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Building playful resilience in higher education: Learning by doing and doing by playing

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Playful approaches include many benefits for higher education. Here, they denote elements of playful learning that invite students to engage with various challenges related to imagination, innovation, and co-creation. As stated in earlier research, playful learning follows the constructivism approach seeking students be active participants in their learning process, and tries to offer them surmountable challenges to learn while being intrinsically motivated—through *learning by doing*. Again, playful approaches include experimentation with uncertainty—through *doing by playing*. As particular instances of creative endeavors, they offer students joyful moments of discovery and possibilities to learn in a novel, but safe and failure-free situation and environment. This exploratory study presents new ideas on how playful learning methods, such as playful approaches may be used in higher education to contribute to the formation of playful resilience through playful activation. To substantiate this argument, we propose that playful learning approaches are similar to those used in the context of entrepreneurial education that aim to support the growth of a flexible, entrepreneurial mindset among students. Our suggestions for using playful approaches in higher education focus particularly on how a combination of playful tactics, tools, and tasks allow students to ideate, innovate, and create solutions to novel challenges. The contribution of the study is in linking the previously unconnected areas of higher education, playful approaches, playful resilience, and entrepreneurialism achieved through learning by doing, and doing by playing.

KEYWORDS

higher education, playfulness, playful learning, playful resilience, entrepreneurial mindset

Introduction

In his keynote for the Nordic Business Forum held in September 2022, Yuval Noah Harari, an Israeli public intellectual, historian, and professor in the Department of History at the Hebrew University of Jerusalem, noted a flexible mindset as one of the most sought-after competencies of future working life. This exploratory study focuses on the preconditions of a flexible mindset by linking the concept with higher education, playful approaches, and entrepreneurialism as facets that may contribute to the formation of playful resilience in students. Exploratory research does not aim to provide the final and conclusive answers to the research questions (Dudovskiy, n.d.), but instead, points to initial research, which forms the basis of more conclusive research in the future (Singh, 2007).

Magnuson and Barnett (2013, p. 140) claim that "There may be a few more valuable attributes to study and develop than the characteristic of resilience." The term "resilience" was introduced in the 1980s, referring to personality or the qualities of persons capable of overcoming adversity (Werner and Smith, 1982; Rutter, 1985, *cf.* in González-López et al., 2019). "Scholars often use resilience synonymously with preparedness, hardiness, persistence, or self-efficacy" (Korber and McNaughton, 2018, p. 1129). Further, it is used to connote a wide range of concepts, such as success,

survival, persistence, and optimism (*Ibid*., p. 1130). Resilience has also been described as a process of recovery and transformation and "a process to harness resources in order to sustain well-being."

This study begins with the idea of playfulness to have notable similarities with resilience. Chang et al. (2013, p. 273) claim that "playfulness may help people cope with stress and contribute to their life satisfaction," noting the potential of playfulness as a coping resource. Playfulness also has the capacity to mitigate negative outcomes (Chang et al., 2013, p. 284). For example, the capacity of playfulness to have stress moderating effects has been observed by Staempfli (2007) and Barnett (2007). "Playfulness may guide reframing stressful situations in a way that facilitates flexibility, reduces perceived stress, and improves resilience" (Barnett, 2007 *cf.* Clifford et al., 2022). Staempfli (2007) notes, how playfulness as a resiliency factor is previously understudied. In previous research, the role of playfulness in fostering resilience has been observed by Magnuson and Barnett (2013).

What we have learned from engaging in entrepreneurship research in the context of our own study is that entrepreneurship is associated with coping with uncertainty, passion, and energy. Moreover, (safe) failure, managing risk, building resilience, and developing true creativity and innovation attained in play (Whitton and Moseley, 2019), are all familiar concepts to entrepreneurs. Further, earlier work on resilience highlights it as a learnable competency (Masten, 2001). Nevertheless, studies linking playful learning with resilience research remain scarce.

This study incorporates insights of playful approaches, resilience, and entrepreneurship. Rather than taking a broad view on resilience as a capacity of firms, this paper focuses on resilience as a capability of students. This is done by narrowing the focus on the flexible, entrepreneurial mindset developed through playfulness of individuals, which is supported by playful approaches that manifest in various ways depending on the situation and context, in this case, higher education. In our study, we ask: How can play-based tactics, tools and tasks facilitate the learning by doing, and doing by playing philosophy, and by doing so, offer opportunities for students to build up and harness their playful resilience needed amidst turbulent times in contemporary society?

Definitions of playfulness and playful resilience

In referencing, the work of Barnett (2005) and Staempfli (2007) accentuates playfulness as a term that describes a person's playful disposition—"the internal qualities of the individual that make the play possible." According to Barnett, playfulness is "the predisposition to frame (or reframe) a situation in such a way as to provide oneself (and possibly others) with amusement, humor, and/or entertainment" (Barnett, 2007, p. 955), while play has behavioral manifestations (Magnuson and Barnett, 2013). In more simplistic terms, playfulness represents an attitude or a mindset, while play implies action.

Proyer et al. (2019) offer the following definition for playfulness, stating that it is "an individual difference variable that enables peoples to (re-)frame everyday situations in a way such that they experience them as entertaining, and/or intellectually stimulating, and/or personally interesting." Clifford et al. (2022) state that playfulness is a personality characteristic that may lead to better mental and physical health outcomes.

Proyer (2017) explains playfulness to manifest in the engagement with ideas, being spontaneous, lightening the mood with humor or silliness, playing games, and framing situations in a positive light. As such, it may lead to mental and physical well-being. However, Proyer (2017) has noted that adult playfulness is still an understudied personality trait. There is comparatively less research on adult playfulness than the play and playfulness of children (Proyer, 2011).

Clifford et al. (2022) state that playfulness can be a personal resource that provides a strong adaptive advantage for stress perception and coping efficacy. According to the researchers, playfulness as a resource is malleable, which can be cultivated. Following Folkman and Lazarus (1980), Clifford et al. (2022) write, how "Coping aimed at directly altering the situation represents a form of problem-focused, planful problem solving or active coping."

Earlier research literature defines playful resilience as a quality of individuals who deliberately and determinedly employ their playfulness in order to relate, react, and pro-act in overcoming mental stress (Heljakka, 2020b). Essentially, playful resilience entails optimism toward the future evoked by doing, and doing things by playing with ideas, concepts, and possibilities in order to explore and tease out what might work in solving both mental and practical problems and challenges of various kinds.

As previously suggested, playful resilience, as a theoretical concept originates in the area of play research conducted at the first stages of the COVID-19 pandemic in the spring of 2020 with an interest in object play (where various materials are manipulated, see Hughes, 2002) and a play pattern that became a viral and global online phenomenon—the teddy challenge (Heljakka, 2020b). In the following stage of this research, the author, who conducted the original study, interviewed players of the teddy challenge from Finland, U.K., and Singapore in 2021, and arrived at an understanding that the underpinnings for motivation to engage with teddy bears by participating in the teddy challenge (that is, displaying plush toys in the windows or making social media posts about them, and spotting the toy displays in windows) were grounded in three ideas, namely the ones of resistance, resourcefulness, and playful resilience (Heljakka, 2021b). This study continues the work of the author, combining findings of play research with the areas of playful learning and entrepreneurship education.

Related research

Experiential learning can be seen as a useful method in teaching entrepreneurial thinking and behavior (e.g., Franzén et al., 2020). One of such learning initiatives is playful learning, which according to experts in childhood education, Hassinger-Das et al. (2017) claim that "is a pedagogical methodology where it is sought that children are active, engaged, socially competent, and can have materials that are fun and meaningful to them." Resnick (2006) points to the difference between play and learning by comparing them to entertainment and education. He states that play and learning are "things that you do" as compared to entertainment and education as "things that others provide to you," making a strong case of playful learning as a mode of active behavior, i.e., *learning by doing*.

Playful learning has longstanding roots in educational theory, mostly concerning children as learners. Despite its tension with adult education (Holflod, 2022), play has been used to model a signature pedagogy of playful learning in higher education (Nørgård et al., 2017) and the potential of playfulness, this context has been explored, for example, by Koeners and Francis (2020). Playful learning as a field of research and practice provides not only an experiential mode of

learning, but also allows experimentation, being explorative, open-ended, and urging creative collaboration (Holflod, 2022).

James (2019) argues that playful learning in higher education may be understood as either different forms of play approached in exploring subjects and activities, or attitudes toward learning through playfulness (Holflod, 2022). The difference between playfulness and play has been defined per, for example, Heljakka and Ihamäki (2016) as playfulness being a mindset, and play an activity. Nonetheless, "play and playfulness are intrinsically linked, yet distinguishable from one another" (de Jong, 2015, p. 97). Further, as stated in previous research, "playfulness is in a way flirting with the possibility of play, a mindset necessary to *make use of play*, for example, in a serious context, such as university pedagogics" (Franzén et al., 2020) Playfulness can thus be understood as a mental predisposition of both teachers and students toward learning about phenomena of the world, and play as forms of engagement and activities with different elements and actors in various environments and situations of that world.

Because of its multidimensionality and interdisciplinarity, theories of play are varied and ambiguous (Sutton-Smith, 1997). Nevertheless, it is recognized and accepted in theoretical debates that play can take many forms: It can be solitary or social, embedded in the physical, digital, or imaginative, and engaged in by players of different ages, even between individuals of different generations and species. What makes humans and animals play, is the promise of enjoyment that play holds. However, contrary to common belief, the enjoyment experienced through play results from a multitude of phenomena, and play is not only about having "fun." More than allowing one to be entertained, the enjoyment of play stems from being activated by curiousness and the right level of challenge.

Following Burghardt (2011), playing is associated with spontaneity, voluntariness, goal-orientedness, and enjoyment. Van Oers (2013) combines playing with rules, and the degrees of freedom and involvement. As explained by Whitton and Moseley (2019), play is not a single activity, but a wide spectrum of activities that extends from infancy to senior age, traversing the limits between leisure, work, and pleasure (see, e.g., Heljakka, 2021a). Woolsey and Woolsey (2008) describe playing children as follows: "They naturally engage the new, and find ways to interact with it. They joust. They explore. They spontaneously invent. They engage in the moment, and it engages them."

Teachers of early education, Baker and Salas Davila (2018, p. 66) suggest that with children, playful participatory research can be achieved by "engaging in playful activities and provocations to promote creative thinking" and playing with the role of being a teacher being able to test new ideas by using a playful mindset.

The Council of Ministers of Education in Canada have stated that "play-based learning leads to greater social, emotional, and academic success," and endorses a "sustainable pedagogy for the future that does not separate play from learning but brings them together to promote creativity in future generations" (n.p., cited first in Honeyford and Boyd, 2015, p. 65) However, as noted, playful learning is not only to be associated with young learners. For example, Honeyford and Boyd (2015) claim that research in several areas suggest that play is integral to lifelong learning. We might add here that playful learning also means life-wide thinking of play as a phenomenon that not only traverses different ages of people, but also, different contexts of life such as education, leisure, and working life.

Given that play is both life-long and life-wide, it is fruitful to ask, how play can be encouraged and supported in different contexts, settings, and situations. As a voluntary form of behavior, play cannot be forced, but rather invited, encouraged, and facilitated. In an educational setting, this view is, nonetheless contested, as playful learning often is a structured activity that calls out for active engagement. Play as a cognitive process (Sutton-Smith, 1980) is prominently made up of inquiry and invention (Engel, 2019) that closely belong to creative endeavors. Several scholars have linked creativity and play (Sutton-Smith, 1968, Lieberman, 1977, Kline et al., 2003, Gray, 2015, Koeners and Francis, 2020). What is of particular interest to playful learning, are the connections between play and co-creation.

Play can be set in motion through *invitations to play*, such as games, toys, and playful environments, which may be designed and facilitated within play*ful* education. Signifiers for play or playable artefacts that both constrain the activity at hand, and allow creative, open-ended, and even innovative play to build up around them offer fruitful tools for playful learning.

Linking playful learning, entrepreneurship, and resilience

The ultimate aim of professional education is to improve students' professional competence (Biggs and Tang, 2007, pp. 50–51), and according to Sutton-Smith (1980) some theorists see play as a competence with transformational power, that is, the capacity to transform and advance our cognitive development. In this light, in this way, it is easy to see why during the past decennium, playful learning has gained interest from several different academic realms, within management and organizations to name a few.

What initially established our interest in the synergies between playful learning and entrepreneurship, was the observation concerning the similar notions that "playfulness," "playful adults," and the activities of various "play" carry with ideas around entrepreneurship, such as spotting opportunities, being creative, valuing ideas, mobilizing others, taking initiative, and learning through experience to mention a few (Bacigalupo et al., 2016).

To exemplify, one of the theoretical concepts associated with entrepreneurship is opportunity recognition. Daniel Hjort writes, "All opportunities have a genesis: the processes of preparing, arranging, trying out, and relating, which place you in a position where you can transform occasions into opportunities and opportunities into actualities" (Hjorth, 2005, p. 387). Building on the aforementioned ideas, we aim at linking playful learning with entrepreneurship, and finally, playful resilience.

We lean on a definition of entrepreneurship, stating it is realized "when you act upon opportunities and ideas and transform them into value for others. The value that is created can be financial, cultural, or social (Vestergaard et al., 2012, p. 11)." *Entre* for creating space, spacing, and stepping into the in-between, and *prendre* for the grasping of opportunities" (Hjorth, 2005, p. 395). In fact, Hjorth notes the direct linkage between play and entrepreneurship as he further describes entrepreneurship "as a form of social creativity, as a tactical art of creating space for play and/or invention within an established order, to actualize new practices" (Hjorth, 2005, p. 387).

Further, the connection between play and the development of an "entrepreneurial eye" has also been noted by researchers Kajder and Hicks (2011), who have studied the possibilities of creating space to play and learn with digital technologies. This, because in play,

learners, just like entrepreneurs "are more likely to creatively and imaginatively seek out unique solutions to problems" (Honeyford and Boyd, 2015, p. 66).

Playful adults have been attributed with qualities, such as (a) internal motivation and orientation toward process, (b) attribution of personal meanings to objects or behaviors and are not bound by what is seen, (c) a focus on the pretend and seeking of freedom from externally imposed rules, and (d) active involvement (Rubin et al., 1983) As described, playfulness in adults and the common characteristics of an entrepreneurial mindset carry many similarities. To give an example, those who are playful, tend to utilize their playfulness "to resolve conflict and experience situations in enjoyable and cognitively stimulating ways." (Holmes and Hart, 2022, p. 30).

"Is it advantageous to be playful?" Magnuson and Barnett (2013) ask. The benefits of playfulness at work are that it has shown to promote work place satisfaction as well as productivity (Glynn and Webster, 1992, 1993). For this reason, we believe, it is important to train the minds of possible future entrepreneurs to become more flexible also in terms of understanding, how play(fulness) in individuals fosters flexible thinking, collaboration and co-working skills. To illustrate, the idea of progress—moving forward—is an important component of resilience (Southwick et al., 2014) and a crucial part of engaging in play as well as harnessing an entrepreneurial mindset. Therefore, in the next section, following Magnuson and Barnett (2013), we turn to their second question, namely, "is it possible to teach individuals to be playful?"

Playful learning as a contributor to resilience

Literature on entrepreneurship education has increasingly called for new ways of teaching and learning entrepreneurship to enhance entrepreneurial awareness and mindset (e.g., Robinson et al., 2016). We can see playful learning and fostering the playfulness of adults to possible pathways toward this.

Proyer (2011) has observed that studying the relation of adult playfulness to academic achievements may provide hints for applied areas such as pedagogy. In a study conducted by Proyer (2011), it was found that a playful way of dealing with the requirements for a task could help students to succeed. Again, Iwasaki and Mannell (2000) have studied how leisure helps students to cope with academic and interpersonal stressors. In this study, we turn to playful learning as a facilitator of playful resilience.

This paper develops the concept of playful resilience by linking it with an entrepreneurial mindset achieved through maintenance of good spirits and a cognitive and emotional flexibility associated with play (Sutton-Smith, 1997), and by applying it to playful learning in higher education. The paper utilizes findings from research streams in investigations of play, playful learning, resilience research, and entrepreneurship education to argue, how there are notable similarities between entrepreneurial resilience and playfulness in adults, and between the flexible, entrepreneurial mindset and a playful mindset. Moreover, the paper proposes that resilience can be facilitated by supporting its development through playful approaches utilized in higher education by a particular focus on active teaching approaches (Byrne et al., 2014).

Overcoming and recovering from mental stress caused by phenomena such as the consequences of the COVID-19 pandemic is key for students in any area, and particularly those considering a career in entrepreneurship, which is all about a sustained belief about a future that holds promises of success achieved by curiosity, creative thinking, coping with uncertainty and overcoming challenges—and employing the *what if?* kind of thinking familiar from play, meaning exploring a world of more fantastic possibilities (Engel, 2005).

In the following, it is suggested that developing and maintaining playful resilience has many touchpoints with the qualities of a playful and entrepreneurial mindset—a positive mental state, which we believe foregrounds the ability to grasp opportunities, encourages risk-taking in one's endeavors, and stands for a positively attuned stance to future. "The social isolation, home/work demands, and other stressors people are experiencing due to the COVID-19 pandemic have highlighted the view of play as a coping mechanism," Holmes and Hart (2022) write in their article exploring the connection between adult playfulness and emotional intelligence.

Entrepreneurial resilience as discussed per Korber and McNaughton (2018, p. 1133) is similar to playfulness as a mindset and a precondition to play as an activity: "Entrepreneurial resilience in this stream of literature is commonly understood as an *ex ante* condition that enables the entrepreneur (or the firm) to better manage potential crises, setbacks, or challenges." Conversations undertaken in entrepreneurship research usually conceptualize resilience as a resource, just like playfulness has been conceptualized as an *emergent resource* for current working life (Heljakka, 2020a).

In their investigations of conversations around entrepreneurship and resilience Korber and McNaughton found that the qualities of *engineering resilience* are hardiness, sturdiness, and persistence. They synthesize the key proposition of this finding as follows: "Higher levels of individual resilience predict whether entrepreneurs venture again after failure of continuously engage in entrepreneurial activity despite success. Again, *adaptive resilience* refers to learning and transformation, referring to strategies, which entrepreneurial firms utilize in response to disruptions (Korber and McNaughton, 2018, p. 1138). While the proposed "hardiness, sturdiness, and persistence" of engineering resilience seem alien to play as an activity that is guided by light-hearted (albeit not altogether carefree) attitude and flexibility in thinking, the adaptive type of resilience offers itself as a close concept to the notions of playful learning, playful approaches, and playful resilience. How the aforementioned concepts are combined in our study is illustrated in Figure 1.

FIGURE 1
The theoretical framework for the study, order of key concepts.

Rationale and structure of our study

In their paper, Korber and McNaughton (2018) suggest that "future research could explore how the entrepreneurial potential of individuals can be enabled, fostered, and mobilized in order to create the potential for resilience at the organizational or higher levels." González-López et al. (2019) have answered this call in demonstrating, how resilience can be facilitated in entrepreneurship education: "Entrepreneurship education equips students with competencies to manage the challenging circumstances inherent in entrepreneurial activity. One such competency is resilience, the capacity to address, adapt to, and overcome adversity, uncertainty, and change" (González-López et al., 2019, p. 457).

Our study addresses the challenge of facilitating growth and development of resilience from the perspective of playful learning. The present study aims to contribute to the discussion by offering ideas on playfulness as a source point for building resilience in higher education. We show how resilience training can be integrated into higher education through playful approaches by accentuating the need for theoretical training combined with experimental learning (Shepherd, 2004; Morris et al., 2013; Jing et al., 2016). To the knowledge of the author, combining these theoretical concepts has not been done previously.

Magnuson and Barnett (2013, p. 131) hypothesized "that university students higher in playfulness would perceive that they were under less stress due to the inherent qualities of playfulness as a means to reframe their environment into one that is amusing or entertaining, and hence, less stressful."

Barnett (2007) has characterized playful university students as active and energetic. In a study, Magnuson and Barnett (2013, p. 140) found that playful university students employed engagement-focused coping styles more than those who were less playful. Therefore, they state that "Adult playfulness may well contribute to the individual resilience through its unique employment of coping styles in the face of stressful situations, as playful young adults seem to see stressors as nondelibitating and attack them directly and readily."

In order to develop playful resilience, students need encouragement in sustaining a flexible mindset toward the world. Being courageous, taking risks, and flourishing despite of failures belong to the mindsets of playful individuals, as "playfulness can lead to new ideas and productive risk-taking" (Baker and Salas Davila, 2018, p. 70). And as Holflod (2022) has noted, individual and collective courage to enter new domains, situations, and challenges belongs to playful learning. We believe that by introducing students to playful approaches within playful learning, it is possible to support them not only in being more open and curious about what playing with dedicated environments, materials, and challenges means, but in fact, trains them to develop an entrepreneurial and flexible mindset (see for example, Nadelson et al., 2018), and most importantly, assists them to become playfully resilient.

The paper at hand presents new ideas on how playful learning methods, such as playful approaches may be used in order to enhance playful resilience of students in higher education. To substantiate our argument, we use examples of playful learning approaches in Finland to bridge the concepts of playful learning, playful tactics, tools and tasks that aim to support the growth of a flexible, entrepreneurial mindset among students of higher education. The examples provide insights in the potential of linking playful learning with entrepreneurship education. Our case focus particularly on how a design challenge related playful museums allow students to ideate, innovate, and create solutions in a co-creative way. The three motivations for us to undertake such a study are first, a will to participate in the evolving theoretical discussions on the manifestations and uses of play as part of academic education and by doing so, secondly, address the more general need to find out more about adult play (van Leeuwen and Westwood, 2008) and third, to investigate the potentiality of playful learning with adults (e.g., Whitton and Moseley, 2019).

The contribution of the paper is in introducing the concept of playful resilience previously known in play research to the realm of playful learning, and bringing to the fore the importance of empowering playful and flexible mindsets to grow among future entrepreneurs by offering playful approaches in their education. We propose that playful resilience can be fostered through playful learning, and that playful learning happens with thoughtfully designed learning experiences detailed in the paper, including play-based tactics, tools, and tasks—in other words, learning by doing, and doing by playing.

The paper is structured as follows: in the next section, we delve more in depth into the topics of play, playfulness, and playful learning. Next, we explain, which approaches were used as part of our playful learning initiatives. The Results section offers a discussion of the main findings of our research, suggests an array of guidelines for using playful approaches in higher education, after which we address the limitations of the study. Finally, in the section "Conclusion," we consider the relationship of learning by doing and doing by playing for the building of an entrepreneurial mindset through playful learning approaches, and argue for the importance of playful pedagogy in cultivating and fostering playful resilience among students in higher education, whose competencies are trained with flexibility in mind.

Holflod (2022) has identified collaborative playing activities and construction play as facets of playful learning, which manifests through collaboration, communication, and co-creative activities. We take this same disposition in arguing for the use of playful tactics, tools, and tasks in accruing an entrepreneurial mindset to arrive at playful learning of students involved in higher education. Hence, we find that teaching entrepreneurial thinking and facilitating related competencies, would benefit from the use of playful approaches, as illustrated by our examples of playful learning, presented in the paper.

Methods

Our research employs an exploratory methodology including a case report on the design and execution of a course constructed with playful approaches in mind. Exploratory studies are often conducted using interpretive research methods and they answer to questions such as what, why and how (Dudovskiy, n.d.). In some disciplines, a case study is an ideal way of seeing how students can apply their knowledge and professional skills, Biggs and Tang (2007) suggest, and serves the purpose for the study at hand in answering, by large, how playful learning can be realized in the context of higher education.

In order to find out about the suitability of playful approaches as a vehicle for "learning by doing and doing by playing," we designed a course built on playful learning. In this study, the empirical material consisted on documentation of the course—photographs, videos, and feedback given for the course, which was scrutinized with the help of content analysis. Content analysis is used to determine the presence of certain words, themes, or concepts within some given qualitative data (Content analysis, n.d.). In this case, the author as the teacher was particularly interested in how students responded to the playful course design in their comments and feedback. In parallel to teacher documentation,

student feedback, and observations made by the author of student work throughout the course, this study further employed previous theoretical knowledge and concepts the author has used and developed as a scholar of play (see, e.g., Heljakka, 2021a).

The course described in the following was conducted at the faculty of humanities at the Finnish university located in a university consortium. In the fall of 2021, the author designed and gave the course "Playful Museum" at a Finnish university for a group of Finnish students coming from the field of humanities (museology, cultural production, and digital culture) delivered in Finnish language with the aim of designing and prototyping the idea and conceptual space for a playful museum.

Playful museums range from anything of children's museums to so called "pseudo museums" for adults, such as museums dedicated for selfie taking (see Heljakka, 2023). Some 19 native Finnish students between 20 and 30 years of age participated in the first course, which of ($n = 3$) were male and ($n = 16$) female. Prior to giving the tasks to each student working in groups, the author expressed their interest to document the coursework for research purposes, informed the students about the anonymization practices regarding processing of data, such as photographs, videos, and feedback given for the course.

Playful learning often strives to allow students to work collaboratively with problem-based learning (Biggs and Tang, 2007, p. 149). Researchers have highlighted how the right climate for encouraging creativity is one where the students can feel they can take risks and can feel free to ask what would happen if?' without being ridiculed (Biggs and Tang, 2007, p. 147). As entrepreneurship competencies (see, e.g., Penaluna and Penaluna, 2021) and play competencies share several similarities, our assumption is that by employing playful approaches in university pedagogy, it is possible to support not only play and related skills, but also the strengthening of entrepreneurship competencies—to think of create and innovate in order to arrive at novel solutions. Nonetheless, Pittaway and Cope (2007) have noted, that entrepreneurship education should reach students on courses that are not specifically entrepreneurship oriented, meaning embedding entrepreneurship in any subject. Therefore, our analysis encompasses observations and insights gained with the students who participated in the course. In our study, we ask: How can play-based tools, tactics, and tasks facilitate the learning by doing, and doing by playing philosophy, and by doing so, offer opportunities for students to build up and harness their playful resilience needed amidst turbulent times in contemporary society?

Results

In the following, we present an example of course design illustrating, how the emergence of playful resilience can be supported by allowing students to engage in active learning, such as playful approaches aiming at developing flexible thinking.

In the fall of 2021, the author designed and gave the course "Playful Museum" at a Finnish university for a group of Finnish students delivered in Finnish language. The motivation in giving course was to plan student-centered, hands-on work that serves a purpose with an accentuation on playful learning. The "Playful Museum" course (5 ECTS) used theory, earlier research, case examples and such to create interest and inform the students, whereas the activation by various tasks and tools aimed to stimulate their creativity and eagerness to solve design problems. In this way, the course asked students to take more responsibility for their own learning, an approach also proposed by Knight and Wood (2005), and in order to do so, to work in groups and learn from each other.

In designing, organizing, and conducting courses with the aim to provide students the possibility to experiment with ideas and non-traditional teaching tools, and engaging with playful learning together with students, we answer the call to encourage an entrepreneurial mindset as well as earlier findings indicating that playful learning contributes to university students' problem-solving skills, creativity, foresight, and ability to see things that do not yet exist (Kangas et al., 2017). These theoretical ideas led to the formulation of Theorem 1: Play is joyous, enjoyable, and entertaining. Play allows creativity and risk taking. An entrepreneurial mindset *is* a playful mindset.

This social configuration inspired the author to set up not only a 'magic circle for learning', but also a *magic circle of play* (a concept introduced by cultural theorist Johan Huizinga, also discussed in Whitton, 2018), which means a trustful, safe, and hence, a failure-free environment. This was achieved to one part by the spatial arrangement of the seating in the classroom and by ensuring that the students were given freedom to choose presentation modes that inspired them most, such as using drama, posters, digital visualizations, etc. when communicating about their work for other groups.

"If the social environment is favorable to entrepreneurship and does not stigmatize failure, greater resilience can be expected" (Hedner et al., 2011, c.f. in González-López et al., 2019). Collins et al. (2006) mention that the "ability to fail" and learning from failure (Cope, 2011) are regarded as useful for building resilience. In playful learning, this manifests as the ability to step into play without facing failure—play is a "safe" failure-free activity. This possibility was exercised during the course by allowing the students physical movement around the classroom. In practicality this meant that the course design enabled students to sit, stand, and move in different formations during each class to enhance the growth of a flexible mind through movement of flexible bodies. However, each class begun with the students sitting in the same kind of composition—a circle. Sitting in a circle developed quickly into a habit as students themselves started to ask when they entered the classroom whether or not they should start organizing the seating. This practice proved to be a good way of checking attendance and finding out about how students were doing.

As has been stated earlier, reflection is considered an integral part of entrepreneurial learning (Cope, 2003). Students reflected on their experiences of playful learning in their post-course feedback entries, collected by the author. Examples of this feedback follow, describing student responses to their intrinsic motivation, individual learning goals and the general atmosphere:

> "The teaching style of the course was really great, intensive but casual. Sitting in a circle probably awakened more conversation and eased up the tension. The activities of many kinds and tasks were instructive. The theoretical side of the course was interesting, and did not at all feel like 'lecturing'. I think that the course had a safe atmosphere, which is really important everywhere, and I believe that I learned communication, open-mindedness, listening to others and caring for others' opinions [more] than theory. This is a good thing!"

Moreover, the students were given freedom to join in the treatment of study materials by using a 'Flipped Classroom' approach: The students (some of which had studied museology) were asked: "What are the main functions of traditional museums?" The insights were then added to the lecture slides presented on Power Point. With this exercise the motivation was the goal to achieve the students' trust in their already gained knowledge, to support their confidence in using that knowledge by participation in the teaching, and their ability to teach their peers. Flipped Classroom methods are integral to playful learning and can be understood as "invitations to play."

Furthermore, by using different "invitations to play" such as playful tools (here cardboard cubes), a teacher is better equipped to facilitate use of creativity. As result, many original ideas stemmed from the co-creative coursework, and in this way, it was also very rewarding for the author as a teacher to see how students created "something out of nothing," illustrating resourcefulness—a subset in building playful resilience. These ideas led to Theorem 2. The facets of play include: Use of creativity, use of imagination, use of object play (construction play, prototyping supportive of conceptual design), and use of role play (media play, mimicry). One student reflected in particular on the cardboard cubes (named Comicubes) used as a playful tool throughout the course:

> "It was nice to demonstrate the design [of the playful museum space] first with the smaller cubes and then use the large ones [Comicubes] in the classroom. The cubes were a workable tool and we used them both in their two-dimensional and three-dimensional formats."

For the project-based course, there was a final project to be conducted at the end, which was influenced by the theories and activities taken throughout the course. During the course, the students were asked to work in their groups, and develop one "playful dimension" to the common project—the Playful Museum—which was built up little by little both conceptually and physically, as the course advanced. The knowledge gained in this regard resulted in Theorem 3: Modes of playful learning (structured play in the context of education) include collaboration, co-creation, and co-construction, which was appreciated based on a comment by one of the students:

> "I liked the group work and that everyone's creations became part of a larger whole."

To summarize, during the course, the author sought to (1) allow a playful atmosphere through both physical seating arrangements (starting each session by sitting in a circle together), (2) providing an interesting challenge for the students (by allowing them to build up on earlier knowledge, which they presented in class), (3) offering playful tools for use (e.g., the Comicubes cardboard tool), (4) facilitate collaboration and co-creation (by providing tasks to be carried out in groups), and (5) invite the students to combine their knowledge and creations in a collaborative effort—the final project.

Supported by these findings, we contribute to existing research literature on playful learning, entrepreneurship, and resilience research with a framework built on observations made in the exploratory study, namely "The four theorems in developing playful resilience through playful learning as part of higher education" presented in Figure 2, in which the Theorem 4: Playful resilience is achieved through a flexible mindset developed in playful learning synthesizes the ideas presented in the paper, linking together playfulness, entrepreneurial thinking, playful learning, and playful resilience.

Discussion

The paper at hand has sought to offer suggestions and exemplify, how playful approaches, as part of playful learning can be applied in developing a flexible, entrepreneurial mindset, by allowing students to participate in non-conformist ways of learning, which, in turn, enhance their well-being through growing confidence and ultimately result in the building of playful resilience.

The insights gained during the course described briefly above produced valuable ideas about playful learning in higher education. As a result, we conceptualized as "The four theorems in developing playful resilience through playful learning as part of higher education" (see Figure 2): We started to address our task with the first theorem, with the preconception that play is joyous, enjoyable, and entertaining. Second, we accentuated, how the facets of play include: Use of creativity, use of imagination, use of object play (construction play, prototyping supportive of conceptual design), and use of role play (media play, mimicry). Third, through our examples, we highlighted the modes of playful learning as collaboration, co-creation, and co-construction that resulted in Theorem 4: Playful resilience is achieved through a flexible mindset developed in playful learning.

Next, based on the insights gained during the course, we will detail, how to best incorporate playful learning into the pedagogical repertoires and practical implementations of higher education. Based on our ideas of playful approaches as an integral part of building playful resilience through a flexible, entrepreneurial mindset, we present the following guidelines on for using playful learning as part of higher education:

- *Guideline 1: Tactics*—Teachers greatly improve the changes to deliver engaging playful learning by providing the students a socially inviting and communal space and atmosphere within the university as a *collaboratorium,* as suggested by Nørgård and Moseley (2021). This means that teachers have the responsibility to create a psychologically safe space that allows playful (even subversive) experiments to take place in terms of collaboration between students coming from different backgrounds, disciplines, even cultures. A precondition for any kind of playful learning to happen is the establishing of a playful atmosphere. In this co-creative and allowing setting that is playful in both physical and mental terms, it is possible to test risk-taking and safe failure, skills known to be of importance for entrepreneurs.
- *Guideline 2: Tools*—Teachers interested in awakening and cultivating a flexible, entrepreneurial mindset can provide the students with an array of physical materials to explore, and to engage with in the name of object play. The inclusion of toys and games is preferable, but even more importantly, it is beneficial to let students engage with everyday materials like paper and cardboard that allow creative construction. Material interventions, such as physical tools like the Comicubes prototyping tool which is based on simple, malleable, and cardboard "technology" suitable for creativity, co-creation, and even physical construction, offer an understandable, yet curious interface for experimentation. Moreover, guidelines presented in earlier research on playful learning suggest that "Thinking in three dimensions or multiple

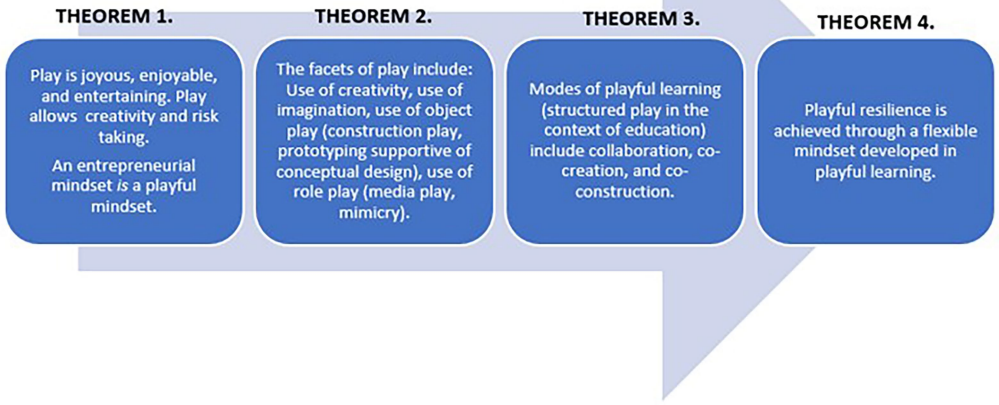

FIGURE 2
The four theorems in developing playful resilience through playful learning as part of higher education (model created by the author).

modalities pushes creative and critical thinking and allows more opportunities for students to learn with and from one another" (Honeyford and Boyd, 2015, p. 71) In our thinking, three-dimensional physical tools as a resource offer itself as a novel strategy of communication relating to co-construction and co-design of materials, as proposed by Holflod (2022), and consequently, one pathway to a play-rich environment within the educational setting.

- *Guideline 3: Tasks*—Teachers may employ popular media formats to frame the playful exercise, creating a 'playful and joyful' disruption distinct from traditional learning situations (Holflod, 2022). This means that the framing of the playful learning situation can be based on popular phenomena such as the concept of playful museums used as a starting point for invigorating playful learning in this study.

Study limitations and future research

Finally, the limitations of our research must be discussed: Arguably, our example illustrates only a brief interlude of playful learning taking that other coursework provided for the students represent more traditional forms of learning incentives.

Limitations of the study include the small sample of students. Furthermore, we did not specifically inquire the students' own conceptions about their ideas of playful resilience. In this regard, the paper at hand only provides preliminary impressions of the teacher's observations, and (audio-) visual documentations of the playful learning situations, which were supported by the feedback given by the students themselves.

To address this limitation in future research, we suggest that students should be given a voice in the evolving academic discussions around playful learning as part of higher education. More importantly, in avenues for future research, we should specifically ask about their conceptions of what it means to be playful, what it means to play, what kind of players do they see themselves, what it means for them to participate in playful learning, and finally, how they position themselves toward the idea of playful learning as a beneficial facilitator in developing an entrepreneurial mindset (see also, e.g., Nadelson et al., 2018), including building and fostering a flexible mindset within higher education.

Armstrong (1991, p. 167) has claimed playfulness as "a Western ethnocentric concept," which proposes limitations in interpreting the ideas presented in the paper at hand: A study conducted with students based in Scandinavia might give results that are not comparable to studies undertaken elsewhere. Moreover, what should be considered is that "entrepreneurs are not a homogeneous group" (Korber and McNaughton, 2018), nor are students of higher education taking part of playful learning such a cohort. Usually, students of higher education are a rather heterogeneous composition of individuals, with different capabilities of creative thinking and different levels of sensitivity and tolerance for playful behavior. These ideas should be taken into consideration, when planning and conducting educational interventions such as playful learning within higher education.

Conclusion

> "Considering the benefits conveyed through playfulness, its use during the COVID-19 pandemic could prove to be an important, and even vital, resource to mitigate negative mental health outcomes." (Clifford et al., 2022, n.p.).

In the current unstable and uncertain post-pandemic world, entering entrepreneurship as a career choice seems to require more courage than earlier. In order to develop a flexible mind with a tolerance for uncertainty and rapid changes, students as well as everyone else who wishes to embark on a journey of being an entrepreneur require a psychologically and socially safe learning environment, which encourages risk-taking, and experimentation with ideas, tools, and environments.

The current study was exploratory in nature and it was conducted for the purpose of gaining more knowledge on the relationships between playful learning as part of higher education to promote the possible generation of playful resilience needed for students who could benefit from developing a flexible, entrepreneurial mindset. The study contributes to the existing research literature of playful learning with a focus on students involved in higher education, and particularly those who with an entrepreneurial mindset, which we have noted as an integral element of resilience—and more accurately—playful resilience.

Our aim has been to present playful approaches as a pathway to building resilience in higher education and we have suggested that entrepreneurship research functions as a fruitful avenue to consider both playful learning and the building of resilience from. "Exploring entrepreneurial resilience as a practice might result in novel methodological approaches and unique insights into resilient actions" (Rose, 2004, p. 307, c.f. Korber and McNaughton, 2018, p. 1141). We believe playful approaches to represent one representative of such actions.

The foundations of this study lie in the intersection of playful approaches, resilience, and entrepreneurship. In this paper, we asked: "How can play-based tools, tactics, and tasks facilitate the learning by doing, and doing by playing philosophy, and by doing so, offer opportunities for students to build up and harness their playful resilience needed amidst turbulent times in contemporary society?" To begin to answer this question, we combined the idea of playful resilience proposed in earlier research with thinking about playful learning representing one of the possible avenues, which helps students in strengthening their ability to develop a flexible mindset needed in entrepreneurial endeavors. Through a conversation on earlier findings of the many areas combined in this paper, and supplementing this information by a description of playful coursework, we arrived at "The four theorems in developing playful resilience through playful learning as part of higher education." Furthermore, we sought to advance understanding of how playful learning can be supported in practice by introducing ideas on the tactics, tools, and tasks, which according to the knowledge gained in the study at hand, contribute to effective and enjoyable playful learning in higher education. We hope this new knowledge to contribute to future research on playful learning, flexible minds, and resilience research.

Watkins and Moseley (2022) rightfully note: "The significance of play in human life obliges us to engage in play or in playful activities in the context of academic research. Such activities—to even count as play or playfulness—need to be intrinsically motivated and apparently non-productive; not linked to any specific production/research output. They *can* also lead to ground-breaking discoveries." Even in more modest terms, playful learning may contribute to many insights gained by students, such as the value of imagination and co-creative efforts conducted as part of groupwork.

In the light of the findings of this study, it is possible to agree with Proyer (2011) who noted that specific programs for fostering playfulness might be helpful in increasing the performance of students. In regard to the ideas presented in this paper, we trust that playful learning always is productive in its tendency to produce new ideas, and generate conversations around a major question related to play—the question of *"what if?"* Whereas the grand motivation for many to engage in play seems to connect with an emotion of "joy" (Sutton-Smith, 1997), to participate in playful learning with its intentions to arrive at novel solutions to envisioned challenges, what drives (young) adult learners is both curiosity and courage to explore and experiment, and perhaps, be a little adventurous in due course. Alongside curiosity and courage, the future asks us to be creative. For as Daniel Hjorth aptly observes, "When creativity is crowded out from work through managerial practices prioritizing predictability and control, risk, play, desire, and adventure are lost" (Hjorth, 2005, p. 397).

The findings of this study are only tentative in nature. Nevertheless, as shown in our findings and suggestions presented above, playful engagement can be facilitated and cultivated with the right tactics, tools, and tasks embedded in thoughtfully designed learning experiences, such as the course work presented in this paper. Ultimately, whereas playful learning presents possibilities for semi-controllable play as discussed by Holflod (2022) that could be conceptually named *guided adult play*, play by and large is about processes of cognitive and embodied movements and messy endeavors with materials. Because this is what play needs—freedom to roam and flourish when possible. We cannot tame play by instrumentalizing it for the sake of education—but, by framing and designing it as playful learning and playful approaches, we can grasp the nuances of it that help us to grow as humans and entrepreneurial souls, by helping our minds to develop the ability to be playfully joyous, optimistic and resilient—and accomplishing this without gritted teeth, but with that positive twinkle in our eye.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the author, without undue reservation.

Ethics statement

Ethical review and approval was not required for the study on human participants in accordance with the local legislation and institutional requirements. Written informed consent for participation was not required for this study in accordance with the national legislation and the institutional requirements.

Author contributions

The author confirms being the sole contributor of this work and has approved it for publication.

Conflict of interest

The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

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