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Student teachers' prerequisite to be embodied playful presence in lessons with playful approaches to learning

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ABSTRACT

This qualitative study aimed to investigate student teachers' embodied playful presence or absence in lessons with playful approaches to learning. The study was based on insights from theories on playfulness, embodied presence and the notion of situational constraints. A pilot design and two iterations framed by a design-based research approach was conducted, and tested design principles regarding playful learning, physical activity and digital materials. Through a hermeneutic phenomenological approach, the analysis focuses first on the students' negotiation or renegotiation of engaging in playful approaches to learning, second, on the students embodied playful presence or absence in playful lessons and third, on the student's prerequisite of engaging in playful lessons. The analysis revealed that traditions, habits and practices within the current educational system affected the student teachers' embodied playful presence because the student teachers were preoccupied with the performativity indicators and reaching specific curricular goals, thus making the playful open-ended teaching a promoted element of the education system. In addition, the analysis also confirmed that design principles regarding embodied playful presence cannot be coerced or imposed on the student teachers but that learning activities can be facilitated for a playful atmosphere or mood to emerge. This was seen because the student teachers responded to the playful teaching at various embodied playful presence or absence. Finally, the analysis revealed that educator's commitment was not necessarily enough for all student teachers to achieve embodied playful presence because there were several other elements that affected the student teachers. In conclusion, the findings in the present study thus points out that realising playful approaches to learning in higher education is complex and for student teachers to become embodied playful presences, all their prerequisites to engage in playful approaches to learning must be considered.

Introduction

Imagine a learning lesson in higher education in which the mood and atmosphere are permeated with play. The educator is being playful, facilitating playful learning processes. Even the classroom itself is transformed into a play laboratory designed to invite, inspire and insist on playful approaches to learning. Imagine that the students are devoted and engaging in the learning activities with a playful attitude. Laughter and joy create academic drive. Imagine the students' preoccupation of being in the playful learning process, which will grant them the knowledge, skills and competences that they need as teachers in their future careers at compulsory school.

Now, imagine that you are a student in teacher education. You are on your way to attending a lesson. Throughout your educational practice, you have acquired specific institutional habits of being a student, that is, how the teaching method is conducted, how the interior of the classroom looks, the content of the subject, and so on. Thus, you know your own role and position in the learning environment. Both bodily and cognitive, you have been entangled in the current educational tradition and culture. Now imagine that all your prerequisites about being a student are being challenged.

The two above-mentioned narratives are used to illustrate how playful approaches to learning, when implemented in higher education, can influence a student's prerequisite of being a student and how changing the teaching method can challenge the current educational culture. The student's prerequisite for being a student is based on their previous knowledge and experiences of being a student throughout their own educational practice, and thus they have some expectations of how academic teaching is conducted in higher education. Traditions, habits and practices and situational constraints within the educational context could retain students in fully engaging playfully, both cognitive and embodied in the playful lessons (Gudiksen & Skovbjerg, 2020; Wolf, 2019).

The current educational culture is based on performativity indicators and reaching specific curricular goals where tests and exams are highly valued. Masterclasses have been the dominant teaching method in the third cycle of higher education (Jiménez-Olmedo et al., 2016). Masterclasses, in which students are sitting at a desk and facing a whiteboard while the educator is standing in front of the students conducting a lesson. Thus, the educational culture has been characterised by predetermined learning agendas, teacher-driven learning activities, well-known positions in which the content and learning process is initiated by the teacher and the notion that the teachers know everything (Händel & Buhl, 2021; Jørgensen et al., 2022). In recent years, there has been a focus on shifting this perspective and thus the educational culture with e.g. game-based learning (de

Freitas, 2006), or playful learning (Händel & Buhl, 2021; Holflod, 2021; Nørgård et al., 2017; Whitton & Moseley, 2019; Yogman et al., 2018).

Playful learning has in recent years increasingly gained recognition as a teaching and learning method in Danish social and teacher education (Playful Learning, 2022a). In 2018, the Danish Playful Learning Program was launched at all six Danish university colleges (Playful Learning, 2022a). Within the Playful Learning Program, a competence development project was established. The aim of the competence development project was to run competence development courses to ensure that educators from both social and teacher education experimented with playful learning designs in their own teaching (Playful Learning, 2022a). In 2019, the Playful Learning Program expanded with a Playful Research Extension project (Playful Learning, 2022b). The aim of the Playful Research Extension project was to create a research base between all six university colleges, Design School Kolding, and LEGO foundation in order to investigate various playful and experimental approaches towards teaching and learning within the field of social and teacher education (Playful Learning, 2022b).

The present investigation, analysis and findings spring from my ongoing PhD project within the Playful Learning Research Extension project. The PhD project is methodologically a design-based research project (Barab & Squire, 2004; Brown, 1992; Christensen et al., 2012; Collins, 1990; Hanghøj, et. al., 2022) in which design principles (Baumgartner & Bell, 2002; Hanghøj, et. al., 2022) regarding playful learning, digital materials and physical activity are being tested. The first rationale in the PhD project is based on the idea that interplay between digital materials and physical activity through playful approaches towards learning can support the students' embodied playful presence in playful lessons (Hovgaard, 2017; Knudsen et al., 2011; Merleau-Ponty, 2009; Winther, 2011), and the second rationale addresses the societal focus on implementing physical activity, digital competences/technology comprehension and playful learning in compulsory schooling (e.g. Børne- og undervisningsministeriet, 2022; Broström, 2018; Koch et al., 2021; Lisborg et al., 2021; Lyager et al., 2020; Retsinformationen, 2021; Sundhedsstyrelsen, 2019). Hence, for this to occur, the students must gain competence, skills and knowledge throughout their own education. The investigation is conducted at the teacher education level in the newly established module 'Technology comprehension and digital Bildung'. The PhD project investigates student teachers' embodied playful presence or absence in lessons with playful approaches to learning.

In the present study, the teaching method, the learning activities and thus the pedagogical approach in the lessons are embedded with design principles that are designed for the opportunity for embodied playful presence among students to emerge. The learning activities are structured, planned, and conducted for the student teachers to engage in the learning activities in a playful manner or with a playful attitude. In the present study, the theoretical perspective of play is applied as a pedagogical–psychological perspective, where play has the potential to contribute to the player's development and learning (Broström, 2018; Karoff & Jessen, 2008; Knoop, 2009; Schiller & Henriksen, 2014). Günter Hagedorn (1990) defined play as a curve where the rises and the falls emerge in areas of tension. Hagedorn emphasised that our world of play and life were in dialectical interaction. In addition, this study also draws on the five characteristics of play presented by Mardell et al. (2019) and Zosh et al. (2017) that emphasise that play should be 1) actively engaging (to encourage focus), 2) socially interactive and encouraging of peer feedback, 3) iterative (testing, changing and critical thinking), 4) joyful (intrinsic motivation) and 5) meaningful in terms of what students are doing and learning.

These above-mentioned perspectives have often been associated with and presented in the field of children and play (Broström, 2018; Karoff & Jessen, 2008; Knoop, 2009; Schiller & Henriksen, 2014), and several researchers appear to emphasise several similarities in the forms, qualities and mechanics of play that are applied for both children and adult contexts (Jensen et al., 2022; Skovbjerg & Jørgensen, 2021; Skovbjerg et al., 2022; Whitton, 2018). However, regarding methods to engage and motivate for play, potentials and barriers to play and methods to conduct playful approaches in educational settings, there is an essential pedagogical difference in the learning design between children and adults (Händel & Buhl, 2021; Kangas et al., 2017; Nørgård et al., 2017; Yogman et al., 2018).

The findings in the present research paper focus on student teachers' embodied playful presence or absence when enrolled in a playful lesson, and the research question and thus the focal point in this paper is: What influences student teachers' embodied playful presence when enrolled in playful lessons? How do the students negotiate and re-negotiate their physical and emotional attitude towards playful teaching?

The theoretical framework

The three main theoretical perspectives used in this study are *playfulness*, *embodied presence* and *situational constraints.* First, theories on playfulness and embodied presence are presented in order to describe how the notion of embodied playful presence has emerged. The notion of situational constraints is then presented and is

used to analyse the student teachers' prerequisite of learning in higher education and how it influences their embodied playful presence in playful learning lessons and to analyse the students' verbal and non-verbal expression when negotiating or re-negotiating their physical and emotional attitude towards the playful teaching method and the playful learning activities.

Playfulness

Miguel Sicart (2014) emphasised that playfulness is a physiological, physical and emotional attitude and a way of engaging in the world towards particular contexts, situations, people or objects. Playfulness can seen as a stance towards a learning activity in an educational setting. Sicart (2014) distinguished between play and playfulness, where he described play as the activity and playfulness as an attitude and state of mind. Furthermore, Sicart (2014) describes how we want our modern lives to be dynamic, engaging and full of the expressive capacities of play, but we also want it to be effective, performative, serious, and valuable (p. 21). However, it should be emphasised that you cannot force people to engage playfully; it cannot be coerced or imposed, but learning activities can be facilitated for a playful atmosphere or mood to emerge. Whitton and Moseley (2019) also emphasised that an educator can oblige the students to play but cannot make them approach an activity playfully. Thus, educators can facilitate a learning space where playfulness can emerge (Whitton & Moseley, 2019). It is also emphasised that participants in a playful learning lesson must have a willingness to accept or embrace the constraints of the playful learning activities, they must dare to try something new, and they must be brave enough to attempt something difficult where success is not guaranteed and where failing is considered part of the learning process (Händel & Buhl, 2021; Kangas et al., 2017; Nørgård et al., 2017; Whitton & Moseley, 2019).

Embodied Presence

From a bodily phenomenological perspective, the embodied presence of the students in the lessons focuses on body, space, time and relationship, in which the mood and atmosphere in specific moments depict the activity's current dynamics and interactions (Hovgaard, 2017; Merleau-Ponty, 2009; Winther, 2011). This is situated in the fundamental understanding that the body and learning are connected (Knudsen et al., 2011; Merleau-Ponty, 2009). The body is a person's physical, psychological and cultural being, and learning is a personal process situated in social contexts (Knudsen et al., 2011; Merleau-Ponty, 2009; Wenger, 2004). Being present, focused, attentive and sensing, listening and creating contact in a human encounter are connected with the body (Winther, 2011). According to Merleau-Ponty (2009), the body is part of a constant living exchange and dynamic integration with the world (Winther, 2011). The concept of embodiment can be seen as an

existential condition of life because the body is perceived as a lived and experienced entity that is subjectively experienced, socially interacting and connected to multiple cultural meanings. The body is seen in body psychology as a life energy, with language and physical and emotional movements being necessary for our socialisation and sense of identity. With its delicate, subtle sensation, the body can sense coherence between physical, psychological, emotional and social movements (Winther, 2011).

Knudsen et al. (2011) stressed the importance of incorporating the body when considering the pedagogical and educational organisation of teaching and learning at the professional bachelor's education level. Knudsen et al. (2014) emphasised that students have, throughout their educational practice, acquired specific institutional embodied habits of being students, that is, how they are embodied presently and inhabit the learning space, which is influenced by the educational conditions. Furthermore, Knudsen et al. (2011) focused on the notion that the students reflect on and mirror themselves in the educators' embodied presence and that the student's own professional experience of meaning is created in an intrabody relationship. The educator and students are constantly exchanging and interacting with the world (Winther, 2011). The physical meetings with each other in a lesson focus on the physical, mental, emotional and social movements with all the many factors that influence this meeting in a lesson.

Considering the above-mentioned theoretical perspectives on playfulness and embodied presence, the notion of embodied playful presence emerges and is thus understood as follows: The students' physical and emotional attitude and their stance towards the learning activities, which appears as the mood and atmosphere in specific moments depicted in the current dynamics and interactions of the activity.

Situational Constraints

For the purpose of this study, I drew on Gudiksen and Skovbjerg's (2020) notion of situational constraints that are used to determine the student teachers' prerequisite. Gudiksen and Skovbjerg (2020) emphasised that learning institutions in Scandinavia sought different teaching methods in which educators and students are encouraged to change their understanding of a pre-fixed learning agenda and that students and educators should challenge the notion that the educator has all the knowledge. Learning spaces should be inviting ownership of content and participation and should be less occupied with pre-fixed learning goals and curricula. In addition, Gudiksen and Skovbjerg (2020) indicated that being actively engaged (minds-on) and incorporating different senses in the learning environment makes the students more engaged with the subject and understand the subject in relation to their own content. Gudiksen and Skovbjerg (2020) emphasised that

establishing play spaces in higher education seems complicated because it challenges specific traditions, routines and practices. Furthermore, they point out that establishing play spaces in higher education both deals with situational constraints and play space boundaries. Whereas the play space boundaries contain 'establishing safety, encouraging curiosity, exploring surprise and perspective shift' and the situational constraints deal with 'relation, role, regulations, culture, structure and time'.

Research design

The empirical examples discussed in this paper spring from the testing phase of one pilot design and the two iterations from the overall PhD project. The pilot project and two iterations were conducted in the period of fall 2020 to fall 2021. In each iteration, new students were enrolled in the module; thus, in the pilot design, one class with 18 students participated. In both the first and second iterations, two parallel classes participated, with 23 and 27 students and 19 and 24 students, respectively. All the lessons in the first iteration were due to the worldwide Covid-19 pandemic conducted fully online (Händel & Buhl, 2021).

The research methodologically drew on design-based research (DBR) (e.g,. Barab & Squire, 2004; Brown, 1992; Christensen et al., 2012; Hanghøj, et. al., 2022). This DBR study is a development study (van Akker et al., 2006). Thus, the fundamental aim of development studies is to develop design principles (van Akker, 1999) to be tested in practice in order to investigate new potentials, that is, student teachers' embodied playful presence. The design principles were tested in the newly established module, 'Technology comprehension and digital Bildung', at University College Copenhagen. The module was mandatory for all students in their second semester. It was a 10 ECTS credit module. I and a Danish (L1) subject educator were assigned to teach the module. Hence, in the present study I am both the educator and the researcher (practitioner-researcher) (Winther, 2015). The module addresses four different content areas: (1) empowerment and Bildung in a digitalised society; (2) technology comprehension (society, pedagogy and school didaktik); (3) computational thinking; and (4) digital design and design processes (Møller et al., 2019).

Throughout the iterations, the three lessons had some overall thematical themes. In the first lesson, the theme was a creative digital workshop where the student teachers explored and experimented with several different digital materials while building Rube Goldberg Machines. The second lesson dealt with learning activities with the interplay between digital technologies and physical activities, and the third lesson was conducted as an online research webinar with both student teachers, educators, teachers, researchers and other stakeholders,

which had the goal of both elaborating on the learning design with the interplay between digital materials and physical activity but also had the aim of discussing the design principles in the study.

In the pilot design, the first three design principles were 1) imagining together, which focused on creating a playful learning space for imagining together using digital materials (i.e., web apps, robots and software); 2) daring to go for unpredictability, which involved creating a playful learning space where students and educators dare to go for unpredictability both regarding the learning outcome, the learners' position and role and see the learning process that emerges; and 3) insisting on meaningfulness, which involves creating a playful learning process where the playful teaching and the content of the subject are entangled in a meaningful way. Following the design-based research process, two additional design principles were added and tested in the first iteration: 4) the notion of fail-ability, which involved creating a playful learning space where students feel safe to experiment and are brave enough to fail and make mistakes in the learning process; and 5) playful learning through an experimental practice. This is about creating a playful learning environment that encourages students to engage in an experimental practice. In the second iteration, two additional designing principles were added: 6) renegotiations of the learners' role, position and teaching method and 7) learning through physical activity. In the present paper, the focus is on the stated criteria of success, because these elaborate on how the students engage, experiment and dare to be fail-able during learning activities, both cognitively and bodily, and thus their embodied playful presence.

Empirical material, situations and analytical approach

Following a post-phenomenological approach throughout the testing phase (Ihde, 2016), the empirical material involved experience and practice narratives, video recordings and fieldnotes from the lessons, which were used to analyse the student teachers' embodied playful presence. Extracts from my research diary were validated by video recording from the lessons where the students' verbal and non-verbal negotiation and renegotiation are emerging. By following a post-phenomenological approach, it was possible to understand what influenced the student teachers' embodied playful presence and how the student teachers negotiated and renegotiated their physical and emotional attitude towards playful teaching.

Don Ihde (2016) emphasised that "post-phenomenological pragmatism focuses on the role of embodiment in relation to a lifeworld or the experienced environment" (p. 110). He noted that there are interrelations between pragmatism and phenomenology "as closely related contemporary philosophical styles" (p. 113). He also stated that phenomenological techniques can enhanced pragmatism through the notion of experience, variational theory, multistability, embodiment and critical hermeneutics.

Phenomenology is the study of our experiences—how we experience the world and phenomena as they appear to human consciousness (Gallagher & Zahavi, 2010; Thing & Ottesen, 2015). The pragmatic approach describes how an individual's cognition reflects a subjective reality in which cognition is a constantly renegotiated and interpreted notion of what is experienced (Dewey, 2005; Schön, 2017). The hermeneutic phenomenological approach does not strive to create generalisable theories that can explain or predict the world. Instead, it tries to describe concrete practices in concrete contexts with the aim of gaining an experience-based understanding that is anchored in concrete practice examples as a basis for critical reflection and a visionary perspective (van Manen, 2016). In the present analysis of the students' embodied playful presence, a hermeneutic phenomenological approach was adopted. I strove to connect an experience-based description and at the same time use the hermeneutic approach, which is an interpretive method that analyses and interprets the experience-based descriptions in actions and themes that emerged as significant, while clarifying reasons for them being so. It is all these analytical and evaluative layers of interpretation that the hermeneutic phenomenology in Van Manens' (2014) theory clarifies.

Analysis and findings

The analysis will provide insights from the testing phase, which involved the pilot design and the two iterations. The aim is to gain insight and understanding of student teachers' embodied playful presence or absence in lessons with playful approaches to learning, as well as insight into the situational constraints that influence the students' embodied playful presence and how students' negotiate or re-negotiate their physical and emotional attitude towards playful teaching methods and learning activities.

The student teachers' negotiation or renegotiation of engaging in playful approaches to learning

The first example shows how the student teachers approached the playful teaching method with very different learning prerequisites and with quite different preconceptions of what learning in higher education consisted of. The example is taken from the pilot design and the very first time the students experienced a playful approach to learning in higher education. The lesson started with a first assignment requiring students to experiment and investigate various digital materials such as micro:bits, Blue-bots and Ozobots. The aim was for the students to become familiar with different digital materials and to gain an understanding of what the digital materials could be used for in a learning context.

The lesson was planned to be open-ended, and the design principles enacted included (1) *Imaging together*, where the educator ensured that the student teachers were ready to be involved in a process, in which they were invited to or inspired to be creative, curious, imaginative and playful with different digital materials and the learning space allowed students throughout the process to reflect on the materials affordance and what emerged when they tried to use it in a different way than what it was designed for and (2) *Daring to go for unpredictability*, where the educator should ensure that the students had the opportunity to work in learning activities where the outcome of the students' learning process should be unpredictable and allow the students to follow their own learning paths, where new opportunities could arise and surprisingly insights could emerge.

The student teachers were already assigned to five groups before the module started. There were two to four students in each group. My experience was recorded in a research diary as follows:

> **Research diary:** I experience that three of the groups worked to immerse themselves in the various learning activities that have been handed out. I experience that they are inspired by each other and they have a commonality around the activities. I experience that all three groups are curious about the process and there is a mutual commitment in the group in which there is room for the students' different competences, knowledge and skills. I experience that they complement each other in the process. I experience that there is an exchange and negotiation of opinions between the students regarding the process of the learning activity. I experience that they seem to have a curiosity towards the learning activity and it seems as though play, desire and interest drive them in that process. However, I experience that their tension in the learning activity falls because they get occupied with the upcoming exam and the curricular goal (18 September 2020).

This quote from the research diary revealed that the students in these three groups embodied playful presence. This was seen as the students' physical and emotional attitude towards the learning activity was embedded with playfulness, and the mood and atmosphere among the students supported that embodied playful presence. However, even though the students immersed themselves in the learning activity, they still focused on the upcoming exam. An example is one of the groups who are exploring a micro:bit, and while doing so, one of the students asked a fellow student:

> **Student:** Do you think we have to use this learning activity in the upcoming exam? (Video recordings, 18 September 2020)

> **(Answer) Student:** No, I really don't think so … but I think that we have to learn about different digital technologies …and then make a learning activity ourselves and that activity could be part of the exam (Video recordings, 18 September 2020).

This quote from the video recording indicated that the students from the beginning of the module were strongly focused on the upcoming exam and that the learning activity prepared them for this exam. The situation suggests that the students were falling out of an embodied playful presence because they had previously experienced an educational culture based on performativity indicators and reaching specific curricular goals, where test and exams are highly valued.

By the end of the first lesson, a group of students reflected upon the chosen playful learning teaching method and another addressed the practitioner researcher and said:

> **Students:** Would you please consider making a PowerPoint presentation with all the important theory and terminology of the day. This would be a tremendous help (Research diary, 18 September 2020).

This quote from the research diary indicated that masterclasses were still the dominant teaching method. PowerPoint is still the dominant tool for presenting theory within the educational system. In addition, it illustrated how the students drew on their habits and preconceptions of how a lesson was conducted in teacher education.

To acknowledge the student teachers, I chose to comply with their request in an upcoming lesson. I briefly started the lesson with a PowerPoint presentation that included both curriculum-based knowledge and visual elements. I chose to start with the PowerPoint presentation to establish a safe space and to set the mood and atmosphere in the lesson that were familiar to the students to prepare them for the upcoming boundary cross for a playful learning teaching method. However, I intentionally placed the student teachers in the PlayLab facilities, in which it was difficult for the students to engage and view the PowerPoint, that is, a massive pillar was between the students and the PowerPoint. After the PowerPoint presentation, I noted:

> **Research diary:** I experienced that not even once did any students move or get up from their chair in order to get a better view at the PowerPoint presentation, and all of them seemed satisfied with that situation (4 November 2020).

The next situation exemplifies how one group struggled with working together in this playful lesson and thus was more divided in their embodied playful presence. I experienced as follows:

> **Research diary:** I experienced that a single group with four students was divided. I experienced that one of the students wanted to immerse oneself, experiment with the learning activity and experience first- hand the learning that can occur in the process with a playful approach to learning. I experienced another student wanted to do all the learning activities but wanted to reach the 'goal' as fast as possible. I experience one of the students did not quite know where to place oneself in the community but fluctuated a bit between the other peers. I experienced the last student in the group did not want to participate in the process at all (18 September 2020).

The video recording revealed that the first student in this group addressed the fellow students' absence of an embodied playful presence. The student said:

> **Student:** Please – just try to engage in the assignment, perhaps you will learn something (Video recordings, 18 September 2020)

This quote indicates that this student had to both negotiate with a fellow student in the group and also re-negotiate with themself to continue to be actively engaged and embody playful presence in the learning activity, because the fellow students did not physically or emotionally engage in the learning activity. Hence, social interactions and peer feedback were lacking in the current situation and this affected the mood and the atmosphere in the group.

The last student in this group embodied a playful absence throughout the entire module. The student struggled with both the playful teaching method and with the subject content. In the final lesson before the module exam, the student addressed me again with the same overall issue and stated:

> **Student:** I still don't see the point of being playful or learning about technology comprehension. I know you have explained it to me a couple of times, but I don't see how either of them helps me to

> become a teacher and I really don't think that playing as part of learning in higher education is helping me (Video recordings, 4 November 2020).

This student negotiated with me and renegotiated with themselves over and over again why playful learning or technology comprehension was important to learn in higher education. This prevented the student teacher from ever embodying playful presence in the learning activity.

Lastly, I experienced a group that did not immerse themselves in the playful learning activity. I experienced the following:

> **Research diary:** I experienced that the last group of two students was not engaged at all. They told me that they did not know any of the other students, and I experienced that they felt a lack of belonging in relation to the others in the class, the classroom and the content of the lessons. I experienced that they only participated to pass the module (18 September 2020).

The research diary quote indicated that the two student teachers lacked relations with the other students. They asked to be in a group together because they were enrolled in another class and explained how they only participated in this module because some institutional regulations were changed.
Five minutes after they have been introduced to the learning activity, they sat at a table talking about an assignment for another subject. When I addressed them and asked what they were doing, one of the students stated:

> **Student:** We are looking at an assignment for another subject. We have already completed the assignment in this subject. We think it is a good assignment, but we already understand the concept of investigating digital material (Video recordings, 18 September 2020).

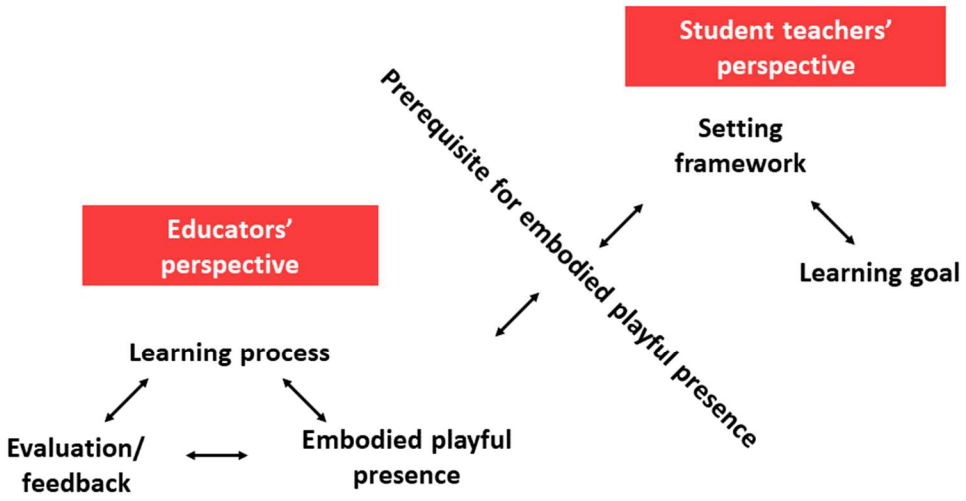
This indicates that these two student teachers were not embodying playful presence in the learning activity. Their physical and emotional attitudes and presence in this specific moment were oriented towards an assignment for another subject. Creating a safe space for these two students to be willing to be part of the module and thus feeling that they belonged in the module was lacking in the current situation. Their prerequisite of engaging in the playful learning lesson was interpreted as a lack of affiliation.

After testing the pilot design principles, a webinar was conducted, in which a participant said:

> **Participant from the webinar**: We discussed in our group that it is nice in theory to have an open-ended approach, but somehow everything cannot be totally open-ended because then everything disappears…. There must be developed a language and a didaktik of how teaching with playful approaches to learning can be approached in various ways. (Video recording, 6 November 2020).

The analysis from the pilot design revealed that the student teachers focused more on the learning goal and the setting and framework, whereas the educator focused more on facilitating a playful learning process, the evaluation/feedback and for embodied playful presence to emerge (See Figure 1). The testing phase revealed that student teachers lacked the prerequisite to engage in playful lessons. Thus, students' prerequisite for embodied playful presence was a challenge due to these fundamentally different perspectives.

Figure 1: Illustration of the different perspectives that emerge in a lesson with playful approaches to learning.



The analysis and critical response from the pilot project indicated that new design principles are required in the project for an embodied playful presence to emerge. The two new principles were (1) the notion of *'fail-ability* '(i.e., being brave enough to fail and make mistakes). Educators and students should create a safe space for experimentation and be brave enough to fail, learn from mistakes and work with unfinished or even unsolvable tasks (Gudiksen & Skovbjerg, 2020; Händel & Buhl, 2021; Whitton & Moseley, 2019). The other was (2) learning through an experimental practice. It is through the students' own experiments and activities that learning occurs (Lyager et al., 2020; Tanggaard & Dilling, 2019).

The students embodied playful presence or absence in playful lessons

The second example is taken from the first iteration. In an online lesson where the student teachers had to experiment with computational thinking and where the learning activities were designed to deal with the interplay between digital materials and physical activity—the student teachers had to experiment and approach the learning activity with computational concepts such as logic, evaluation algorithms and patterns in a Chinese whisper dance edition game. A Chinese whisper is a game in which one participant comes up with a sentence and whispers it to the person next to them, who whispers it to the next person in the circle. The last participant says the sentence out loud after the sentence has completed the circle. In this version, the participants must dance instead of whispering a sentence, recording the dance on an iPad. Throughout the learning activity, they must approach the learning activity with computational approaches such as tinkering, debugging, persevering and collaboration.

While the students experimented with the learning activity, I wrote down my experiences in my research diary:

> **Practitioner researcher:** I experienced that it was hard to engage all the students … I experienced that they had technical problems … I experienced that the flow in the lesson was constantly interrupted due to the students' technical challenges… I experienced that they left the lesson…. There were only eight students left by the end of the lesson. I experienced that it affected the mood among the students (Research diary, 19 September 2021).

In this situation, I experienced that not being in a physical classroom affected the student teachers' engagement and willingness to be playful. In the previous class, I experienced how the majority of the class had immersed themselves in being imaginative, experimental and fail-able (Händel & Buhl, 2021). However, in this situation, a few of the students had technical issues. If we had been together in a physical classroom, I would have had the opportunity to help the few student teachers with their technical issues by either helping them or getting a fellow student to help them. In both cases, the technical issue could be solved without everyone's attention. However, in the online format, solving the technical issue led to a complete stop to all the activities for all students. I acknowledge that the student teachers might have left the lesson for other reasons than their technical issues, but the video recordings only revealed that the student teachers left for this reason. Furthermore, the quote also states what I experienced when the students left the lesson and how it changed the

dynamics among the remaining students, indicating that the community among the students is also important for successful playful learning lessons. By the end of that lesson, two students stayed online and said:

> **Student:** I think the way you start your teaching session is a great way to start. Your energy is powering through the screen, and we have talked about it in class, and it is not you. It is simply the fact that it is online that makes some people leave the teaching lesson. (Zoom recording, 19th April 2021).

Another student elaborated on the above-mentioned quote and stated:

> **Student:** I think that there would have been a different energy if we were all together. I did the (learning) exercise, but I think I would have enjoyed it more if we were together (Zoom recording, 19th April 2021).

These above-mentioned quotes indicate that the students were challenged by being online. In addition, it also shows that the students acknowledged that the educator's willingness and engagement in being playful in the learning lesson had some influence on the students' embodied playful presence. One student also said:

> **Student:** I think your online lessons are more engaging because we are being physically active and there is plenty of room for being playful. But I think the online format challenged my own engagement because I was only physically active or playful when I really needed to (Zoom recording, webinar, 26 April 2021).

This quote indicates how the students' embodied playful presence in the playful learning activity was challenged by the online format. However, in the lesson, the students did engage with embodied playful presence when the design of the learning activity was insisting on the students to immerse themselves.

The analysis from the first iteration led me to revisit my design principles. The design principles were designed to emerge as the student embodied playful presence in learning activity with the interplay between digital materials, physical activity and playful learning. However, the analysis revealed that the research project needed a design principle for creating a playful learning space that encouraged physical activity. Thus, the educator must ensure a learning process in which the students are physically active in a meaningful learning process and where the student feels engaged in participating in the learning activity bodily and playfully.

Furthermore, the analysis from the first iteration also revealed that a design principle regarding the renegotiation of the learners' role, position and teaching method needed to be added. Thus, the educator must ensure the opportunity for an open-ended learning process and ensure that the students experience that they can influence the learning process in order to challenge both the notion that the teacher knows everything and the predetermined learning agenda (Händel & Buhl, 2021).

The student teacher's prerequisite for engaging in playful lessons

The third situation is taken from the second and final iteration. The situation was chosen to exemplify how the culture and thus the community among the students affected their embodied playful presence. The design principles were tested in the same module, where new students were enrolled in two parallel classes. The one class had their lessons every Monday morning and the other class had their lessons every Tuesday afternoon. By investigating the students' physical activity levels, the video recordings and the notes from the research diary revealed that there was a difference in how the student teachers in the two parallel classes bodily and playfully were present in the PlayLab facility.

> **Research diary:** I experienced that the Monday morning class was playfully present and engaged in PlayLab. I experienced that even before the lesson starts, the students walk around in the PlayLab, grasp for different materials experimenting and start playing with the toys … I experienced that some students take a ride down the indoor enclosed slide and I experienced that laugher and joy is emerging in the PlayLab (20 September 2021).

In contrast to this situation, the dynamics and interactions within the Tuesday afternoon class were different.

> **Research diary:** I experienced that all the students, when entering the PlayLab facilities, looked around the classroom. I experienced that they quickly found a chair, sitting down and opening their computers, waiting for the lesson to begin. I experience small chatters among the students (21 September 2021).

Furthermore, the analysis of the video recordings also revealed that Monday's class engaged in the process and was able to navigate the open-ended learning processes. When gaining a more unstructured assignment, the students in this class immersed themselves in the learning activity. However, the embodied playful presence

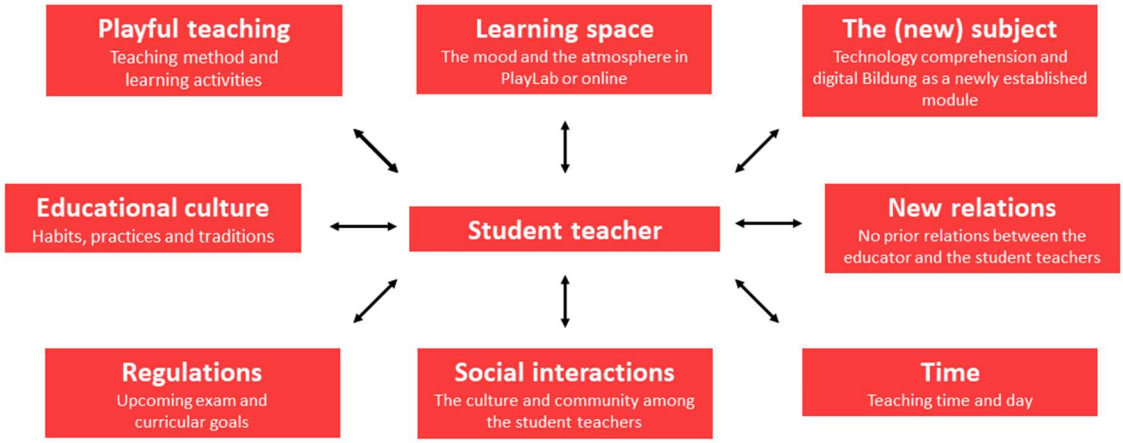
seemed somehow absent when they were given an assignment that was more enclosed, and the students quickly moved on to the next assignment. The embodied playful presence in Tuesday's class, however, seemed to flourish when they were given a more enclosed assignment, but when given a more open-ended assignment, the students asked for help from the educator more frequently.

This last example indicates that the social interaction and the culture in the class also affect the students' prerequisite for engaging in the lesson with an embodied playful presence. In addition, the different types of learning activities and the teaching method thus affect how the embodied playful presence emerges.

Situational constraints that affect student teachers in playful lessons

Findings from both the pilot design and the two iterations revealed eight situational constraints that affected the student teachers' embodied playful presence. The revealed situational constraints were as follows (See Fig. 2): (1) Playful teaching, in both the teaching method and the learning activity, was unfamiliar to what the students had previously experienced in higher education. (2) The learning space, which was either the PlayLab facilities or the online learning space. The transformed learning space from a traditional classroom challenged the student teacher's prerequisite of what a learning space is in higher education. (3) The new subject, which was the newly established module 'Technology comprehension and digital Bildung'. The student teachers did not have any prerequisite for knowing the content of the subject and thus the curricular goal. However, they addressed the subject as they do so in the other subjects in teacher education by focusing on the setting and the framework and thus the upcoming exam and the learning goal (see also Figure 1). (4) New relations, the relationship between me as an educator and the students was limited. The students therefore did not have any prerequisite of knowing how I, as an educator, facilitated the lessons, which also relate to the teaching method. (5) Time, the students were affected by the time and day during which the lesson was conducted. (6) Social interactions, the established community among the students and their social interaction and status among the peers affected the student teacher's willingness to engage in the playful learning lesson. (7) Regulations, the educational regulations, stating that there is an upcoming exam based on performativity indicators, reaching specific curricular goals, and the upcoming exam, indicate that a performativity culture in which reaching specific curricular goals is considered of high value. (8) Educational culture, the dominant culture and teaching method in which habits, practices and traditions are cognitively and bodily affecting the student teachers' expectations of how teaching is conducted in higher education.

Figure 2: Illustration of the various conditions affecting the students in the present research design



Final remarks

This research paper findings indicate how students, through their verbal and non-verbal expressions, negotiated and renegotiated their embodied playful presence or their embodied playful absence in lessons designed with playful approaches to learning. The student teachers' embodied playful presence was thus seen as their attitude or their stance towards the playful teaching method and how they playfully embodied the learning activity. The students' embodied playful presence was seen in situations where the student teachers immersed themselves in the activity both playfully and bodily.

The analysis revealed that when designing for embodied playful presence to emerge, the researcher must first address the notion that the student teachers are occupied with the educational regulations (i.e., the upcoming exam and the curricular goals). This is deeply rooted in the students because the educational culture throughout the third circle of higher education is dominated by performativity indicators and reaching specific curricular goals. Secondly, the researcher must address the several situational constraints affecting the students in a playful lesson, that is, the playful teaching method that challenges the students' prerequisite of how teaching is conducted in higher education. The analysis also revealed that when conducting playful learning in

higher education, a boundary cross for the students to be fully embodied in playful presence must be facilitated.

The analysis revealed that the traditions, habits and practices within the current educational system did affect the student's teachers' embodied playful presence because the student teachers were preoccupied with the performativity indicators and reaching specific curricular goals. Thus, playful, open-ended teaching is a promoted element of the education system. In addition, the analysis also confirmed that design principles regarding embodied playful presence cannot be coerced from or imposed on the student teachers; rather, learning activities can be facilitated for a playful atmosphere or mood to emerge. This was seen because the student teachers responded to the playful teaching at various embodied playful presences or absences. Finally, the analysis revealed that educators' commitment is not necessarily enough for all student teachers to achieve embodied playful presence because there are several other elements that affect the student teachers. In conclusion, the findings in the present study indicate that realising playful approaches to learning in higher education is complex and in order for student teachers to become embodied playful presences, their prerequisite to engage in playful approaches to learning must be considered.

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References

van den Akker, J. (1999). Principles and methods of development research. In J. van den Akker, R.M. Branch, K. Gustafson, N. Nieveen & T. Plomp (Eds.), *Design approaches and tools in education and training* (pp. 1–14). Springer.

van den Akker, J., Gravemeijer, K., McKenney, S., & Nieveen, N. (Eds.) (2006). *Educational design research*. Routledge.

Barab, S., & Squire, K. (2004). Design-based research: Putting a stake in the ground. *Journal of the Learning Sciences, 13*(1), 1–14. https://doi.org/10.1207/s15327809jls1301_1

Baumgartner, E., & Bell, P. (2002). *What will we do with design principles? Design principles and principled design practice.* Paper presented at Annual Meeting of the American Educational Research Association, New Orleans, LA, USA.

Børne- og undervisningsministeriet. (2022). *Bevægelse [Movement]*. https://www.uvm.dk/folkeskolen/laering-og-laeringsmiljoe/bevaegelse

Broström, S. (2018). Fri leg og lærerig leg i skolen [Free play and educational play at school]. In H. H. Møller, I. H. Andersen, K. Bjerring Kristensen & C. S. Rasmussen (Eds.), *Leg i skolen: En antologi* [Play at school: An anthology] (Unge Pædagogers series B, No. 125). Unge Pædagoger.

Brown, A. L. (1992). Design experiments: Theoretical and methodological challenges in creating complex interventions in classroom settings. *Journal of the Learning Sciences, 2*(2), 141-178. https://doi.org/10.1207/s15327809jls0202_2

Christensen, O., Gynther, K., & Petersen, T. B. (2012). Tema 2: Design-Based Research – Introduktion til en forskningsmetode i udvikling af nye E-læringskoncepter og didaktisk design medieret af digitale teknologier [Theme 2: Design-Based Research – Introduction to a research method in the development of new E-learning concepts and didactic design mediated by digital technologies]. *Tidsskriftet Læring Og Medier (LOM)*. https://doi.org/10.7146/lom.v5i9.6140

Collins, A. (1990). *Toward a design science of education* (Technical report no. 1). U.S. Department. of Education, Office of Education Research and Improvement. https://eric.ed.gov/?id=ED326179

Collins, A. (1992). Toward a design science of education. In E. Scanlon & T. O'Shea (Eds.), *New directions in educational technology*. Springer. https://doi.org/10.1007/978-3-642-77750-9_2

de Freitas, S. (2006). *Learning in immersive worlds A review of game-based learning.* JISC. http://www.jisc.ac.uk/media/documents/programmes/elearninginnovation/gamingreport_v3.pdf

Dewey, J. (2005). *Demokrati og uddannelse [Democracy and education]*. Klim.

Gallagher, S., & Zahavi, D. (2010). *Bevidsthedens fænomenologi: En indføring i bevidsthedsfilosofi og kognitionsforskning [The phenomenology of consciousness: An introduction to the philosophy of consciousness and cognitive science]*. Gyldendal.

Gudiksen, S., & Skovbjerg, H. M. (2020). Prologue uncovering the qualities of play design. In S. Gudiksen & H. M. Skovbjerg (Eds.), *Framing play design: A hands-on guide for designers, learners & innovators* (pp. 15–36).

BIS.

Hagedorn, G. (1990). *Spielen. Praxis und theorie [Playing. Practice and theory]*. Rowohlt.

Händel, V. D., & Buhl, M. (2021). Playful online learning environments promote student teachers' renegotiation of the learner roles. In I. Carsten Busch, R. Frieß, M. Steinicke & T. Wendler (Eds.) *Proceedings of the 20th European Conference on e-Learning, ECEL 2021* (pp. 567-573). ACI.

Hanghøj, T., Händel, V. D., Duedahl, T. V., & Gundersen, P. B. (2022). Exploring the messiness of design principles in design-based research. *Nordic Journal of Digital Literacy*, *17*(4), 222-233. https://doi.org/10.18261/njdl.17.4.3

Holflod, K. (2021). Voices of playful learning: Experimental, affective and relational perspectives across social education and teacher education. *The Journal of Play in Adulthood, 4*(1), 72-91. https://doi.org/10.5920/jpa.1007

Hovgaard, M. (2017). *Aktivitetsudvikling i idræt: Innovation i praksis [Activity development in sport: innovation in practice]*. Samfundslitteratur.

Ihde, D. (2016). Adding pragmatism to phenomenology. In D. Ihde, *Husserl's Missing Technologies (pp. 103-121)*. Fordham University Press. https://doi.org/10.1515/9780823269631-008

Jensen, J. B., Pedersen, O., Lund, O., & Skovbjerg, H. M. (2022). Playful approaches to learning as a realm for the humanities in the culture of higher education: A hermeneutical literature review. *Arts and Humanities in Higher Education*, *21*(2), 198–219. https://doi.org/10.1177/14740222211050

Jiménez-Olmedo, J. M., Pueo, B., & Penichet-Tomás, A. (2016). Learning methodology research in physical education: An educational proposal based on digital platforms. *EDULEARN16 Proceedings*, (pp. 7889–7895). IATED. https://doi.org/10.21125/edulearn.2016.0730

Jørgensen, H. H., Schrøder, V., & Skovbjerg, H. M. (2022). Playful learning, space and materiality: An integrative literature review. *Scandinavian Journal of Educational Research*, 1–14. https://doi.org/10.1080/00313831.2021.2021443

Kangas, M., Siklander, P., Randolph, J., & Ruokamo, H. (2017). Teachers' engagement and students' satisfaction with a playful learning environment. *Teaching and Teacher Education, 63*(2017), 274–284. https://doi.org/10.1016/j.tate.2016.12.018

Karoff, H. S., & Jessen, C. (2008). New play culture and playware. In *Proceedings for BIN2008*. https://vbn.aau.dk/en/publications/new-play-culture-and-playware.

Knoop, H. H. (2009). *Leg, læring og kreativitet: hvorfor glade børn lærer mere [Play, learning and creativity: why happy children learn more]* (2nd ed.). Aschehoug.

Knudsen, L. E. D., Sillesen, A. O., Schmidt, A.-M., Poulsen, D. V., & Bukhave, E. B. (2011). Om at lære fra kroppen på professionsbacheloruddannelser [Learning from the body in professional bachelor education]. In L. E. D. Knudsen, D. V. Poulsen, M. Schmidt & A. Sillesen (Eds.), *Kroppen i læringsrum* [The body in the learning space] (pp. 17-44) (Unge Pædagogers series B No. 108). Unge Pædagoger.

Koch, S., Pawlowski, C. S., Skovgaard, T., Pedersen, N. H., & Troelsen, J. (2021). Exploring implementation of a nationwide requirement to increase physical activity in the curriculum in Danish public schools: A mixed methods study. *BMC Public Health*, *21*(1), 1–13. https://doi.org/10.1186/s12889-021-12152-2

Lisborg, S., Händel, V. D., Schrøder, V., & Rehder, M. M. (2021). Digital competences in Nordic teacher education: An expanding agenda. *Nordic Journal of Comparative and International Education (NJCIE)*, *5*(4), 53–69. https://doi.org/10.7577/njcie.4295

Lyager, M., Heiberg, T., & Lehmann, S. (2020). *Playbook 1*. Københavns Professionshøjskole.

Mardell, B., Lynneth Solis, S., & Bray, O. (2019). The state of play in school: Defining and promoting playful learning in formal education settings. *International Journal of Play*, *8*(3) 232-236. https://doi.org/10.1080/21594937.2019.1684157

Merleau-Ponty, M. (2009). *Kroppens fænomenologi [Phenomenology of the body].* (2nd ed.). Det lille Forlag.

Not in reference list: is it

Møller, T. E., Schrøder, V., & Rehder, M. M. (2019). Lærerfaglig teknologiforståelse: – digitale teknologiers rekonfiguration fra uddannelse til praksis. *Studier I læreruddannelse Og -Profession*, 4(1), 125–143. Hentet fra https://tidsskrift.dk/SLP/article/view/117983

Nørgård, R. T., Toft-Nielsen, C., & Whitton, N. (2017). Playful learning in higher education: developing a signature pedagogy. *International Journal of Play*, *6*(3), 272–282. https://doi.org/10.1080/21594937.2017.1382997

Playful Learning. (2022a, April 8). *About the programme*. https://playful-Learning.Dk/English/

Playful Learning. (2022b, August 4). *Forskning [Research]*. https://Playful-Learning.Dk/Forskning/

Retsinformationen. (2021). *Bekendtgørelse af lov om folkeskolen [Ordinance of the law on the primary school].* Legislative Decree No. 1887 of 1 October 2021. Børne- og Undervisningsministeriet. https://www.retsinformation.dk/eli/lta/2022/1396

Schiller, F. von m. fl., & Henriksen, O. L. (2014). *Tekster om leg [Texts about play]*. Akademisk.

Schön, D. A. (2017). *The reflective practitioner: How professionals think in action*. Routledge. https://doi.org/10.4324/9781315237473

Sicart, M. (2014). *Play matters*. MIT Press.

Skovbjerg, H. M., & Jørgensen , H. H. (2021). Legekvaliteter: Udvikling af et begreb om det legende i lærer- og pædagoguddannelsen. [Play qualities: Development of a concept of playful learning in pedagogical and teacher training]. *Tidsskriftet Læring Og Medier (LOM)*, *14*(24). https://doi.org/10.7146/lom.v14i24.127125

Skovbjerg, H. M., Jørgensen, H. H., & Arnkiel, L. (2022). *Play tarot cards-A method to explore play qualities in teaching using playful approaches* [Booklet]. Playful Learning Research.

Sundhedsstyrelsen. (2019). *Anbefalinger om fysisk aktivitet for børn mellem 5 og 17 år [Physical activity recommendations for children aged 5-17].* https://www.sst.dk/da/Viden/Forebyggelse/Fysisk-aktivitet/Anbefalinger-om-fysisk-aktivitet/Boern-mellem-5-og-17-aar

Tanggaard, L., & Linneberg, J. D. (2019). *Co-creation - samskabelse med børn i fokus*. CoC Playful Minds. https://www.cocplayfulminds.org/media/nfpdahsr/coc_playful_minds_research-journal-co-creation_pdf.pdf

Thing, L. F., & Ottesen, L. S. (Eds.). (2015). *Metoder i idræts- og fysioterapiforskning [Methods in sports and physiotherapy research]* (2nd ed.) Munksgaard.

van Manen, M. (2014). *Phenomenology of practice: Meaning-giving methods in phenomenological research and writing*. Routledge.

van Manen, M. (2016). *Researching lived experience: Human science for an action sensitive pedagogy.* Routledge.

Wenger, E. (2004). *Praksisfællesskaber: Læring, mening og identitet [Communities of practice: Learning, meaning and identity]*. Hans Reitzel.

Whitton, N. (2018). Playful learning: Tools, techniques, and tactics. *Research in Learning Technology, 26.* https://doi.org/10.25304/rlt.v26.2035

Whitton, N., & Moseley, A. (Eds.) (2019). *Playful learning: events and activities to engage adults*. Routledge.

Winther, H. (2011). Den personlige professionalitet er i din krop - om bevægelsespsykologi [The personal

professionalism is in your body: About movement psychology]. In L. E. D. Knudsen, A. Sillesen, D. V. Poulsen & M. Schmidt (Eds.), *Kroppen i læringsrum [The body in the learning space]* (pp. 83–94). Unge Pædagoger.

Winther, H. (2015). Praktikerforskning [Practitioner research]. In L.F. Thing & L.S. Ottesen (Eds.), *Metoder i idrætsforskning [Methods in sports research]* (pp. 172–189). Munksgaard.

Wolf, B. (2019). Atmospheres of learning, atmospheric competence. In T. Griffero & M. Tedeschini (Eds.), *Atmosphere and aesthetics* (pp. 209-221). Palgrave Macmillan.

Yogman, M., Garner, A., Hutchinson, J., Hirsh-Pasek, K., Golinkoff, R. M., Baum, R., ...Committee on Psychosocial Aspects of Child and Family Health. (2018). The power of play: A pediatric role in enhancing development in young children. *Pediatrics, 142*(3), e20182058. https://doi.org/10.1542/peds.2018-2058

Zosh, J. M., Hopkins, E. J., Jensen, H., Liu, C., Neale, D., Hirsh-Pasek, K., Solis, S. L., & Whitebread, D. (2017). *Learning through play: A review of the evidence*. The LEGO Foundation.