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MUsE – a framework for reception-based gaming research

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MUse – A Framework for Reception-based Gaming Research.

Including Prototype Results for Browser-based Games

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ABSTRACT

Game studies are approached from very different faculty cultures and research perspectives. As the reception based view usually examines the process of game usage and its environment, there are still several different entries into the field. Many theoretical approaches and empirical studies concentrate on single phases or theoretical constructs of game reception. Sometimes this is done very detailed, sometimes in a more superficial way. This article delivers a more holistic model for reception based gaming research called MUse, which describes a whole cycle of game usage and also can be used in longitudinal study designs. Additionally, results of a first prototype study are presented at a glance.

Keywords

digital games, research framework, motivation, usage, evaluation

INTRODUCTION

Because of its complexity holistic reception studies in the area of digital games are hardly to realize. Nevertheless, contrary to studies which examine only one or two factors of game usage (Sherry et al. 2006, Yee 2006a and 2006b, Hartmann and Klimmt 2006, Schultheiss 2007, Bowman et al. 2011), a more integrated model for gaming research is necessary and offered in this article. Additionally, we will offer results at a glance of a prototype study on persistent browser-based games (PBBGs).

THE MUSE FRAMEWORK

Based on Heckhausen's (2010, see figure 1) motivational model, refined and operationalized with the help of media psychology and game studies we deliver a research framework: MUse, which stands for Motivation-Usage-(self)Evaluation model and is suitable for cross section and above this for longitudinal reception-based gaming research.

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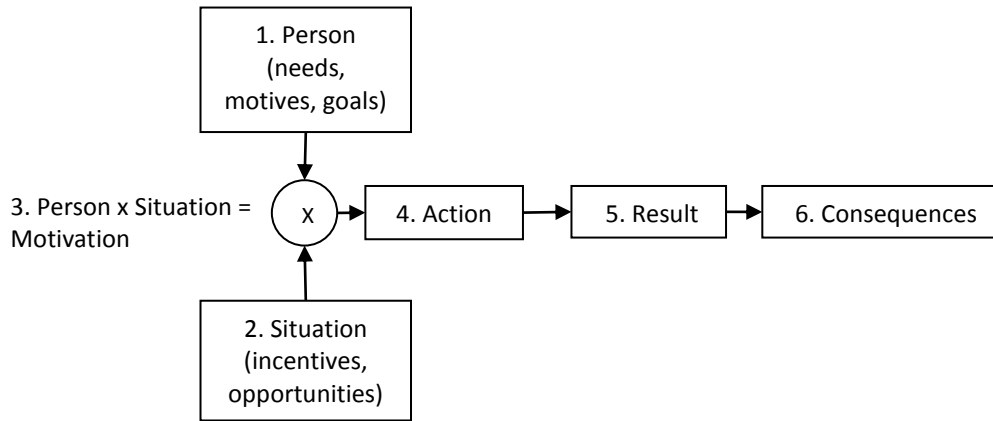


Figure 1: Motivation model by Heckhausen's (2010) Theory of Motivated Action

This model consists of five constructs to be measured in the process of game usage. At the beginning there is the construct of the person (1.). In our case we can call this person player and it can be operationalized by socio-demographical variables (age, origin, occupation, etc.) and personality traits (e.g. "Big Five", Digman 1990; "basic desires", Reiss and Havercamp 1998). A really severe factor in this model is the situation (2.) as it is multi-dimensional and very complex. The next construct is motivation (3.), which is the product of person and situation according to literature (Heckhausen 2010). Game play motivation could be operationalized in many ways as there are several studies which provide empirical findings regarding usage motivation in digital games (e.g. Yee 2005, Schultheiss 2007, Schultheiss et al. 2008). The construct of motivation is followed by the construct of game action (4.), which also could be called usage in the context of digital games. This is the phase where the act of gaming takes place. It can be operationalized like in typical reception studies (e.g. Sherry et al. 2006, Kerr 2003, etc.) by many different variables like usage time, usage frequency, place of usage, game types, expenses and usage experience. In the end of each cycle of Heckhausen's model a (self) evaluation takes place which is divided into result (5.) and consequences (6.). The result is the goal of any intrinsic action. In the context of digital games it means nothing more than to play for the sake of playing (Sherry 2004). The consequences are the goal of any extrinsic action, what means actions induced by everything else than the experience of gaming. In our context this could be a prize offered by game publishers or fame in a social group. For the operationalization of intrinsic and extrinsic actions one could use Csikszentmihalyis (1975, etc.) studies. Finally, one complete cycle (see figure 2) of the the Motivation-Usage-Evaluation model can be illustrated here:

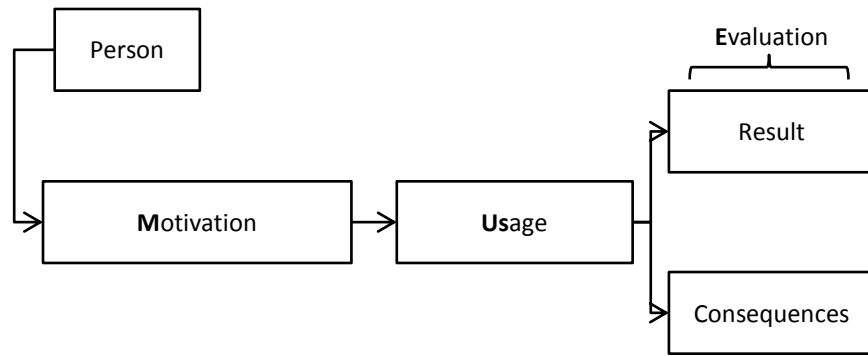


Figure 2: The **Motivation-Usage-Evaluation (MUsE)** model

So what can one do with this model? First we can measure the reception of digital games in a more holistic model than before, when only single constructs or effects between two factors of game reception were measured. With the help of MUsE we can make measurements in five theoretically supported constructs, and additionally find connections between each other. As the overall situation is too complex, we did not integrate it into the MUsE model. One so called cycle of MUsE could take place several times a day like the original motivation model (Heckhausen 2010) as players could be motivated to play several times. How usage takes place can be different in any cycle as well as players (self) evaluation. Usually, the differences are relatively small for the same game; for sure they vary in different games. Needless to say that the person, and especially the situation like any other context variables vary in longer time periods. In this case MUsE can be used for longitudinal studies to find variations in motivation, usage and (self) evaluation and to show how different usage cycles influence each other, especially how (self) evaluation influences game play motivations in future cycles. This leads us to an illustration of a longitudinal MUsE model:

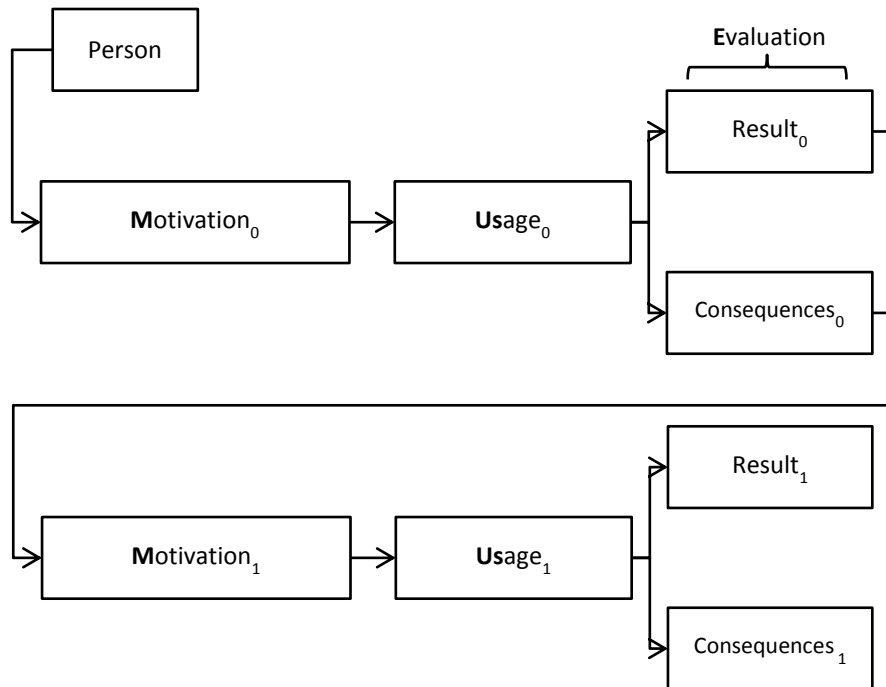


Figure 3: The longitudinal Motivation-Usage-Evaluation (MUSE) model

Even though MUSE is predestinated for quantitative survey designs it can be used as well in experimental and qualitative designs, even if one strength of the model – the shown influences of the constructs on each other – could hardly be evaluated in qualitative designs. Additionally, in the next section we show an example operationalization and study design to deliver prototype results about the reception process of browser-based games in a more holistic way.

PROTOTYPE RESULTS AT A GLANCE: PERSISTENT BROWSER-BASED GAMING

As more and more people are online in our modern world, the popularity of Internet-based digital games has greatly increased. Especially massively multiplayer online games (MMOs) are played by a broad audience and for different reasons. For example a sense of community amongst users (Yee 2006a), creating a “third place” for individuals to socialize (Steinkühler & Williams, 2006) or challenge and self-competition (Sherry et al. 2006) could be some of several reasons to play. Additionally, many studies regarding the usage of digital games (Yee 2005, Ducheneaut 2010, etc.), their experience (e.g. “enjoyment”, “presence”, “immersion”) examined different parts of the digital game reception process. However, there is a lack of studies looking for interactions between those partial constructs of game reception, and the often used and very popular persistent browser-based games (PBBGs) are rarely examined. So we decided to examine PBBGs in a first test of MUSE.

Research Questions

We examine personal traits, gameplay motivation, usage and experience of PBBGs in a longitudinal view over six months. So the leading research question will be answered:

Which interactions exist between the constructs of personality traits, gameplay motivation and usage in a holistic model of game reception?

Object of Investigation

PBBGs share many features of other persistent games like MMORPGs, except these games are played via a web browser and thus can be played on any computer with an Internet connection (Schultheiss et al. 2008). These games are usually multiplayer, although this is not a requirement of the genre. They are mostly able to be played at no charge to the gamer, but many offer for-pay features, such as advertising-free interfaces, more user-friendly game options, and certain game characters or several in-game elements not available to not-paying players. Because of the browser-based nature of these games, they are platform independent and typically less complex than e.g. typical MMORPGs as they are designed to be played on a number of different computing platforms that can vary widely. Examples of persistent browser-based games include Planetarion (2000), Kingdom of Loathing (2003), or Travian (2004).

Method and Data

We decided to use an online survey design to gather data from a broad range of players. The survey for this study was published by site owners of about 100 international websites dedicated to Internet gaming (e.g. mmorpg.com, mmoabc.com, bigpoint.com). After six months we contacted the participant by e-mail to take part again. Finally, we were able to do calculations with a dataset of $N \sim 1130$ participants from different countries (mostly Europe and USA). As the survey was self-selective and not randomly-selected, our data is not representative for all PBBG players. Nonetheless, there is a strong similarity compared to socio-demographics (\emptyset age 26 years, 20% females, 80% males) evaluated in other studies (Jones 2003, Yee 2006a and 2006b).

Results

For this article we do our evaluation without showing concrete parameters just to visualize the use of the MUsE model. Furthermore, the full meanings of the named motivations and experiences cannot be described in detail in this frame. Interactions could be found between personality traits and gameplay motivations (see figure 4). The factor of domination is influenced by different personal traits but especially the motive called vengeance. So revengeful persons in real life also like to dominate other gamers in PBBGs. The motivations leading, community and escapism are influenced mostly by the age of gamers in a negative direction. That means the older PBB-Gamers become the less interested are they in leading roles, in community interaction and in escapism from the real world.

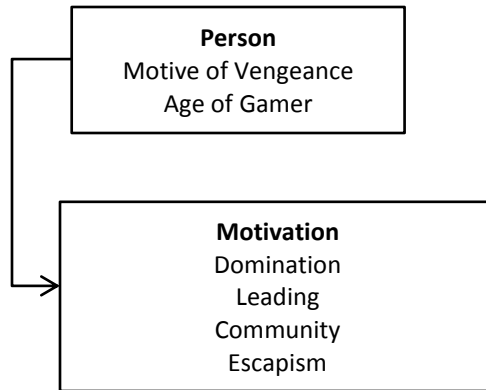


Figure 4: How the construct of Person influences the construct of Motivations.

Additionally, motivations can strongly influence gameplay experience and usage time (see figure 5). Game usage – especially the game experience as entertainment, thrill and competition – could be accurately explained by the gameplay motivation factors transfer, escapism, domination and immersion. Finally, usage time is mostly influenced by transfer and escapism motivation. That means the gamers play longer PBBGs the more they are motivated to escape from real life and to establish transfer processes like learning and exchange.

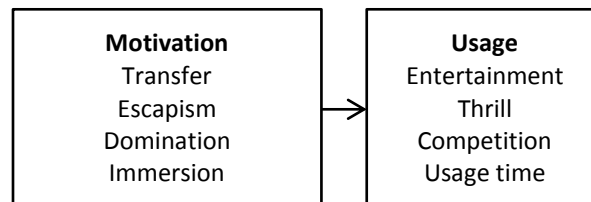


Figure 5: How the construct of Motivation influences the construct of Usage.

A very exciting question is how gamers evaluate their gameplay. Here we can see that game usage influences the following (self) evaluation process (see figure 6). It shows that the time players spend playing, the experienced competition and the experienced entertainment influence both types of evaluation of game usage. It seems to be trivial that game usage itself influences the evaluation of gaming, but the factors of influence were – at least for PBBGs – unknown. This is a very important phase of the gameplay cycle as especially the evaluation influences further cycles of gaming.

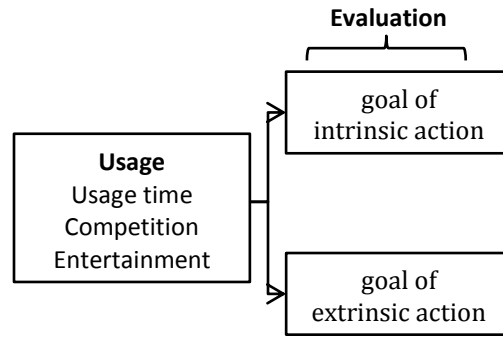


Figure 6: How the construct of Usage influences the construct of Evaluation.

So finally every process of reception can influence further reception cycles as players evaluate their gameplay and make adjustments (e.g. different game, game type or entertainment medium). When we have a look on the effects the player’s evaluation have on further gaming cycles and especially the construct of motivation, we can see which factors are most influenced (see figure 7). First of all we can see that the influence of the consequences (goal of extrinsic action) have a stronger influence on upcoming usage motivations cycles. While dominance and performance motivations are more influenced by the consequences, independence and immersion motivation is more influenced by the result (goal of intrinsic action).

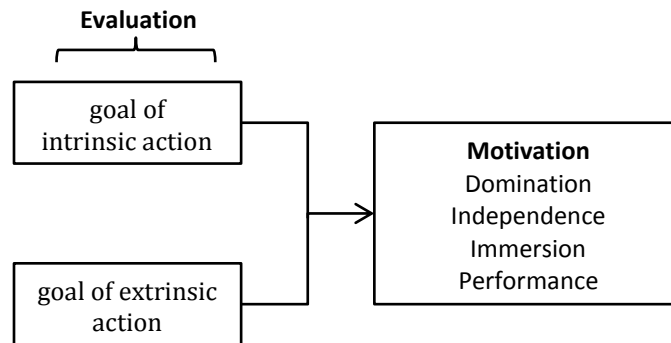


Figure 7: How the construct of Evaluation influences the construct of Motivation in future gameplay cycles.

Although game usage usually is more intrinsic than extrinsic motivated the consequences have stronger influence on future game usage cycles. This is a very important result, especially for game developers. As usually their main goal is to make sure that players use online games as long as possible to spend as much money as possible while gaming.

CONCLUSION AND OUTLOOK

The added value of this article can firstly be found in the more complex and more complete MUsE model of game reception, which – needless to say – cannot contain any

claim of completeness. Using this model in a prototype study we were able to study the game reception process of PBBGs more detailed as if we had examined only one or two constructs of gameplay. In this study we examined the influences of the constructs bit by bit, but in further ones a structural equation modulation could be more efficient. Secondly we examined PBBGs, an object of investigation, which is contrary to its popularity underrepresented in game studies. This way we could deliver new and relevant results to the field of PBBG reception studies.

Needless to say there is many more research to do. As the MUsE model can be used for many different game types there are literary millions of games to be examined by MUsE. Additionally, a comparison between different game types also would be possible with our model which delivers an additional benefit in the area of reception based game studies.

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