Using Transformative Learning Theory to Frame and Observe Learning Processes in Digital Games

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EXTENDED ABSTRACT

When looking at entertainment games or commercial of-the-shelf-games, there is an inherent understanding of these as potential learning platforms. We need only look at Gee (2005, 2003) to see a logical conclusion of the mechanisms of games as good learning "machines". The theoretical assumption of computer games as "meaning making" and as "learning tools" leaves space for observational research towards the actual learning processes taking place. This study seeks to explore the possibilities and challenges of using Illeris' comprehensive learning theory (Illeris 2018, 2007, 2004, 2003) to observe and analyze learning processes in the act of playing digital computer games.

The question guiding this research is: To what extent can Transformative Learning Theory be used as an analytical tool for evaluating learning processes in playing computer games? Illeris' transformative learning theory has only scarcely been used in conjunction with game studies (see for example: Andreassen & Syvertsen 2016; Holen et al. 2016). To the extent it was possible to find, the theory has not been used as an analytical frame in conjunction with computer games.

The theory proposes four different processes of acquisition/internalization, which are cumulation, assimilation, accommodation and transformation. These processes are framed by three dimensions, which are content, incentive and interaction, which in turn also determine the results of the process itself. The predisposition and result of the learning processes are explained in Illeris' theory with the use of mental schemes as originally proposed by Piaget (Piaget & Cook 1952). As Illeris describes, the brain holds mental structures built from learning throughout a person's life. These structures are dispositions, described by the psychological metaphor of mental schemes. This organization and potential for mobilization of these schemes, means that we "[…] in fractions of a second are able to recall what we subjectively and usually unconsciously define as relevant knowledge, understanding, attitudes, reactions and the like." (Illeris 2018, p.12). Cumulation denotes establishing an entirely new scheme and assimilation denotes an addition to an already established scheme. Accommodation refers to the reorganization and/or synthesis of already established schemes in order to internalize something new or establish a new understanding from several predisposed schemes. Transformative processes denote substantial reorganization and synthesis of schemes and patterns to the point of the individual learner developing his/her personality or identity in conjunction with their experience.

In the observation of these processes the frame of content (understanding, skill, meaning making), incentive (emotions, volition, motivation) and interaction (action, communication, cooperation) are taken into consideration to explain the occurrence of the process and its determinants. The empirical data is gathered from five Twitch streamers and YouTubers doing so called blind playthroughs of two selected games. *World of Warcraft Classic* (Blizzard Entertainment 2019) and *Undertale* (Toby Fox 2015) were chosen in order to create a broad base of potential observations, in that the three dimensions of learning should differ substantially with the two games.

The strength of these video playthroughs towards the study is the inherent performance of the streamers towards their audience. As T. L. Taylor (2018) explains, the players on this media platform are a part of a circle of movement from consumers to producers. While the streamers produce, they must do so explicitly as a player and convey their play-experience immediately and directly. The platforms however also pose intricacies towards analyzing observed processes dependent on the interaction dimension, as well as the incentive dimension. Drawing on Kozinets' work with iterating and defining netnography as a specific form of ethnographical research in online and networked cultures (Kozinets 2015), it is arguable that the context of the media platform itself is (and becomes) a coevolutionary process between the player, the audience and the platform itself. This is taken into account in the observation and analysis of learning processes in terms of the influence of the interaction dimension as a sociocultural context.

Preliminary findings suggest that learning processes in digital games are indeed very complex and highly prevalent throughout the playthroughs. Assimilation processes are nearly constant, often functioning on an unconscious level, while accommodation processes present themselves intermittently. Cumulation processes are rare, which is to be expected from the level of the players' expertise and literacy with games. Transformative processes are hard to define within the material, as they would be constituted by a substantial amount of reorganization of both mental schemes and emotional patterns. The two dominant processes (assimilation and accommodation) are by no means linear or simple. Several different processes are often in motion simultaneously and the utilization of acquired knowledge, skills and understandings is highly dependent on the interaction dimension. Cases of mis-learning and non-learning are also widespread and present interesting patterns in relation to the individual players. Cases of non-learning may lead to a series of mis-learnings, or, upon realization, mobilization of more mental energy as a strengthening of the incentive dimension. In cases of social play, both creative, subversive and cooperative modes of playful engagements lead directly to both success and failure in acquiring and distributing knowledge between the players.

The findings are discussed towards current interdisciplinary research of games and learning as a means of further exploring the research question. To this end, the field of Game based learning seems to have a focus on the design of games (Clark et al 2016; Connolly et al 2012), where the findings of this research may prove to nuance this aspect in its importance towards the details of specific processes. Likewise, key works within game literacy (Bourgonjon 2014; Gee 2003), proceduralism (Treanor & Mateas 2013) and play theory (Sicart 2014) help to assess the frame of learning theory and the observed phenomena. The presentation of this research will likely give rise to questions towards relevance and potential influence of the findings towards understanding computer games and learning.

Keywords
Transformative learning theory, games and learning, learning processes, Twitch streamers and YouTubers

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