Exploring Play as the Nexus of Games and Playfulness

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Abstract: In this paper we provide an original theoretical framework for conceptualising the relationship between play, games, and playfulness. This framework is intended to support in understanding the different potential benefits and drawbacks of the use of games and playful approaches in universities. To evidence its significance across the sector, we apply the framework to seven different forms of play pedagogy used in Higher Education. First, we define and differentiate between games as problem-solving systems and playfulness as an engagement philosophy. We highlight the advantages of games as experiential learning environments and as intrinsically engaging tools, and the benefits of playfulness for promoting lusory attitudes within ludic communities. We argue that play – encompassing both an activity form and state of mind – can be conceived as the nexus of games and playfulness, bringing the affordances of both as well as additional synergistic benefits relating to the normalisation of failure. Second, we present a taxonomy of seven forms of playful learning in higher education that emerged from a large-scale literature review of the use of play in higher education over the past fifty years. These are: roleplay, simulations, traditional play, play worlds, ludification, playmaking, and alternate realities. This taxonomy is then tested against the literature base to provide a suite of examples of different ways in which playful learning encompass games and playfulness. We conclude by discussing the limitations and potential uses of this approach when applied to the practice of play as a pedagogy.

Keywords: Playful Learning, Games, Play, Playfulness

1. Introduction

Researchers and educators have studied and applied games and play to adult learning from a variety of disciplinary perspectives – including education, sociology, and Philosophy – over many centuries, stretching back to the use of war games for leadership training in feudal China (Morgan, 2024). In more recent years, play theory, game studies, and computer sciences have added additional dimensions to the field. Different theoretical approaches to playful learning, applied in different learning contexts, and with different levels of rigour, mean that the published literature provides a colourful yet ultimately confusing picture of evidence for the contemporary researcher or educator.

In this article we build on a comprehensive literature analysis of the use of play and games in adult learning over a fifty year period (Whitton, 2023) and have also the results as the basis of a taxonomy of playful learning which we test for the first time in this article by applying it back to the range of playful learning pedagogies discovered in the literature. To underpin this, we consider the theoretical basis of – and the relationship between – games, play and playfulness, and we propose a theoretical framework where both games and playfulness can exist in isolation, but when combined they create the potential for play.

We present the basis of our theoretical model, and an initial application of that model to dominant playful learning pedagogies. In doing so we hope that future researchers will critically test the model themselves, and that education practitioners will be better able to select appropriate playful pedagogies for the context of their learners.

2. Games, Playfulness, and Play

There are many definitions in the literature of 'play', 'games' and 'playfulness'; the definitions overlap, clash and open up gaps. In our review of these terms in the academic literature we have been drawn to the definitional works of Suits (1978), Sicart (2014) and the scholarly analysis of Stenros (2015), which have helped us to focus in on defining criteria for each term.

For the definition of 'game', this led us to reject the commonly proposed *goals*, *rules* and *challenges* (as other activities such as a formal examination exhibit these same criteria, but are not games), and the notion of *enjoyment* or *fun* (as these are subjective – one activity may be fun for one person, but a trial for another). However, we found the idea that games operate in a separate world with different consequences from the real world (the ideas of *fantasy* and *safety*) to be a defining characteristic (running headlong into a door to try to

open it has very physical consequences in the real world, but in a game could be tried without any risk of physical harm).

Suits (1978) provided us with another, core, defining characteristics: a *prelusory goal*, *lusory means*, *constitutive rules*, and *lusory attitude*. This implies the introduction of goal with unnecessary obstacles, which would be ridiculous in real life, but make a game more challenging and fun. A lusory attitude is the willingness to abide by these unnecessary rules and enter a 'spirit of play'. For our definition of a game, the first three of Suits' characteristics are tangible and objective, but lusory attitude is subjective (it requires that players both adopt a lusory attitude, and also that they agree that the game is a game). We therefore think that lusory attitude cannot help us to define game but might help us to define playfulness (see below). We can therefore combine the above objective elements into a definition:

> A game is a **deeply interactive challenge** in an **unreal context**, with a **goal** and **lusory rules** (where the rules preclude the most straightforward means of achieving the goal).

In contrast to the objective nature of a game, playfulness is a subjective *attitude*, separated from play as an *activity* by Sicart, and this provides us with a useful separation of the two terms. We see playfulness as the capacity to *use play beyond the context of play*, allowing individuals to engage in any activity in a light-hearted and joyful manner. Playfulness is explored as a stable character trait from the perspective of personality psychology, with various definitions emphasizing different aspects such as physical, social and cognitive spontaneity, joy, sense of humour, and intellectuality-creativity. In summary, playfulness is an attitude of mind that embodies a willingness to engage in activities in a light-hearted, joyful, open, mischievous, and comedic manner – which suggests that playfulness is closely related to having a lusory attitude, allowing individuals to take risks, try new experiences, and accept failure in a spirit of adventure. Playfulness can be applied to any activity, making it a versatile mindset beyond just the context of games.

> Playfulness is an attitude of mind that embodies a willingness to engage in activities in a **light-hearted**, **joyful**, **open**, **mischievous**, and **comedic** manner.

From the literature, we have identified three elements common to **play**. First, it is voluntary – "whoever must play, cannot play" (Carse, 1986, p4). Play is approached voluntarily, with a lusory attitude, and with a willingness to accept and engage with artificial prelusory rules. Second, is a sense of freedom: away from the constraints or repercussions of the 'real world' and in a place of safety. And third is the autotelic nature of play: it is done in the moment, purely for the joy or delight of the experience itself. This has been interpreted by some as play having no actual value ("an occasion of pure waste" (Caillois, 2001)) but there are clear and evidenced evolutionary benefits that derive from play that extend through to adulthood (creativity, problem solving, well-being, socialisation), and there is also value in doing something enjoyable simply for its own sake.

When compared to our definitions of games and playfulness above, we define play as the point that the two meet: a voluntary and intrinsically motivated activity that involves engaging with a game playfully, adopting a lusory attitude, in a free context that is not constrained by the real world. Play is approached with a mindset that values joy and delight in the experience, seeking the freedom to be creative and innovative within the boundaries of the game's rules. This mindset allows us to play for the sake of playing, without extrinsic motivations, and to enjoy the activity purely for its inherent value:

> Play occurs when a person engages with a game playfully, adopting a **lusory attitude**, in a **free context** (where actions in the game are not constrained by the real world) purely for **enjoyment**.

While it is possible to engage with games without truly playing them if the intention lacks a playful mindset, the playful mindset is what turns game engagement into play. Playfulness can also be applied to activities outside of games, but without a lusory attitude and adherence to a set of game rules, this engagement would not – by our definition – constitute play. Playfulness and games intersect to create play possibilities (see Figure 1). We define the centre section as play potential, as even if there is a game plus a playful facilitator, it is up to the learner to accept the invitation to play, or maybe even to see it as play.

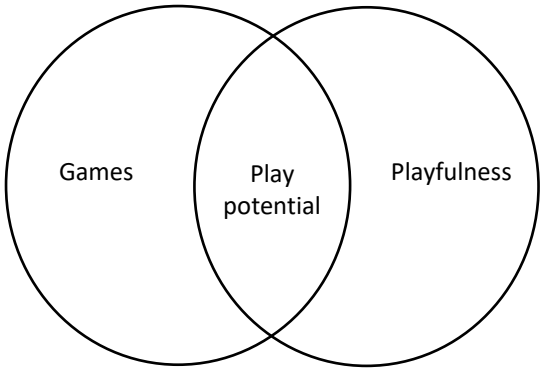

Figure 1: Play potential can happen only when educators use games and facilitate playfulness

Defining relationship between games, play and playfulness helps us to provide a solution to the paradox of educational gaming: is 'forced' educational play technically play? From our definitions, we can see that first an educational game is still a game, even if it is not engaged with voluntarily or is not fun, and second that an educational game that players engage with playfully can be play. Where the players are intrinsically motivated to play, do so freely and with enjoyment then they are not just engaging with a game but playing it.

We define playful learning as pedagogic approaches that use, incorporate or build on aspects of games or playfulness. From our literature review this incorporates two broad playful pedagogic types.

- **Using games** describes pedagogies that use game structures or mechanics within teaching or the wider curriculum, such as game-like goals, rules, competition, collaboration, problem solving, or feedback mechanisms. This might also include the use of off-the-shelf games, with the addition of playful contexts, narratives or challenges to connect them into the learning. Games in this sense are essentially experiential problem-based learning environment that are designed to use a suite of mechanics that make them intrinsically engaging.
- **Facilitating playfulness** describes pedagogies that encourage or support learner playfulness in non-game contexts, such as applying fun or creative narratives, characters or situations, or encouraging playful behaviour in classes or creative responses to assessments. By facilitating playfulness educators can emerge students in alternate worlds in which they can safely try new things and ideas without impacts in the 'real' world and explore possibilities in creative ways.

Both games and playfulness support learning through failure as an inevitable part of game play and by providing the safety net to make mistakes. In the sections that follow, we will build on this distinction to explore different ways in which types of playful learning can be used to achieve each of these ends.

3. Taxonomy of Playful Learning in Higher Education

In order to better understand the range and types of playful learning that are taking place in Higher Education globally, we undertook an in-depth literature analysis exploring the use of play in higher education over a fifty year period (Whitton, 2023). The review used the Scopus database, selected because of the scale of its coverage and included journal articles available in English that were published between 1973 and 2022 where the title of the article contains either "play*" or "gam*" and where the abstract contains the words "undergraduate", "postgraduate" or "higher education". Irrelevant articles were removed, including those that use a game pun in their titles, ones focusing on playing music, analysis of theatrical plays, studies into gambling behaviour and sports performance, analysis of leisure games, discussions of drinking games, economic game theory, and teaching about games in traditional ways. This left 1090 articles that were included in the analysis.

This analysis enabled us to develop an emerging taxonomy of playful learning in higher education by identifying seven different types of approach in the literature that use games, or playfulness, or a combination of both. At this stage, we are still playing with category names and testing our constructions of each of the categories to ensure that there is minimal (ideally no) overlap between them. However, as the field of playful learning continues to grow and evolve, we assume that this taxonomy will do the same; new forms of playful learning may emerge (as escape rooms and alternate reality games have done in recent years) that require the taxonomy to be expanded, other categories may decrease in relevance. We see this as a living analysis tool rather than a finished product. One important feature of the taxonomy is that we do not see any of these playful learning

pedagogies as being intrinsically digital or analogue in implementation and this taxonomy is purposefully technology agnostic. The literature analysis identified seven different types of playful learning in higher education:

- **Roleplay** describes a situation where participants are asked to take the role of another person or character in specific scenarios (Rao and Stupans, 2012). This enables students to learn experientially by understanding what it is like to 'be' a different person and why they might make the decisions they do, to imaging possibilities, and to practice skills in a safe environment without the consequences of taking that role in the real world. Roleplay has been commonly used across all areas of medical education, as well as in a range of other disciplines, most heavily in the social sciences.
- **Simulations** provide models of the real word, often in a highly simplified way, with which students can interact, and see the effects of their actions on the state of the system in a safe space where the outcomes do not matter in the real world. The most common type of simulations in the playful learning space are business simulation games, in which students take on business roles and make company decisions, which were the first games used in higher education (van Ments, 1995).
- **Traditional play** describes the use of traditional game formats such as board games and card games (Moseley and Whitton, 2013), with modified versions of traditional entertainment games being common throughout the literature, as well as formats such as quizzes (and modified quiz shows) and more recently there is a growing body of work into the use of toys, stemming perhaps from the growing popularity in the use of LEGO for 'serious play' (James, 2013).
- **Play worlds** describe the use of structured and differentiated places in which learners can experiment and solve problems in a delimited space that is separate from the real world. The most common form in the literature is digital games, and particularly 'serious games' which describe games where entertainment is not the primary purpose (Westera *et al.*, 2008). Play words provide learning environments that are intrinsically engaging, often with clear goals, narratives and an internal rule-set. While they are predominantly digital, examples do exist in the analogue world, such as theme parks.
- **Ludification** describes the use of game or play elements outside the context of the full structures of a game, the most common form of which is gamification (Deterding, 2012), which uses game mechanics such as points, badges, and leaderboards to provide extrinsic motivation to non-game contexts, and has been criticised for its focus on 'pointsification' (Huang *et al.*, 2020) with a call for more 'meaningful gamification' (Nicholson, 2015) that focuses in developing intrinsic motivation, participant freedom, and engagement with narratives.
- **Playmaking** is when students are supported to build games or other playful experiences themselves rather than playing existing games. This enables students to learn through a process of development, testing, failing, trying again, and eventually succeeding (Rawlinson and Whitton, 2024). The focus on creation of games or play immediately acts as a play signifier that differentiates playmaking from other creative development projects and identifies it as a form of playful learning.
- **Alternate realities** explicitly make use of narratives to create spaces in which the real world and imagined other worlds overlap and are relatively new in higher education. This includes alternate reality games in which players collaboratively solve puzzles over weeks or months, other pervasive games (Montola, Stenros and Waern, 2009) that blend real and fictional worlds including street games and treasure hunts, and escape rooms (Fotaris and Mastoras, 2019) in which learners must work in small groups to solve puzzles.

This taxonomy is useful for providing an overview of the types of playful learning approaches that have been used in higher education over the past fifty years. In the following section we will explore how each of these approaches might be used both to support the use of games and facilitate playfulness, drawing on examples from the corpus analysed in the review, and further afield where appropriate.

4. Application to Play Pedagogies

The analysis of literature described in the previous section provides a way of identifying and thinking about the different types of pedagogic approaches that fall under the broad umbrella of 'playful learning'. In this section we will apply our definitions of games, playfulness, and play, described earlier in this article, to the taxonomy, in order to differentiate between the ways in which each of the pedagogies in the taxonomy use games and facilitate playfulness. Examples of the applications of each pedagogic type in each context are shown in Table 1 below.

Table 1: Examples of the use of games and facilitation of playfulness in higher education

Pedagogy	Using Games	Facilitating Playfulness
Role play	Role-playing game	Medical role play
Simulations	Business simulation games	Building simulator
Traditional play	Educational board game	Lego serious play
Play worlds	Video game	Virtual world
Ludification	Gamified system	Use of play techniques
Playmaking	Game development	Playful design
Alternate realities	Alternate reality games	Pervasive learning environments

Role play is mainly used in the literature for facilitating playfulness by creating a safe environment in which students can practice and fail. There are many examples in the literature, particularly from the health field, such as students taking on the role of therapists and getting feedback from their interactions with clients (Bailey, Deardorff and Nay, 1977) or teaching medical ethics using role play to immerse students in the issues of euthanasia and consent (Noone *et al.*, 2013). The use of role-playing games in the literature is relatively uncommon but there are examples of using online role-playing games, for example to teach foreign language grammar and composition in World of Warcraft (Gellar-Goad, 2015).

Simulations most commonly take the form of business simulation games, from early paper-based games, such as an early simulation game used to teach healthcare finance (MacLeod and Smith, 1984), through a rapid evolution to digital, with the advantages that computers can simply and swiftly carry out calculations that would be time-consuming on paper, such as a game that simulates the global stock market (Torga *et al.*, 2018). There are few examples in the literature of simulations that are not games, but they include, for example, using the *SimCity* game, not as a game in itself, but as a way of simulating city-building for planning education (Minnery and Searle, 2014).

There are a wide range of examples of traditional play, both as games and as play facilitators. Games includes examples of board games for teaching archaeology (Huffer and Oxenham, 2015) and undertaking chemistry revision (Adair and McAfee, 2018), card games for teaching veterinary medicine (Ober, 2016), and dice games to teach probability (Stephenson *et al.*, 2009). There are also many examples of using toys (and particularly nostalgic childhood toys) to facilitate playfulness, such as using and adaptation of the 'serious play' approach to use Lego to teach cell biology (Garden, 2022).

Play worlds predominantly explores the use of digital games in higher education, and there is a large variety of game types including games specifically designed for education such as a games specifically developed to improve information literacy skills (Encheva, Tammaro and Kumanova, 2020), as well as studies that use existing games such as *Angry Birds* to teach artificial intelligence (Yoon and Kim, 2015). There are fewer studies that look at play words designed to facilitate playfulness but, in particular, there are several that look at the use of the *Second Life* virtual world (Childs, 2010).

Ludification is almost exclusively about gamification in the literature, such as the use of digital badges to motivate students (Delello *et al.*, 2018) or the use of leaderboards in engineering education (Ortiz-Rojas, Chiluiza and Valcke, 2019). However, there are also examples of more deep and 'meaningful gamification' that have more in common with play, such as embedding narrative in training (Armstrong and Landers, 2017). In addition there are approaches that more explicitly embed elements of playfulness into teaching such as the use of magic and drama as play signifiers (Hilas and Politis, 2014).

Playmaking is when students make games or playful experiences, and in the vast majority of cases this involves game-making. This can be students of game studies learning to make games as part of their game-design curriculum (Altanis and Retalis, 2019) or game-making as an activity to teach a different subject, such as students designing games and subsequently analysing the artefacts produced to surface assumptions about social class inequality (Sandoz, 2016). In contrast, there were almost no examples of students designing playful experiences, although there is research on developing metacognitive skills by designing playful solutions to complex problems (Marone, Staples and Greenberg, 2016).

Alternate realities are a relatively new form of playful learning and while many examples incorporate games, there are also examples that use playfulness outside of the context of play. For example, alternate reality games

have been used to support student induction (Piatt, 2009); in contrast, pervasive learning environments (Brookes and Moseley, 2012) harness the immersive qualities of alternate realities to create a playful environment without the explicit structures of a game.

Although, as the examples show, each of the approaches here can use games and facilitate playfulness, some approaches are more common in the literature. Role play tends to be most commonly used to facilitate playfulness in higher education; simulations, play worlds, ludification, and playmaking tend to be more focussed on games; while traditional play and alternate realities provide a mixture of the two.

5. Conclusions

We have provided an original contribution to the field through a set of clear and distinct definitions of games, playfulness, and play and a taxonomy of playful learning based emerging from, and tested against, a large literature base spanning fifty years. This analysis shows that games can be used effectively for adult learning and playfulness can be used to facilitate to support learning, but when added together, play combines the best of both of these and has potential for the greatest effect on learning.

This poses two challenges for education practitioners. First, those that are using games need to consider the possibilities of additionally facilitating playfulness, for example using 'play signifiers' or techniques to give students permission to play. Second, those already using approaches that facilitate playfulness need to consider whether it would be appropriate to use game mechanics to provide structures to create play.

It is important to note that some of the terminologies and claims in the articles reviewed do not match the terms used in our definition; terminology is used in different ways across different fields of study. For example, 'gamification' is used ambiguously in the articles with both its original meaning (using game mechanics in non-game contexts) and more broadly to simply mean using games. Several activities are called games in the literature but do not meet our definition of games and are in fact what we describe as facilitating playfulness. We do not aim to homogenise the language of play (and believe it would in fact be futile to try) but by offering definitions that highlight the juxtaposition of objective games and subjective playfulness we hope to highlight the differences between these two approaches to creating playful learning and the synergies that are created when both are in harmony.

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