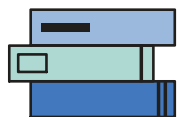


LOLIT

Meaningful Play Overview

April 2022



In this overview, a short introduction into meaningful play - its theoretical background and what is known about the methodology when it concerns older adults and learning - is given. Both academic as non-academic literature is used for this overview.

Meaningful play

The term meaningful play was first coined by Salen and Zimmerman in their work about game design (Rules of Play, 2003). They used the vision of historian Johan Huizinga as their starting point. Huizinga (1938) viewed play as a fundamental aspect of life and stated that there is not only a 'homo faber' (man the maker) but also 'homo ludens' (man the player) (Salen & Zimmerman, 2003; Loos, 2017). Soon after, meaningful play was incorporated in other disciplines such as psychology (often used for data gathering during research, especially with children), education and counseling. Play in itself can be considered meaningful as there is always some form of competition or enjoyment, however the design of a play and players itself can also give meaning to play (De Schutter & Vanden Abeele, 2008; Scott, 2012). As Salen and Zimmerman state (2003, p.3): "Meaningful play emerges from the interaction between players and the system of the game, as well as from the context in which the game is played". The overall idea behind meaningful play is that it is play with the objective for the user to learn or explore content or ideas in a fun or enjoyable way (Scott, 2012).

Meaningful play and older adults

Play and game are often seen as essential in early life but overlooked and even sometimes looked down upon in later life (Van Leeuwen & Westwood, 2008). Play however can offer positive effects for the ageing individual as it has been proven to contribute to cognitive functioning, including memory and recognition (Gerling et al., 2012), motor skills (Toril et al, 2014), self-esteem (McGuire, 1984), and social wellbeing (Hülür & Macdonald, 2020). The creative and experimental character of play is believed to be what makes play self-therapeutic at all ages, with positive consequences for health and wellbeing as a result (Winnicott 1971; Van Leeuwen & Westwood, 2008).

Playful learning

In recent years, meaningful play techniques have been applied to 'traditional' learning in many ways. A simple example can be found in the app Duolingo which uses gamification to learn a new language. Play is believed to stimulate a so-called flow state (Csikszentmihalyi, 1990). In this flow state, the participants (players/learners) become fully immersed in the activity which enables them to take more risks, feel free to try new things and also fail (Scott, 2012). This is especially ideal for learning. In the literature, we can distinguish roughly three forms of learning through play:

- **Gamification:** is the use of game design elements (game mechanics) and competition for non-entertainment purposes to create extrinsic motivation by offering some form of rewards. This form of playful learning does not use dynamics such as spontaneity, narrative or immersion. Gamification elements are often added to existing learning experiences (e.g., in elementary school education).
- **Serious game:** focuses on learning by experiencing reality in a safe environment. It often uses simulation, role play, immersion and narrative to enhance the sense of reality. Existing learning material is redesigned into something new when using this form of learning through play.
- **Playful learning:** aims to stimulate the construction of new knowledge and skills by letting the participants experiment, try, construct, fail, etc. The focus is more on the creative, spontaneous and interactive experience than on the game elements.

LOLIT

Meaningful Play Overview



Playfulness is a mindset, gamification and serious game (game-based learning) are manifestations of playfulness as the learners or teachers are not necessarily stimulated to take on a playful mindset themselves - the 'play' is offered to them via existing game mechanisms. However, in all forms, learning through play is a way of experimental learning in which learning is done by actually performing something rather than passively taking in knowledge (Rice, 2009). Playful learning or game based learning (such as serious games) can achieve personal or societal change by playing with notions, conventions or breaking habits and habitual behaviour. By learning through play, a sense of control and participatory engagement can be created (Liu et al., 2021). Playful learning requires a shift from the concept of students/players as passive consumers of knowledge towards active creators of knowledge. Effective implementation of playification principles can only be achieved when a desire within the user that motivates them to achieve and obtain certain goals is sparked.

One well known example of learning through play is found in the LEGO foundation. They have worked together with academic partners to redefine play and learning and defined vijf elements of learning through play (Zosh et al., 2017; Parker & Thomsen, 2019):

- Joy - feelings or curiosity, accomplishment, enthusiasm;
- iteration - repetition, experimentation, trial and error;
- Meaning - making connections, deep learning, motivation;
- Active engagement - minds on, interested, invested in learning; and,
- Social interaction - communication, sharing, collaborating

Social (media) learning

A important element of both meaningful play in general and playful education more specific, is the collaborative element. Successes and failures of play and learning are shared through social connections that provide support and give the user the ability to be part of a greater network (Scott, 2012). Since several years, social media learning has received a growing attention in education as one way of collaborative learning. A review of research on social media learning shows that it has a positive impact on student learning in that it increases interaction with peers, enhances communication and collaboration skills, and it helps students prepare for lessons (e.g. Sgheib & Dabbagh, 2020; Ansari & Khan, 2020). Furthermore, social media learning may help improving literacy, reading and digital skills as it offers a non-traditional way of having to read and process information. Social media learning is a form of active learning - which means that the person participates directly in their own learning - and can be anything from participatory action video's on Youtube video's to LinkedIn posts for social engagement (Sgheib & Dabbagh, 2020).

A Chinese study shows that mobile learning can offer the opportunity for older people to interact with peers or teachers and when needed (e.g. during the COVID pandemic) offer distance learning (Zhao et al., 2021). Social media offer a wide range of learning mediums and communication tools for older adults to chose from (Leen & Lang, 2013). A big aspect of social media learning is the interaction with other 'students' or people both in and outside the classroom. Combined with meaningful play, collaborative learning through the use of social media tools allows for intrinsic and extrinsic rewards while helping to keep people motivated and involved with the meaningful play activity. Distant learning in between sessions for example can keep a continuous interest in the topics discussed in the sessions.



LOLIT

Meaningful Play Overview



Designing meaningful play for learning

For play or game-based learning to be meaningful to the players, the game should be designed in relation to the end users. Players bring in a great deal of their lifeworld, their likes and dislikes, social relations, expectations, cultural surroundings, psychological experiences, etc. (Salen & Zimmerman 2003). This is also true when designing for seniors (De Schutter & Vander Abeele, 2008).

In general meaningful play requires:

1. An interactive player-centred design approach (based on who will play the game and in what (socio-cultural) context),
2. The game must relate to its players to be a good learning environment,
3. A space should be created in which one can play, and more importantly feel the freedom to explore, exchange ideas, feel safe to try new things and fail (Scott, 2012).

Meaningful play for older adults requires:

1. Consider the inherent playfulness of (digital) games,
 2. View ageing as a process of both growth (Delwiche & Henderson, 2013) and decline, and accordingly
 3. Employ a positive and inclusive discourse for a heterogeneous audience.
- (based on the Gerontoludic Manifesto (De Schutter & Vanden Abeele, 2015))

A thorough exploration of 'what works' when designing meaningful play activities and games for older adults shows that there are several conditions that should also be taken into account; 1) *familiarity of games mechanisms* (older adults prefer playing games that are user-friendly and already known to them. The interface needs to be intuitive without the need to 'learn the rules' first), 2) *community aspect of having multiple players*



(being able to play together (collaborate) but also against each other (compete) increases the level of involvement, 3) *existing emotional affections for playing games* (previous experience with game playing), 4) *fun and entertainment* (in order to start a game, it must be fun and entertaining for the player), 5) *game aesthetics* (enjoyable and playful interface of the game which increases the emotional response of the player to the game, and 6) *simplicity* (losing makes people lose their interest in the game), 7) *rewards or feedback*, 8) *a focus on autonomy and participation* (when learners feel autonomous their participation levels increase and go beyond being aware – they are driven to become involved by intervening, creating and meaningfully contribute to their communities).

Far and for most, social engagement was mentioned as important element of play to become meaningful. The social element of play is also of relevance when play concerns a learning objective, as the combination of social engagement and meaningful play can enhance a change of behavior because goals and objectives are reinforced (Scott, 2012). Furthermore, encouragement can be provided to help accomplish tasks that will improve health and wellbeing. Meaning of such play can be further enhanced when users are allowed to bring personal or social goals to the process and when goals are allowed to be customizable (Scott, 2012).

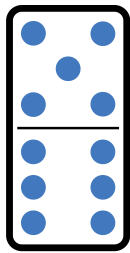
Thus, when designing play for older adults it is important to think about the process of activities and not solely about the features of the game (Scott, 2012). This can be done by using persona's, conduct interviews, and test, monitor and evaluate your product constantly. Designing meaningful play is an iterative process (Holt, Moore & Becket, 2012).

LOLIT

Meaningful Play Overview



Game/ play preferences of older adults



Hoppes, Hally, and Sewell (2000) researched the interest of older people in various games. Dominoes, checkers, and bingo were of interest to more than half of the participants. Well-elders slightly favored sedentary games to physically active games, while other groups greatly favored sedentary games.

The cases that we researched show that older adults prefer casual games but also games that are a mental or physical exercise (Gerling et al. 2011; Khalili-Mahani et al., 2020). In addition, older players show a need for self-efficacy and connection (De Schutter, 2017). Seniors play more attention to games with narratives or real stories (Cota et al., 2015).

Older adults do not prefer very easy games (they are discouraging), action games (relevant for digital games), time limit games, and games with too much information/ small elements on the interface (Cota et al., 2015).

Meaningful play - some examples from the literature

When looking at the intersection between meaningful play and learning, what is immediately noticeable it that most projects and studies focus on digital games, especially when it concerns older people. There are some cases that claim that digital entertainment is a way to create positive attitude towards technology in general and potentially help closing the digital divide (e.g., De Schutter & Vanden Abeele, 2008), however empirical evidence from case studies is scarce.

Meaningful play and games for older adults are most often used in:

- Clinical setting - such as (physical/ cognitive) rehabilitation, cancer treatment, hospice care
- Programs about health (risks) - such as risks of alcohol, genetic risk management, sexual risk behavior,
- Health literacy or digital literacy
- Healthy ageing - exergames, cognitive functioning
- Intergenerational contact

"Games for health, Lieberman (1977), argues that games offer an ideal venue for acquiring new knowledge and skills by affording players the ability to learn and repeat new health-related behaviors, to experience guidance and support through role model characters, and to play out decisions and experience their consequences within the confines of the game." (Evans et al., 2021, p. 2)



Many of the examples of meaningful play for older adults focus on the benefits of play (health promotion or digital literacy) and the issue of accessibility. Therewith games are often reduced to it motivational characteristics and ageing to cognitive and physical decline. Furthermore, in most studies, the participants are older adults who have some level of digital literacy and often have a high SES.

Interestingly, many of the examples found in the literature are not described in detail (no photo's of prototypes used), neither can I find non-scientific articles or websites for most of the games.

In the google doc "List of meaningful play and social media learning examples" you can find practical examples and useful links. We will be adding examples to this document throughout the months to come. Please feel free to do so as well when you come across interesting products/ games.

LOLIT

Meaningful Play Overview



Literature

- Ansari, J. A. N., & Khan, N. A. (2020). Exploring the role of social media in collaborative learning the new domain of learning. *Smart Learning Environments*, 7(1), 9. <https://doi.org/10.1186/s40561-020-00118-7>
- De Schutter, B. (2017). Gerontoludic Design: Extending the MDA Framework to Facilitate Meaningful Play for Older Adults. *International Journal of Gaming and Computer-Mediated Simulations*, 9(1), 45–60. <https://doi.org/10.4018/IJGCMS.2017010103>
- Cota, T. T., Ishitani, L., & Vieira, N. (2015). Mobile game design for the elderly: A study with focus on the motivation to play. *Computers in Human Behavior*, 51, 96–105. <https://doi.org/10.1016/j.chb.2015.04.026>
- De Schutter, B., & Vanden Abeele, V. (2008). Meaningful Play in Elderly Life. 58th annual conference of the International Communication Association, Montreal, Quebec, Canada. <https://doi.org/10.1145/1823818.1823827>
- De Schutter, B., & Vanden Abeele, V. (2015). Towards a Gerontoludic Manifesto. *Anthropology & Aging*, 36(2), 112–120. <https://doi.org/10.5195/aa.2015.104>
- Gerling, K. M., Schild, J., & Masuch, M. (2011). Exergaming for Elderly: Analyzing Player Experience and Performance. In M. Eibl (Ed.), *Mensch & Computer 2011* (pp. 401–411). Oldenbourg Wissenschaftsverlag GmbH. <https://doi.org/10.1524/9783486712742.401>
- Houjiang Liu, Miso Kim, Mingzhu Li, & Shruthi Lakshmi Narauan. (2021). Technology, Autonomy, and Participation: Designing Community Games and Services to Enhance Older Adults' Technology Literacy.
- Hülür, G., & Macdonald, B. (2020). Rethinking social relationships in old age: Digitalization and the social lives of older adults. *American Psychologist*, 75(4), 554–566. <https://doi.org/10.1037/amp0000604>
- Khalili-Mahani, N., & De Schutter, B. (2019). Affective Game Planning for Health Applications: Quantitative Extension of Gerontoludic Design Based on the Appraisal Theory of Stress and Coping. *JMIR Serious Games*, 7(2), e13303. <https://doi.org/10.2196/13303>
- Khalili-Mahani, N., De Schutter, B., Mirgholami, M., Holowka, E. M., Goodine, R., DeJong, S., McGaw, R., Meyer, S., & Sawchuk, K. (2020). For Whom the Games Toll: A Qualitative and Intergenerational Evaluation of What is Serious in Games for Older Adults. *The Computer Games Journal*, 9(2), 221–244. <https://doi.org/10.1007/s40869-020-00103-7>
- Parker, R. & Thomsen, B. S. (2019). Learning through play at school: A study of playful integrated pedagogies that foster children's holistic skills development in the primary school classroom. https://research.acer.edu.au/learning_processes/22
- Rice, L. (2009). Playful Learning. *Journal for Education in the Built Environment*, 4(2), 94–108. <https://doi.org/10.11120/jebe.2009.04020094>
- RJ Holt, AM Moore, & AE Beckett. (2012). *Together Through Play: Facilitating Inclusive Play through Participatory Design*.
- Salen, K., & Zimmerman, E. (2003). *Rules of play: Game design fundamentals*. MIT Press.
- Scott, A. (2014). Meaningful play. In P. A. Rodgers & J. Yee (Eds.), *The Routledge Companion to Design Research* (1st ed., pp. 400–416). Routledge. <https://doi.org/10.4324/9781315758466-36>
- Toril, P., Reales, J. M., & Ballesteros, S. (2014). Video game training enhances cognition of older adults: A meta-analytic study. *Psychology and Aging*, 29(3), 706–716. <https://doi.org/10.1037/a0037507>
- Van Leeuwen, L., & Westwood, D. (2008). Adult play, psychology and design. *Digital Creativity*, 19(3), 153–161. <https://doi.org/10.1080/14626260802312665>
- Zosh, J. N., Hopkins, E. J., Jensen, H., Liu, C., Neale, D., Hirsh-Pasek, K., ... & Whitebread, D. (2017). Learning through play: a review of the evidence. The LEGO Foundation.
- Zgheib, G. E., & Dabbagh, N. (2020). Social Media Learning Activities (SMLA): Implications for Design. *Online Learning*, 24(1). <https://doi.org/10.24059/olj.v24i1.1967>
- Zhao, S., Kinshuk, Yao, Y., & Ya, N. (2021). Adoption of mobile social media for learning among Chinese older adults in senior citizen colleges. *Educational Technology Research and Development*, 69(6), 3413–3435. <https://doi.org/10.1007/s11423-021-10048-x>