

Space and materiality

- an unexplored field in Social Education and Teacher Education

VIBEKE SCHRØDER
HELLE HOVGAARD JØRGENSEN

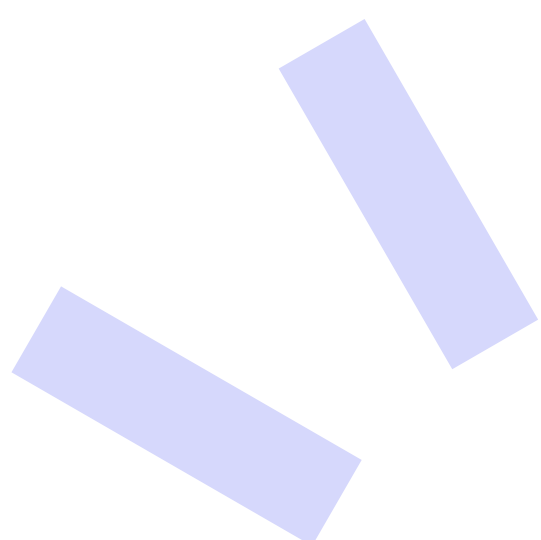
p + Playful
Learning
RESEARCH

Space and materiality

– an unexplored field in Social Education and Teacher Education

Vibeke Schrøder

Helle Hovgaard Jørgensen



EDITOR

Ditte Obenhausen Hoff

ISBN NUMBER

978-87-973798-2-0

DESIGN

Esben M. Rahbek

PUBLISHED BY

Playful Learning Research Extension

PHOTO

Inge Lynggaard

Emil Monty Freddie

PUBLISHING DATE

14th of December 2022

Content

Introduction	4
From old to new learning perspectives	5
What does existing research say about space and materiality?	6
How did we find the articles?	6
Our literature review shows three themes	7
Theme 1: Playful learning in higher education	9
Theme 2: Materials as a catalyst for playful approaches to learning	11
Theme 3: Play, playful learning and materiality in participative forms of teaching	12
New understandings of how people and materials form relationships are needed.	13



Photo: Inge Lynggaard - Materialities in PlayLab at UC Syd in Esbjerg

Introduction

Playful approaches to learning in higher education is a small but emerging field that explores the potential for play and playful learning with particular focus on social and teacher education (Whitton, 2018). In this article we refer to the concept as *playful learning*, and elaborate on our investigation into what the existing research says about playful approaches to learning, space and materiality in higher education (Jørgensen, Schrøder & Skovbjerg, 2021). It is difficult to imagine learning and play without any kind of materials. No matter whether physical surroundings or all kinds of different materials, they are both involved when playing and learning. Play is the challenge of course. Learning is 'naturally' present in higher education, whereas play or playful learning requires some explanation. We examine playful approaches to learning through various methods under the auspices of Playful Learning Research Extension (2019-2023), a research project that explores and examines playful approaches to teaching in Social Education and Teacher Education. One of these methods is linked to the importance of space and materials, as we believe that learning, playful learning and materiality are deeply connected (Jørgensen, Schrøder & Skovbjerg, 2021).

WHAT IS A LITERATURE REVIEW AND WHAT CAN IT DO?

The purpose of a literature review is to identify the problems that have not yet been investigated in a particular field. Existing knowledge, research and literature for the specific topic are systematically reviewed, compared and evaluated in order to arrive at unexplored issues. Future research questions can typically be formulated on the basis of the literature review.

From old to new learning perspectives

In the post-industrial era, where traditional blackboard teaching is now outdated as the dominant approach to teaching (OECD, 2018), there is a need to think differently. Learning is not primarily based on instruction. A broader set of skills is needed in the growing knowledge-based society. Educational theories that have taken an interest in the importance of learning from experience, and that focus on the fact that learning takes place in processes and communities of practice, have therefore gained ground. Other approaches have also attempted to break with the authoritative blackboard regime in order to promote democratic education. Examples include inquiry-based learning, including problem-based learning and game-based learning, just as creative pedagogy and innovative and playful approaches are all attempts to create more physical, sensory and participative approaches to teaching and learning (De Freitas, 2006, Dewey, 1997, Freire, 1984, Lave & Wenger, 1991).

Where a more traditional comprehension of learning with the focus on learning is cognitively oriented, the new learning perspectives are aimed at practices and social - i.e. human actions. We adopt a socio-material perspective in order to take into account both the social, as outlined with the educational theories, and space and materiality, which we are concerned with investigating in a *playful learning* context. We assume that the surroundings, whether spatial or other material conditions, also play a major role in play. Recent research on play is also concerned with how play is 'in things', as philosopher Ian Bogost argues, play "... *is deliberately working with the materials we encounter*" (Bogost, 216, p. 91). This article deals with our investigation and literature review of the research-based knowledge that has been generated in relation to how the spatial and the material take part in *playful learning* processes in higher education. The background for the literature review is to create

a good starting point for how we can develop new knowledge about the importance of space and materiality for *playful learning* in social and teacher education.

What does existing research say about space and materiality?

We are interested in investigating the approaches to space and materiality in research literature on learning, concerning play in one way or another. We do not “translate” play into related concepts, such as creativity, innovation or aesthetic processes, as we are interested in finding research literature that takes play and playful learning seriously by being based on the theory of play. Our goal is to identify the ways in which space and materiality are involved in *playful learning* approaches in higher education, with a particular interest in Social Education and Teacher Education. We therefore developed the following research question:

How are space and materiality approached in the research literature on playful learning in higher education?

How did we find the articles?

FOCUS ON HIGHER EDUCATION

In order to answer our research questions, we have adopted a systematic approach to our searches for literature. We have used search strategies in the library's databases based on the research question, where firstly we have refined the search to space and materiality in *playful learning* for higher education and thus excluded articles for which children are the target group.

FOCUS ON THE KEYWORDS THAT COVER THE FIELD

Secondly, play, learning, space and materiality are all complex concepts, so we began by finding synonyms in order to ensure that we covered the field thoroughly. We found that *play** (shortened) was comprehensive, as we were able to investigate *playful learning* in a context where play and playful learning were conceptually framed by the theory of play.

PLAY AND LEARNING MUST BE EXPLICITLY STATED

We then found that learning should be placed relatively close to play(ful) in order to be relevant to the concept. We therefore chose a proximity

operator with four words. In other words, learning cannot be placed more than four words away from play(ful) in the article title or summary. In terms of space and materiality, we found synonyms that ensured that we covered all meanings in relation to education.

HOW WE CHOSE BETWEEN ARTICLES

We searched in seven databases and chose different inclusion and exclusion criteria for the studies, such as time range (the past 10 years), peer review and language (English, Danish, Norwegian, Swedish). This strategy returned 1692 articles in our search, which we screened by reading titles and summaries. Through a lengthy sorting process, we found 11 articles that met all our search criteria. For a more detailed account of our search strategy, please refer to Jørgensen, Schrøder & Skovbjerg (2021).

Our literature review shows three themes

The first thing that becomes evident through the search process of research articles on space and materiality in *playful learning* in higher education is that it is a rather new and not particularly large field of research. Three themes emerged through a thematic analysis of the 11 articles, in which we analysed the articles across characteristics about play, learning, space and materiality.



Photo: Emil Monty Freddie - Teaching in Social Education and Teacher Education

1.

The first theme is what we call “*playful learning in higher education*” and is based on six articles that relate directly to a concept of *playful learning*, even though materiality is not specifically the main topic of the investigations of these articles.

2.

The second theme is “*materiality as a catalyst for playful learning*”. *Playful learning* is not investigated directly in this theme, but the focus is on the play-based or playful approaches to the use of large dice, LEGO bricks and magazines instead. Here we found three case studies in which different materials promote a playful approach in higher education.

3.

The third theme we call “*play, playful learning and materiality in established participative forms of teaching*”, as established educational approaches to teaching based on problem-based learning and creativity are investigated as playful learning. Play thus plays a crucial role and materials are often involved but not addressed as something special. In the following, we elaborate on the three themes, paying particular attention to the first theme, which is directly involved with *playful learning* in higher education.

Theme 1: Playful learning in higher education

PLAYFUL LEARNING

Playful learning exists as a relatively small field in universities, where experiments have been carried out with both *playful university* and *playful conferences* (Nørgaard, Toft-Nielsen & Whitton, 2017; Whitton, 2018, Whitton & Mosely, 2019a, Whitton & Mosely, 2019b).

Common to the studies is the fact that they all point to a general lack of knowledge about *playful learning* in higher education. There is a feeling that playful learning is for children and not something that adults in education or teachers in higher education should be concerned with. In addition, both materiality and space are included directly in all six studies.

MATERIALITY

In terms of materiality, all of the studies mention tools in the form of objects, artefacts, and technologies as being generally significant for *playful learning*. The assumption seems to be that *tools* are necessary for the development of teaching and learning, but how has not been investigated further.

SPACE

On the other hand, the phenomenon of *space* under this theme is addressed in different ways. Firstly, as '*the magic circle of play*', a concept introduced by the cultural historian Johan Huizinga in his influential work *Homo Ludens* (1938) about the origins of culture in play. For Huizinga, the magic circle of play is a metaphor for the characteristic of play as a fantastic universe that can be entered into, and where different rules apply than those in the rest of our everyday lives. Since then, the concept particularly developed in the theory of play, but Whitton (2018) derives two characteristics about *the magic circle of playful learning* in higher education that are particularly relevant for pedagogy. Firstly, it is important to state that she is interested in magic circles in a learning context, which means that the setting for the framework is mutually constructed by the participants and the 'framework' as a principle is based on one common notion and is open. She also states that the relations of power in an educational context do not disappear but are relationships that should be taken into account. Secondly, the magic circle defines a *safe space* and is characterised by the fact that it ensures safe communities where other norms and new practices arise and new behaviours, ideas

and interactions become possible. Whitton's (2018) definition of *the magic circle* suggests three characteristics, which emphasise the pedagogical basis when working with playful approaches in higher education: 1) the positive construction of failure 2) support for learners to immerse themselves in "*the spirit of play*" and 3) the development of intrinsic motivation to engage with learning activities.

The second understanding of space addressed under this theme relates to the challenges associated with initiating playful activities in traditional learning environments dominated by auditoriums and 'white' classrooms, with tables and chairs facing the board (Moseley & Jones, 2019). Traditional learning environments are not directly conducive to new forms of learning. They probably even bind themselves to traditional forms of teaching, but the possibilities are explored in connection with the *playful university* and *playful conference* projects and require a persistent effort from all parties involved.

A SIGNATUR POTENTIAL

A study within the theme discusses how *playful learning* can be understood as signature pedagogy and explains the special characteristics of a signature such as *playful learning*. Nørgaard et al. (2017) uses Shulman's (2005) three dimensions as a structure for their analysis of *playful learning's* signature potential. The surface structure is particularly interesting in this case, as it is here that a range of materials signal playful teaching. But it only becomes *playful learning* if there is a connection with one of the other dimensions. The second dimension is *deep play*. In this case, teaching is associated with what is called 'the nature of play', which is defined on the basis of the following features: "physical engagement, collaboration, imagining possibilities, and novelty and surprise" (Nørgård et al., 2017, p. 278). The third dimension refers to implicit playful structures, where playful learning is thought of as an attitude or mindset in the context of higher education and relates to "... a *lusory attitude, democratic values and openness, acceptance of risk-taking and failure and intrinsic motivation*" (Nørgård et al., 2017, p. 278). All in all, both space and materiality



are highlighted as being significant for *playful learning*, but none of the studies bring new perspectives on how space and materiality have an impact on playful learning.

Theme 2: Materials as a catalyst for playful approaches to learning

We found the second theme through the analysis of three studies, all of which deal with the use of specific materials as important players in play-based teaching in higher education. It relates to the use of inflatable dice, LEGO bricks and old magazines, all of which help to create teaching, and are described and experienced as playful by the participants.

The first study incorporates large inflatable dice into the teaching, and argues that the dice, which are typically not associated with higher education, contribute to a more playful mindset (Barnard, 2017). The second study concerns itself with strengthening students who have not achieved academic qualifications through playful methods. They work with collages in a case study on academic writing to facilitate a more exploratory attitude and unleash creative potential (Burns, Sinfield & Abegglen, 2018). The third study is an experiment on *playfulness* among Danish students at a Højskole (a boarding school offering adult education). The experiment involves Lego bricks and the students are first asked to build in a playful way and then in a way that is not experienced as being playful. The conclusion here is that the LEGO bricks seemed to motivate *playfulness*, both for cultural and material reasons.

The studies concern themselves with the use of dice, LEGO bricks and collages of old magazines in order to investigate playful learning in teaching, but without focusing on what, how and why materials are 'naturally' proportionate to *playful learning*. It is not exactly clear what *playful learning* is with precisely these materials and how the engagement in and working with the materials leads to play. Based on the studies, however, it is possible to assert that playful learning is an attitude and approach that can be changed and reshaped by using and interacting with materials. However, there is no explanation as to why unconventional materials, which can be characterised by a form of multifunctionality, are considered to be particularly good at initiating playful teaching, just as their characteristics as 'promoters' are not investigated either.



Photo: Inge Lynggaard - Materialities in PlayLab at UC Syd in Esbjerg

Theme 3: Play, playful learning and materiality in participative forms of teaching

The third theme is based on two studies that work with participative forms of teaching for the purpose of exploring play and playful learning.

The first study is a theoretical study that investigates how a playful approach can support creative learning environments. Digital technologies are described here as enriching materialities that support creative learning environments and provide students with the opportunity for investigation and play with materials, information and ideas. The study also points to the American pedagogical model of learning, which incorporates digital technologies: Technological Pedagogical Content Knowledge (TPCK) (Zhou, 2017). The second study investigates play as a gateway to creating knowledge in problem-based learning. Here, the students use Story Cubes in a series of workshops, and in this study, we understand creativity as our ability to play with ideas, thoughts, possibilities and materials (Thorsted et al., 2015). Both studies are focused on the role of materials as an important and integrated part of learning processes, in which the approach is playful, but the materials are, in a sense, invisibly present. They are perceived as resources for objectives, which promote learning and support playful learning, but are not investigated further. There is no theoretical perspective on materiality in these studies either.



... the students who are enrolled in social and teacher education will mostly go out and work in a practice where the primary form of practice for children is play or where playful learning processes are becoming more and more in demand. There is therefore also a general need to understand play and playful learning in social and teacher education with far more nuances and variations than is the case in the studies we have investigated in the review of literature.

— Helle Hovgaard & Vibeke Schrøder

Senior researchers at Playful Learning Research Extension

New understandings of how people and materials form relationships are needed.

We have shown how space and materiality are involved in the 11 selected studies. We understand play in line with Skovbjerg (2021) and Bogost (2016), who understand play as explicit work with the materials we use. The use of space in *playful learning* was addressed in the studies through the challenges of establishing playful learning in traditional classrooms, through Huizinga's '*magic circle of play*' and through '*safe spaces*' as a prerequisite for the development of *playful learning* in higher education.

The use of materials was included in *playful learning* in a predominance of studies through the use of materials that are not usually part of the teaching in higher education, with the exception of the study, which focused on digital technologies. The studies work explicitly with the materials as an important part of *playful learning*, but the further significance of the materials is neither dealt with in detail on a practical nor theoretical basis. It is also unclear why particularly unconventional materials contribute towards the establishment of playful learning.

The studies in our literature review thus contribute to elaborating on *playful learning* in higher education, but it is also pointed out that the phenomenon of *playful learning* in higher education should be investigated further. Here we can add that the significance of space and materiality for *playful learning* in higher education remains to be investigated, both from a practical and theoretical perspective.

MORE KNOWLEDGE ABOUT PLAYFUL LEARNING, SPACE AND MATERIALITY

It is worth noting that none of the articles in our literature review address space and materiality in *playful learning* in social and teacher education, which points to a pronounced lack of relevant studies. An important point here is that the students who are enrolled in Social Education and Teacher Education will mostly go out and work in a practice where the primary form of practice for children is play or where playful learning processes are becoming more and more in demand. There is therefore also a general need to understand play and playful learning in Social Education and Teacher Education with far more nuances and variations than is the case in the studies we have investigated in the review of literature.

Furthermore, didactic and pedagogical perspectives on the use of space and materiality in *playful learning* in higher education are absent, with

the exception of one superficial consideration in a single study. This would also be a vital contribution when the focus is on the social and teacher education.

Broadly speaking, we can conclude that materiality, i.e. physical space and artefacts, are popular players in playful learning processes in higher education. Nevertheless, neither space nor materiality were subjected to closer scrutiny, challenged or considered in detail in the various studies we have investigated - neither pedagogically nor theoretically. We are interested in approaching the field with a perspective that addresses the relationship between the social and the material. This would contribute to understandings of how people and things form relationships that both transform materials and people in higher education, where *playful learning* is implemented in interaction with space and materiality in a pedagogical context.

References

- Barnard, D.** (2017). Case study 2: Using games based on giant dice and time restrictions to enable creativity when teaching artistic or creative subjects. *International Journal of Game-Based Learning*, 7(3), 87–92.
<https://doi.org/10.4018/IJGBL.2017070109>
- Bogost, I.** (2016). *Play anything: The pleasure of limits, the uses of boredom, and the secret of games*. Basic Books.
- Burns, T., Sinfield, S., & Abegglen, S.** (2018). Regenring academic writing. Case study 1: Collages. *Journal of Writing in Creative Practice*, 11(2), 181–190.
https://doi.org/10.1386/jwcp.11.2.181_1
- De Freitas, S.** (2006). Learning in immersive worlds: A review of game-based learning.
https://researchrepository.murdoch.edu.au/id/eprint/35774/1/gamingreport_v3.pdf
- Dewey, J.** (1997). *How we think*. Dover Publications.
- Freire, P.** (1984). *Pedagogy of the oppressed*. Continuum Publishing Company.
- Heimann, K. S., & Roepstorff, A.** (2018). How playfulness motivates – putative looping effects of autonomy and surprise revealed by micro-phenomenological investigations. *Frontiers in Psychology*, 9, 1704.
<https://doi.org/10.3389/fpsyg.2018.01704>
- Huizinga, J.** (1938). *Homo ludens: A study of the play-element in culture*. Routledge & Kegan Paul.
- Jørgensen, H. H., Schrøder, V., & Skovbjerg, H. M.** (2022). Playful learning, space and materiality: An integrative literature review. *Scandinavian Journal of Educational Research*.

Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge University Press.

Moseley, A., & Jones, R. (2019). Playful presentations. In N. Whitton, & A. Moseley (Eds.), *Playful learning: Events and activities to engage adults* (pp. 137–148). Routledge.

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>

OECD. (2018). The future of education and skills. [https://www.oecd.org/education/2030/E2030%20Position%20Paper%20\(05.04.2018\).pdf](https://www.oecd.org/education/2030/E2030%20Position%20Paper%20(05.04.2018).pdf)

Shulman, L. S. (2005). Signature pedagogies in the professions. *Daedalus*, 134(3), 52–59. <https://doi.org/10.1162/0011526054622015>

Thorsted, A. C., Bing, R. G., & Kristensen, M. (2015). Play as mediator for knowledge-creation in problem-based learning. *Journal of Problem-Based Learning in Higher Education*, 3(1), 63–77. <https://doi.org/10.5278/ojs.jpblhe.v3i1.1203>

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.). (2019a). *Playful learning: Events and activities to engage adults*. Routledge.

Whitton, N., & Moseley, A. (2019b). Play and learning in adulthood. In N. Whitton & A. Moseley (Eds.), *Playful learning: Events and activities to engage adults* (pp. 137–148). Routledge.

Zhou, C. (2017). How ha-ha interplays with aha! Supporting a playful approach to creative learning environments. In T. Chemi, S. G. Davy, & B. Lund (Eds.), *Innovative pedagogy: A recognition of emotions and creativity in education* (pp. 107–124). Sense Publishers.



More on play and learning

Playful Learning Research Extension is a project that is part of the Playful Learning Programme, which aims to develop and encourage a more playful approach to children's development and learning.

Read more about the programme and find free booklets, articles and podcasts on our website:

www.playful-learning.dk