningssätt tar ofta för givet att spelrelaterade aktiviteter leder till utvecklandet av positiva eller negativa kunskaper, färdigheter och beteenden som överförs till andra situationer utanför spelen. Med andra ord är det allmänt accepterat i diskussioner om spel och lärande att *anta* transferidéer utan att beakta de problem med transfer som transferforskare själva diskuterar och den kritik som frågan om transfer har fått från andra forskartraditioner.

I de empiriska studierna av fritidsspelande problematiseras föreställningar och antaganden kring spel med avseende på positiva och negativa effekter. Resultaten i studierna 1 och 2 visar att den kunskap som krävs för att hantera spelrelaterade aktiviteter är ytterst specifik och lokal, vilket i sig väcker frågor om idéer om överföring *från* spelandedomänen. Resultaten av studie 3 tyder på att kunskap om andra former av medier inte är direkt applicerbara vid design och bedömning av spel. Dessa empiriska fynd problematiserar idéer om transfer *till* spelandedomänen.

Ett centralt argument i avhandlingen är en kritik mot att studier inte explicit uttrycker sina teoretiska antaganden till frågan om transfer. Med andra ord, de redogör inte för hur sådana kopplingar kan realiseras. I de två studierna av spelande (studie 1 och 2) är ett centralt argument en *varning mot generaliseringar*. Vad gäller generaliseringsanspråk är kunskaperna som redogörs för i studie 1 och 2 lokalt knuten till det specifika spelet. Samtidigt kan delar vara potentiellt generaliserbara över spel i samma genre, d.v.s. till andra massively multiplayer onlinespel som exempelvis World of Warcraft. Denna avhandling beskriver således ett icke-normativt förhållningssätt till digitala spel som rör sig bortom de dualistiska polerna gott och ont. På det viset är det möjligt att få insikt i de sätt på vilka spel och spel är inbäddade i vardagspraktiker och resonemang.

Vad som blir slående när man jämför de positiva/negativa beskrivningarna av spel och transfer å ena sidan med den kunskap som uppvisas av medlemmar i spelkulturen å andra sidan, är synen på kunskap (Goodwin, 1994). I det förra definierar forskare vad som räknas som kunskap och lärande som företeelser utanför spelen, i det senare avses spelkulturens syn på kunskap i relation till spel. Som ett sätt att behålla kontrollen över kunskapsbeskrivningarna försöker jag i de enskilda studierna hålla mig nära spelarnas förståelser i sitt vardagsspelande. När man beskriver spelandedomänen från medlemmarnas perspektiv skiljer sig kunskapsområdet åt från dominerande föreställningar om spel och lärande. En konsekvens av detta är att för utomstående är de beskrivna kunskapsformerna svåra att förstå – en anmärkning som inte på något vis är unik för spel utan kännetecknar alla specialiserade praktiker.

Istället för att förlita sig på metaforiska abstraktioner beskriver de empiriska studierna hur deltagare i spelrelaterade praktiker organiserar aktiviteter och hur de förstår handlingar och spelvärldar. Kärnan i analysen i studie 2 handlar om spelares kompetens att förstå andra spelares handlingar i spelvärlden. Studien belyser hur handlingspotentialen i onlinespel inte bara är formad av den interaktiva och ludiska strukturen av spelet, utan även av den sociala organisationen av koordinering. Studien visar att relationerna mellan den designade spelmiljön och de utvecklade

praktikerna bara blir meningsfull i sin helhet, det vill säga innebörden av en handling är djupt inbäddad i spelares gemensamma förståelse och kunskap om spelet.

Ett centralt resonemang i denna avhandling är att kunskap som finns inbäddad i praktiker i och omkring digitala spel har blivit en egen kunskapsdomän och att denna domän ständigt avancerar. De specialiserade praktikerna som undersöktes i avhandlingen ger insikter i kunskaper och färdigheter vilka är grundläggande för att spela, utveckla och utvärdera spel. På så sätt studeras delar av den kunskapsmassa vilken inkluderar dels spel som designade miljöer och sociala arenor, dels spelande i form av praktiker och konventioner som intressanta fenomen på sina egna villkor. Något som de tre studierna till viss del synliggör är hur ett spels varaktighet och stabilitet ”rubbar” ett kunskapsövertag från spelutvecklare till spelare varefter spelare över tid lär sig att kontrollera spelet och utveckla praktiker som går utöver utvecklarnas intentioner och fantasi. De illustrerar därmed hur mänskliga praktiker och kommunikation med avseende på spelartefakter stabiliseras över tid. Studie 3 visar hur professionella spelutvecklare utgår från en delad förståelse vad gäller etablerade standarder rörande förhållandet mellan speldesign och spelande-interaktion för att kommunicera och bedöma det något svårfångade fenomenet gameplay. Expertkunskapen som beskrivs avser de sätt som medlemmar av spelkulturen har kompetens att känna igen, förutse och anpassa sig till praktiker och konventioner vad gäller gameplay.

Avhandlingen beskriver kunskapsområdet med avseende på digitala spel som både rigid (stabil i termer av regelbundna och genrebundna) och elastisk (instabil när det gäller nya regler och praktiker). Denna multistabila karaktär hos spel tvingar spelkulturens medlemmar att kontinuerligt förfina färdigheter och praktiker i syfte att uppvisa kontroll. Begreppet multistabil införs i avhandlingen för att beskriva förhållandet mellan design av spel och framväxande praktiker och konventioner. Sammanfattningsvis etablerar spelandedomänen autonomi från andra kulturella former inom underhållnings- och mjukvaruutvecklingssektorn som en följd av att spel och spelande som kunskapsobjekt har blivit djupt rotade i samhället.

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