Moser, Gabriela

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GABRIELA MOSER

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ABSTRACT

This paper argues that integrating action-oriented teaching and playful learning into classrooms is beneficial not just for younger students, but also at the tertiary level, due to the genuine link between people and play. However, to integrate games into university courses and help students develop an understanding of playful learning, university instructors must both understand and highlight the many elements that make games complex. In addition, the methodology of playful learning cannot only be presented to university students theoretically; it requires continuous action-oriented testing and development in addition to the theoretical foundations. Even in university classrooms, students have to experience play themselves and get a chance to experiment and develop their own ideas. Only in this way can they internalize the effects of the methodology in the long term. Thus, instructors should use action-oriented teaching, which grows from the genuine relationship between people and play. This article presents a learning course that introduces and discusses the concept, experiences, and effects of instructional games in higher education. The course was designed for students who aspire to become elementary school teachers and would like to expand their instructional and methodological repertoire. In the course, knowledge is built by exploring theoretical principles, playing or developing instructional games, and reflecting on individual learning and teaching experiences. The central educational objective is for students to understand and experience that play is not just an enjoyable leisure activity, but also a potentially effective teaching method that can be used in the elementary school classroom for subject-specific learning. In this paper, the term "game" refers exclusively to analog educational games that are intentionally designed for instructional use within formal education settings. These games can be implemented at various educational levels, from elementary school through higher education. Unless otherwise specified, all games discussed are non-digital and explicitly grounded in pedagogical objectives.

Keywords: playful learning – free play – teaching concept – instructional game

ZUSAMMENFASSUNG

Die Entwicklung und Durchführung von spielerischem Lernen auf Hochschulebene sowie die Integration von Spielen in Lehrveranstaltungen erfordern ein Verständnis der unterschiedlichen Aspekte, die die Komplexität von Spielen bilden. Das Plädoyer für die Anwendung der handlungsorientierten Methodik in der Lehre liegt in der genuinen Beziehung zwischen dem Menschen und dem Spiel. Die Methodik des spielerischen Lernens lässt sich auf der tertiären Stufe mit den Studierenden nicht nur theoretisch explizieren, sondern erfordert neben den theoretischen Grundlagen ein kontinuierliches

handlungsorientiertes Erproben und Entwickeln. Nur so können die Studierenden die Wirkungen der Methodik nachhaltig internalisieren. In diesem Beitrag wird ein Modul vorgestellt, das die Konzeption, Erfahrungen und Wirkungen des didaktischen Spielens mit analogen Spielen in der Hochschule darlegt und diskutiert. Das Modul wurde als ein Angebot für Studierende entwickelt, die anstreben, Lehrpersonen für die Grundschule zu werden und ihr didaktisch-methodisches Repertoire erweitern möchten. Der Wissensaufbau in der Lehre erfolgt durch die Bearbeitung theoretischer Grundlagen, das Spielen oder Entwickeln didaktischer Spiele und die Reflexion der erlebten Lern- und Lehrerfahrungen. Die zentrale hochschuldidaktische Absicht des Moduls war, dass die Studierenden verstehen und erfahren, dass Spielen nicht nur eine freizeitliche Spaßaktivität ist, sondern eine mögliche wirkungsvolle Lernmethode, die im Unterricht auch für das fachliche Lernen eingesetzt werden kann. In diesem Beitrag bezeichnet der Begriff Spiel ausschließlich analoge Lehr- und Lernspiele, die gezielt für den Einsatz im formalen Bildungskontext entwickelt wurden. Diese Spiele können auf unterschiedlichen Bildungsebenen eingesetzt werden, von der Grundschule bis hin zur Hochschulbildung. Sofern nicht anders angegeben, handelt es sich bei allen genannten Spielen um nicht-digitale Formate, die explizit auf pädagogische Zielsetzungen ausgerichtet sind.

Schlagwörter: Spielerisches Lernen – Spiel – Lehrkonzeption – Didaktisches Spielen

Introduction

The training of prospective teachers at teacher training colleges is based on a humanistic view, which focuses on people and their holistic educational and developmental needs (see JASPERS 1980; KLAFKI 1993; HENTIG 1996). Play is a cultural form that is integral to human biological and evolutionary development and fulfills a basic human need (see GROSS 1896; PAPOUSEK 2003; STENGER 2012). During their studies, students acquire basic instructional, methodological, diagnostic, and reflective competencies through their courses. At the university level, there is a constant debate about the proper balance between theory and practice in teacher training (BOHNSACK 2020; WITTEK et al. 2025). To date, there is no generally accepted balance. University teaching primarily involves engaging with scientific theories and developing, integrating, and classifying diverse perspectives on certain phenomena, particularly in relation to various subject-specific teaching materials. An understanding of play as an integral part of human culture is crucial here because culture and play are intertwined and cannot exist separately (TOMASELLO 2020). In teacher training, it is also essential to reflect on the extent to which activity-based teaching and its interdependence with school practice should shape higher education courses. The question of how students construct and experience their knowledge is central to this. From the perspective of constructivist instruction, on which students draw when planning their own lessons, higher education courses should provide students with a framework for critical discussions,

constructive exchange, action-oriented testing of what they have learned, and reflection on their own learning.

Learning through play is already an integral part of school learning, especially in kindergarten and the early elementary grades, and its benefits and effects are unmistakable in that context. But can play also be used as an effective learning method in teaching at the tertiary level? Play as an instructional element is always action-oriented and offers numerous opportunities to work on tasks and solutions in a playful way. Adapted game content or the testing of various games in courses enables students to discover new approaches and perspectives on how learning processes and competence growth can be initiated and shaped. At the same time, they learn what constitutes child-friendly and age-appropriate instruction and methodology in the learning process. Games such as simulation games, role-playing games, perceptual games, or creative games can be used to link theory with practice naturally. Independent, playful, and cooperative group activities offer students an excellent framework for gaining experience, demonstrating the learning successes and skills growth that can be achieved and trained through play. A clear understanding of the role of play in teacher training presupposes that this method is experienced not only theoretically, but above all practically. Students should use their existing enthusiasm or develop an enthusiasm for play to use it later in the classroom out of their own motivation. To this end, a teaching course "Playful learning at the elementary level" was designed, taught in three course groups, and evaluated for teaching in the Spring Semester 2023 at the Institute of Elementary Education at the University of Teacher Education Northwestern Switzerland (PH FHNW). The teaching concept, effects, and evaluation of the three courses, as well as the evidence of performance, are explained in this article. The paper reveals a dual requirement: on the one hand, the charge to enable students to make their future teaching in elementary schools more playful, and on the other hand, the necessity to meet this requirement in higher education courses.

Course Description

The course included fourteen units, and the description was available in the university's online course catalog. In the course, students explored theoretical principles, played games, developed their own games, and reflected on their learning experiences. These components were continuously pursued in each course. The aim of the course was to enable students to experience gaming as a possible learning method for their future professional activities. Implementation in elementary school was not a mandatory part of the course. The course was developed by the lecturer out of her own interest and desire to teach in a more action-oriented way at the university and to experience the instructional advantages of this methodology together with the students. As soon as children start school, where the "seriousness of life" lurks, playing seems to be largely a thing of the past. In most schools, children are expected to learn in class and play during the breaks. However, playing and learning are not

opposites. When learning through play, children are completely immersed in a game and learn - almost unconsciously - a variety of new skills and competencies. Learning through play means promoting the child's cognitive, social, emotional, motor, and creative development in a child-friendly way. Play enables children to actively shape their learning processes and experience learning as a friendly activity (Moser 2023). Learning through play can take place both as free play, in which children follow their own ideas, and in instructional games. Instructional play is an activity characterized by predetermined learning goals and playful learning tasks. It differs from other learning methods in one crucial aspect: learners experience positive emotions and other playful elements, which help them retain knowledge more sustainably (Moser 2023). Thus, learning through play succeeds as a combination of cognitively stimulating, playful, imaginative, but also practice-oriented child-focused tasks and activities in which elementary students are supported professionally and emotionally by the teacher (eVV 2023).

In the following course, theoretical and practical principles for learning through play in the first and second grades of elementary school in Switzerland were developed. The paper will address the following questions, among others:

— On which learning theories and pedagogical approaches is playful learning based?
— Which forms of teaching offer potential for learning through play?
— How can play-based learning be professionally planned, observed, and accompanied?
— How does play fit into school?

The following hypotheses were formulated for the course:

— At the beginning of the course, students at the University of Teacher Education have limited insights into play at elementary level.
— Students at the University of Teacher Education have specific expectations and questions about the use of play in elementary education, particularly as it relates to subject based learning among elementary school students.
— Throughout their program, students at the University of Teacher Education broaden and refine their understanding of play in elementary education.
— Hands-on learning, collaborative exchange, and regular reflection in the courses at the University of Teacher Education contribute significantly to changing the students' insights into the topic of play at the elementary level.
— Learning environments at the University of Teacher Education, where students can regularly play and develop games, promote a positive attitude toward using games in their own classrooms using games in their own classrooms.

Playful Learning: Theoretical Foundations

The following main topics, together with their associated literature, constituted the theoretical framework of the course and were presented to students through appropriate instructional resources:

- Play and playing - basic concepts of learning (Bollweg et al. 2020; Benz et al. 2015)
- Scientific perspectives on play (Mogel 2008)
- Play and the development of forms of play (Breiner 2019)
- Free play and instructional games (Kübler et al. 2020)
- Function and influence of play environments and playthings (Mehringer & Wiebke 2020; Breiner 2019)
- Functions of play for child development (Sauerbrey 2021)
- Surface and deep structures of instructional play (Kübler et al. 2020)
- Lesson planning with the methodology of learning through play (Luthiger et al. 2018; Renkl 2020)

The instructional decisions in the selection of theory determined the following objectives:
At the end of the course, students…

- know the functions and importance of play for child development
- will be able to name and discuss the differences between free play and instructional games
- know different forms of play
- are familiar with scientific views on children's play
- have gotten to know, play and reflect on various educational games from educational publishers such as Klett und Balmer
- have learned how to develop and use instructional games in the classroom.

The course topic was introduced through a reflection activity in which the students were invited to reflect on their own play biography and share it orally with their peers in a social exchange. The structure of each class consisted of incorporating and discussing the theory, which was read as a homework assignment, playing or developing instructional games, and reflecting on the game experiences.

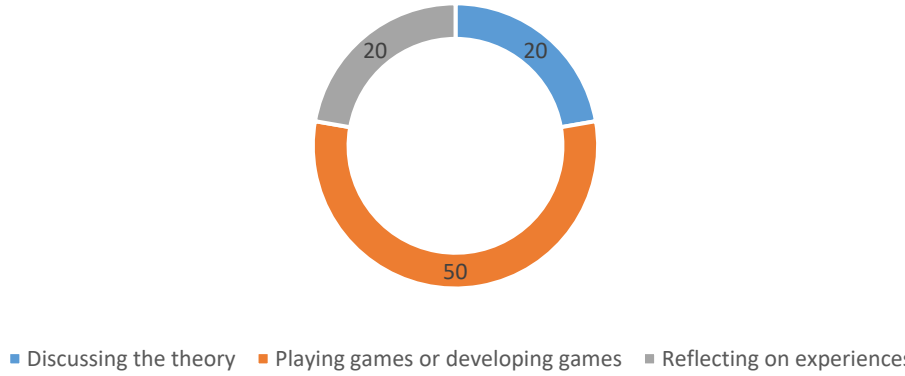

Figure 1
Instructional components of a course with an approximate time allocation of 90 minutes

During the explication of the scientific views on play, the concepts of free play and instructional (learning goal oriented) play, also known as guided play, as well as the forms of play were discussed: exploratory play, symbolic play, imaginative play, construction play, and rule-based play. Free play in children, which develops from intrinsic motivation and the pleasure principle, does not pursue any external goals but aims exclusively to give free rein to the imagination, which can be understood as a unique way of thinking. Both free play and instructional play are independent forms of play that share some characteristics but also have differences. Free child play is voluntary, timeless, active, independent of a specific location, affect-based, and immersive. Immersion refers to a deep focus and high concentration on the act of playing, in which external factors play no role. It is about developing perspectives – putting oneself in roles and actions (Neitzel & Rohr 2010). Another important feature of free play is voluntariness. Children decide for themselves when, where, and how they want to play without external pressure or set goals. This promotes children's self-determination and self-confidence. Timelessness is another important feature. During free play, children often lose track of time as they become completely immersed in their play world. This state of "flow" is essential for creative development. Active engagement means that children are physically and mentally active during free play. They explore, experiment, and interact with their environment, which promotes their motor and cognitive skills.

Independence from location emphasizes that free play can take place anywhere – indoors or outdoors, in a structured environment or in the great outdoors. Emotionality also plays a central role. Children process their feelings and experiences through free play, which contributes to healthy emotional development. They learn to recognize and express their emotions.

Finally, immersion in play leads children to become deeply engrossed in their playful activities. This intense concentration and dedication promote perseverance and the ability to focus on tasks over the long term. Free play therefore plays an indispensable and central role in a child's psychological and psychosomatic development. It is particularly crucial in early childhood up to preschool age, as it is one of the most natural and important methods of preparing for later life (SAUERBREY 2021).

Instructional games or guided play, on the other hand, are tied to specific learning objectives and led by a teacher in a prepared classroom setting for clearly defined purposes. Instructional games also encompass educational games developed by educational publishers. Their goal is always to help students acquire new knowledge or deepen existing understanding through play. They combine playful elements with educational content to make learning more enjoyable, motivating, and effective (ENGEL et al. 2022). Knowledge is expanded through the playful completion of learning tasks. Like free play, children experience positive emotions when instructional games meet the following criteria: they must be exciting, contain surprising elements, be challenging, and be interesting for children (MOSER 2024). Children must recognize that playing instructional games is enjoyable for them. In most cases, the teacher selects the instructional game and determines various criteria, such as how long the game is played, where it can be played, and with whom it is played.

Figure 2
Leading types of play in the courses

In the course's individual class sessions, the students played instructional games (see Table 1). Games were played that were either developed by the lecturer, developed by the students themselves, or taken from educational publishers. The intention was to understand the theory

more adaptively through play and to practice the methodology for later use in elementary school.

From a university teaching perspective, it is significant that students play instructional games in their courses so that they can recognize and understand how playful elements can be combined with learning objectives. Immersing themselves in the logic of the games and experiencing their play value is an essential prerequisite for developing instructional games themselves as a next step.

In the theoretical foundation of play, we looked at the topic from multiple perspectives. Play was reflected upon with the students as a meaningful activity that arises from a natural and intrinsic human need and is carried out while constructing a reality of its own (MOSER 2024b). The play-biographical introspective reflection helped the students to understand the theory more effectively. With the psychoanalytical view of play, in which play has a satisfying and liberating function for people, the students linked play with a person's fundamental life system. In this context, it was relevant for the students to understand that play has a psycho-hygienic function for people and strives for a positive experience (FREUD 1920).

A further perspective on play was adopted in the courses through the developmental psychology perspective. From the perspective of developmental psychology, play is a central activity in children's lives that makes a significant contribution to their holistic development. Play is closely linked to the child's cognitive developmental stages (PIAGET 1969). According to his theory, play goes through various forms that correspond to the respective stages of mental development: from sensorimotor practice play in early childhood to symbolic play and rule-based play at school age. These forms of play enable the child to try out and consolidate new skills and integrate them into increasingly complex social and cognitive contexts. Vygotsky (1978) also emphasized that play has a central role in social and linguistic development. In symbolic role play, children transcend the boundaries of their current stage of development by trying out new roles and rules. This "zone of proximal development" triggers learning and development processes that have an impact far beyond the immediate play event. Play is also seen as a medium for regulating emotions. Children process experiences, fears, and conflicts symbolically through play, which enables them to build emotional stability and resilience (ERIKSON 1950).

The processes of assimilation and accommodation that take place in play were discussed and tested with the students on a learning theory level using playful learning tasks such as puzzles. The students first developed a strategy for how they would proceed when searching for the parts. They realized that they would have to repeat certain processes and that failure is part of learning. Adapting the strategy, considering features such as edges or angles, led the students to success. The aim of this instructional setting was to experience play as a learning process. Subsequent reflection with the students made it possible to reflect on the learning along the game setting. The students experienced that playing is associated with a series of cognitive processes. The cognitive processes and experiences that result from play are indispensable for a person's psychological development and maturation during the human development phases up to school entry (PIAGET 1969). The developmental psychology

approach sees children's play as a perceptible reality and presents play as an activity that is experienced with joy and is subject to the individual development process (MOGEL 2008). The positive experience of play is accompanied by the development of adaptive skills in the psychological maturation of everyone. These are essential for learning and the adaptation of the growing child to the dynamically changing environmental structures as well as for coping with life situations later. Through play and discussion in the courses, students explored aspects of developmental psychology. This process forms an essential basis for introducing instructional games in elementary school teaching later on. The realization that valuable learning experiences could be made while playing was of decisive importance for the students in developing their own instructional games in university settings. The students' previous views that games can only be used in the classroom to loosen up lessons were thus refuted. The students understood that gaming experiences are learning experiences that can be intentionally integrated into lessons. This instructional approach of "learning by playing" can only be effective at universities if the instructional intentions are also tested in practice in the courses. Mogel (2008), who asked his students what they associated with play, also reported similar findings. In his survey, students associated playing only with positive emotions. However, this perception reflects the views of the surveyed group and cannot be generalized to all contexts. The students answered: "Playing means doing something just for fun, having fun and pleasure, experiencing amusement and pleasure..." This insight that playing games is associated with positive feelings offers a significant opportunity and motivation for university teaching settings. Integrating playful methods into teaching can motivate and activate students more effectively.

This can be achieved by:

— playing any game with rules and reflecting on the learning effects experienced. For example, playing a strategy game such as "Connect Four". Two students can play this game with the goal of being the first to get four of their own pieces in a row. This trains above all strategic thinking, decision making, problem solving, pattern recognition, concentration, perseverance, prediction, and anticipation. At the end of the game, it is important to reflect with the students on the operations and decisions they needed to make while playing and the role these play in learning.

— roleplaying, in which students take on roles, put themselves in these roles, and act out various sociological and educational scenarios. For example, playing the roleplaying game "Escape Room". In this game, students solve puzzles and try to escape from the room. The prerequisite for escaping is that all puzzles must be solved. Lecturers can choose the tasks in the puzzles as needed. These can be educational, scientific, or subject-specific questions. They can only succeed as a team and must take on various roles such as communication expert or detective. This promotes above all social skills, problem solving thinking, creativity, and decision making.

Students reflect on, for example, the relevance of social skills in cooperative learning and the advantages of such processes for learning.

— playing an educational game from an educational publisher as part of subject instruction, followed by reflection on its learning effects. For example, the "Word-sorting-Machine 4" for German from the series "Die Sprachstarken". In this game, various words are playfully sorted into nouns, verbs, adjectives, and other words. Students can reflect on the playful characteristics of this game and how they are linked to subject-specific learning.

At this point, we would like to emphasize that playing games in higher education achieves effective results when students talk about their experiences and exchange ideas within the group. This statement refers to the experiences gained through reflection during the course. This step is an indispensable learning component in higher education courses. At the beginning of the courses at the PH FHNW, we asked students for their opinions and experiences on the topic of playful learning. This information was important because at the end of the course we wanted to compare how their views on playful learning had changed over the course of the teaching.

The survey at the beginning of the course on the questions: "What do you associate playing with?" and "In your opinion, is it possible to consciously integrate playing into the classroom and use games to intentionally promote learning among elementary students?" found that play was predominantly associated with toddler and preschool-age children. It was emphasized that children have fun and enjoy themselves. Additionally, the view was expressed that although play is possible at school, it is more challenging to achieve subject-related goals through play.

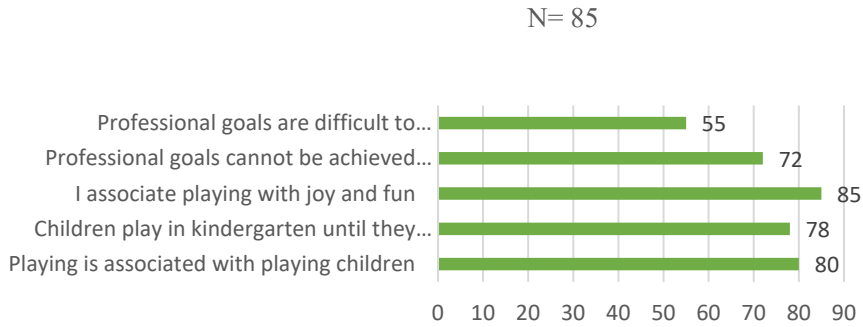

Figure 3
Reflection at the beginning of the courses

Both forms of play take place in defined play environments and for a set amount of time. Instructional play always pursues the intention of students acquiring specific knowledge

or expanding their existing knowledge. It combines playful elements with educational content to make learning more enjoyable, motivating, and effective. At elementary level, instructional games are used in various learning contexts. The aim of instructional play is to actively engage elementary students through playful design, fostering both motivation and enthusiasm for the learning process.

To develop their own games for elementary school, it was necessary to define and reflect on the characteristics of a "good instructional game" with the students. The first step was to discuss with the students when a instructional game is "good". The adjective "good" was chosen because the students were able to associate it with the concept of "good teaching" (MEYER 2004). The concept of good teaching had been discussed with the students from various perspectives during the previous semesters at the University of Education. Therefore, they were already familiar with this concept when entering this course. The considerations of the students went in this direction: if good teaching is characterized by certain features such as a high proportion of genuine learning time, intelligent practice, individual support, or a prepared environment, then there will also be specific features for a good instructional game. A good instructional game was considered from two perspectives. Firstly, an instructional game must enable the achievement of the defined learning objectives and secondly, an instructional game must be enjoyable, motivating, and exciting for the students, despite the manipulations and interventions on the part of the teacher. These perspectives were chosen by the lecturer and discussed with the students.

To meet this requirement, we developed the characteristics of a good educational game based on approaches from motivational psychology. Motivational psychologists see the playing individual as an active individual who is not only exposed to drives, desires, and needs, but also "confronts the real world through play" (MOGEL 2008). This is an "encountering world" in which a dynamic activity takes place that is characterized by tension and resolution (MOGEL 2008). Play is both an activity and an instrument that naturally develops people's cognitive, emotional, social, and motor skills. The motivational psychological perspective on play served as the basis for the creation of the characteristic features of play. The following fundamental questions were reflected on with the students: "What do children do when they are immersed in play?" and "What leads to immersion in play?" The following characteristics were selected according to the theory of Heckhausen (1964), which were applied to instructional games in the courses (see also Fig. 4):

The characteristic of tension and relaxation

A game can only create and maintain enjoyment for a player or several players if it combines exciting phases (which are created through elements such as risks, tricky tasks, challenges, uncertainties, and rewards) with relaxed phases of play. The uncertainty of whether you will win or whether you can master all the unresolved challenges is a crucial

element for immersing yourself in the game. The phases of relaxation allow players to rethink their strategy, prepare for the next moves, and focus on the behavior and tactics of their fellow players. These times can help to increase tension and promote strategic thinking. They can also serve to give players a well-deserved break, especially in longer or more challenging games.

The characteristic of the known and the unknown

Every game offers players elements that they are already familiar with or that they quickly grasp, as well as elements that encourage them to marvel or make discoveries. Familiar elements can be event and action cards, physical objects such as game boards, pieces or figures, a scoring list, or various rules. All unknown elements first require players to get to know and understand their functions in the game and the logic behind their use. Immersion in the unknown and the phases of familiarization are crucial both for the regular course of the game and for complete immersion and engagement in the game.

The characteristic of repetitive activity

In free play, the child repeats selected actions. They perform these actions to understand, make flexible, automate, and integrate the acting experience into their own mental world. Phases of 'failure', which are often associated with negative emotions such as anger and despair, can motivate the child to overcome these challenges during the subsequent phases of success.

The characteristic of the absence of external sanctions

Free play or instructional games can only take place in an anxiety-free environment. If the environment and the play context are impaired by negative factors, play becomes impossible. This is due to the fundamental human survival system, which is geared towards experiencing positive emotions and experiences. This characteristic can also be understood as one of the most fundamental criteria for play in general (Moser 2024a).

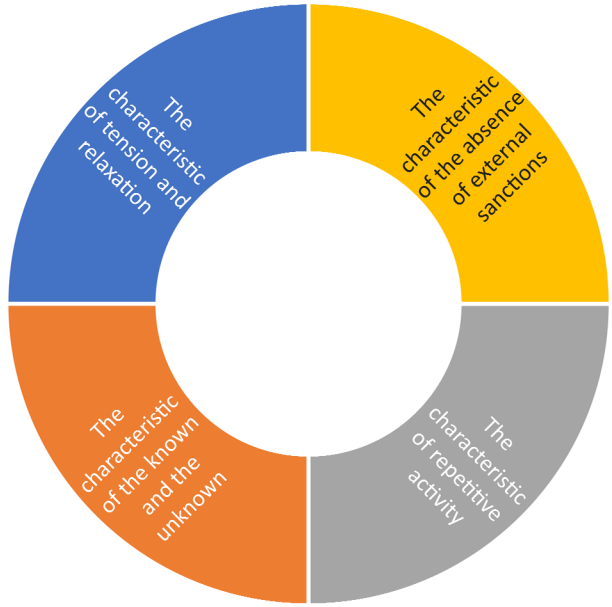

Figure 4
Selected characteristics of immersive play

Playing and Reflecting on the Games in the Courses

In the courses, the students both played and developed instructional games; for example, the "Snip-Snip" game for mathematics. In this game, the students developed cards with different numerical operations that could be solved in various ways. The cards were distributed evenly among the players and placed on the table at the same time. If two operations had the same result, the players shouted, "snip, snip". Another example was Puzzle Fun for elementary school general studies classes with tricky questions such as: "I sneak along the ground, who am I?" or "I am easily recognizable by my seven points, who am I?" and other games**.** Before playing, the students learned which learning objectives from the subjects of mathematics, German, and general studies were intended with the games from the Lehrplan 21 (the curriculum for primary and secondary schools in Switzerland). After each game, the students discussed their learning gains, the achievement of learning objectives, challenges, and possible variations for elementary school lessons. The instructional games consisted of an analysis-synthesis logic through which the university students first had to playfully analyze a game step and then playfully combine the individual pieces of information in the next step. To meet this requirement, the authors developed the characteristics of a good educational game based on approaches from motivational psychological theory.

An example of such a playful analysis-synthesis task in science class is a guessing card with a tricky description of an animal. The learners read the text carefully, analyze the clues, and draw conclusions to identify the animal. The description was worded in such a way that the name of the animal did not appear in it. Only its habitat was roughly described. The players guess the animal they are looking for with the help of joker cards, on which incomplete parts of the habitat are also documented photographically. Points are given depending on how many joker cards are needed to guess it. The winner of the game is the person who needs the fewest joker cards. This game was developed by the lecturer, and the students played it. In the courses, perception games in the form of fantasy journeys, for example, were also played and reflected on after the theory had been incorporated. An example of an imaginary journey for general studies lessons: "You lie in the meadow and let the warm rays of the sun caress you. You hear humming, crawling, fluttering..." With imaginary journeys and subsequent puzzles about the animals that appeared in the imaginary journey, the students could be confronted with a learning object in a short time and experience how stimulating and effective this methodology is for learning. The fantasy journey as a perception game enabled the students to adequately understand the characteristics of tension and relaxation by immersing themselves in the game. An indispensable part of the reflection was the examination of the games played for the characteristics of a good instructional learning game. The characteristics of tension and relaxation, the known and the unknown, repetitive activity, and external sanctioning were compared and reflected on after playing in the play groups. This formed a basis of knowledge for the design of their own instructional games. In the courses, the students tested which effects were triggered along the characteristics:

— The characteristic of tension and relaxation
— The characteristic of the known and the unknown
— The characteristic of repetitive activity
— The characteristic of the absence of external sanctions

Systematic reflection after the games took place in the form of a moderated group discussion. In the groups, one person was always designated as the moderator. Characteristics of a good instructional game, as well as focal points such as challenges of the game, possible modifications, and potentials of the game and playing, were reflected on and discussed in detail. When designing the games, the students also paid attention to the surface of the games. The layout, the formulation of the game rules, and the game process were part of the game development. The layouts, game sequences, and rules of various other games were analyzed and reflected upon. The developed games were exchanged and played among the students in the courses and reflected on the characteristics of a good instructional game. This peer feedback had a motivating and significant value for the students.

Table 1: Illustrative example of integrating play theory, board game activity, and reflection in the course

Scientific Perspective of Play (Mogel 2008). Discussion based on example questions	**Board Game Activity "On the Meadow" (General Studies Curriculum)**	**Reflection on play-based activity and learning experiences**
What is the scientific perspective on children's play, and how have the psychodynamic, cognitive, and motivational approaches evolved?	Within 60 seconds, use the available game icons or small components (e.g., pictograms for "water," "gills," "soil") to create a mini-explanation: How does a woodlouse breathe?	Post-game reflection based on example questions.
To what extent can the transition from assimilation to accommodation be understood as a process of productive cognitive dissonance?	Tip cards can help: "Lives in moist soil," "Has gill-like organs." Correctly completed tasks allow the player to collect a knowledge token. Three tokens grant a bonus roll	What cognitive operations did you use while playing, and how do they relate to learning?
Which motivational factors drive free play, and how do enjoyment and pleasure contribute to its educational value?	If you roll a 5: Draw an insect of your choice and tell what you know about it.	How could this game, or an adapted version, be used in elementary school to help children acquire knowledge?
How does science view the role of pleasure and joy in play?	Layers Field: Arrange the icons for soil layer, litter layer, leaf & stem layer, and flower layer in the correct order. Name one plant or animal for each. Reward: 1 knowledge token per correct layer; all four correct = bonus roll.	How did participating in the game stimulate your interest in using games for future classroom activities, and why?
After the game, give one example of solving a task using existing knowledge (assimilation) and one example that required adjusting your strategy (accommodation). Explain what influenced each choice.	Bee Field: Use the game pieces or cards for flower, nectar, pollen, and hive to show or tell what the bee does in the meadow.	Which characteristics of play did you specifically experience during the game, and how did they influence the course of play?

Figure 5
Playing the board game ‘On the Meadow’ from the General Studies curriculum during the course Playful Learning at the Elementary Level

Testing the Course: Written Performance Record

Internalizing the theory, understanding the characteristics of a good instructional game, developing games for the classroom, and reflection not only took place in the class sessions, but were also reflected in the written performance record. The students planned a lesson series of at least four lessons in either German, mathematics, or general studies. For the planned series of lessons, the students developed at least four new learning games that represented an effective learning method in the classroom. The games were developed according to the following criteria:

— The learning games enable the students to achieve the learning objectives set out in the lesson series
— The instructional games consider the age, interests, and prior knowledge of the children
— The design of the games stimulates the children’s desire to play
— The instructional games contain several activating aspects.

The assessment of the performance record was based on the following criteria: the student has planned a coherent series of lessons in which at least four learning games take over a learning phase of a learning process model. In this case, coherence referred to the consistency between the planned lessons and the games developed to achieve the learning objectives. In the subsequent reflection, the student justifies and reflects on why the developed learning games are suitable for the planned series of lessons, what value they offer the students, and what learning experiences could be achieved in the course through the teaching. The performance record includes the following elements: a planned series of lessons; a description of the individual educational games; if available, an illustration or photograph of the developed instructional games; instructional use within the learning process; reflection on the course; and the playful learning methodology.

Results

The teaching concept described above, in which theory, playing the games, developing the games, and reflecting on them formed a systematic unit, led to significant learning gains for the students. This concept formed the playful learning environment in our courses.

Figure 6
Components of the teaching concept

These learning gains among students were reflected on three levels. The first level encompassed the theoretical structure, which focused on the concepts and mechanisms of playful

learning. The learning was evident as students explored selected theoretical questions from different perspectives in discussions and critically questioned them. By understanding this theory, students were able to learn how and why games can be used as an effective educational tool. This helped them not only to grasp the principles of playful learning theoretically, but also to recognize and evaluate their practical application in real educational scenarios. Engaging with the theory thus promoted a sound knowledge base that was essential for further practice. The transfer of theory took place on the second, action-oriented level and was reflected in the students' ability to develop games. At this level, it was also possible to observe how the students linked their games to the learning objectives. The games were developed in the subjects of mathematics, German, or general studies. The students were able to choose the subject, grade level, and topic for the lesson series themselves. The third level was the level of reflection, in which the learning traces and experiences in the courses were reflected upon.

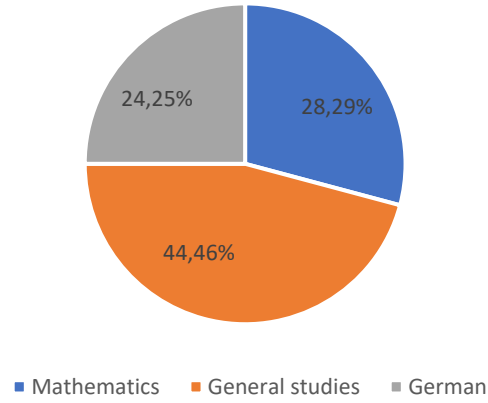

Figure 7
Subjects for which games have been planned

As the students were on a partner school placement (a teaching internship for two semesters) during this time, they designed the games for their own lessons and used and tested them in the placement. During the internship, students were able to decide for themselves in which lessons they wanted to test their games. This testing was voluntary and took place independently of the course. The learning effects of the games could be reflected on in subsequent settings. It was noticeable that at the beginning of the course, the students were skeptical about playing and developing the games. The students expressed this verbally in the courses. This skepticism was also generally related to their willingness to get involved in the games (see Figure 3). Reflecting on their own gaming biography and playing various

games developed by the lecturer herself was able to bring about a change of perspective in the students, as well as stimulate and encourage them to get involved in game design.

In terms of time, the action-oriented level was the most intensive level in the courses. The observable effects of playing were primarily reflected in the social interactions during play (SCHNEIDER & PRECKEL 2017). In particular, the explanation of a procedure, a rule, or a task took place in a supportive environment. The students showed emotional impulses such as laughter, joy, enthusiasm, excitement, curiosity, surprise, or even occasional frustration while playing, which can be described as characteristic of an exciting and motivating game. The professional effects, in terms of achieving the learning objectives, were evident in solving the playful tasks and reflecting on the course of the game, the learning outcomes, the challenges encountered while playing, and possible game modifications. All students passed the course. The achievement of the learning objectives cannot be classified in more detail in terms of quality. This differentiation was not provided for in the performance assessment. In the reflection, which was an integral part of the performance assessment, the students stated that after attending the course, they were confident about integrating games into their teaching as a learning method. The realization that this methodology can be used to achieve subject-specific learning objectives was also an instructional and methodological gain for the students for their upcoming professional practice. They learned that playful methodology can be applied at every stage of learning, including the tertiary level.

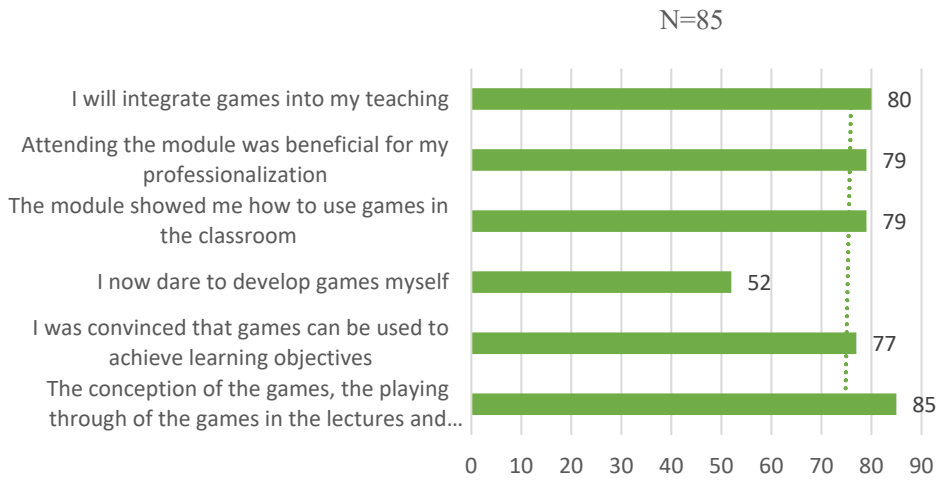

Figure 8
Indicated responses from the students about what learning gains they were able to record because of attending the courses

Analysis of the Results

The results of the course show that the discussed combination of theoretical knowledge, hands-on learning, and reflective processes leads to significant learning progress for the students, future teachers (see also CHI 2009; JOYNER & YOUNG 2006). The three levels of the course - theoretical foundation, practical application, and reflection - proved to be synergetic and determinant components in teaching, which together led to a deep and sustainable understanding of learning. On the first level, the successive-taxonomic logic, it could be seen that the students effectively built up and established a deeper theoretical basis through the methodology of critical multi-perspective discussions on selected questions. This implies that a broad theoretical discourse in a collaborative environment is an effective tool for knowledge building in teaching (RUIZ-PRIMO et al. 2011).

The second, action-oriented level highlights the importance of active engagement in teaching. The opportunity to develop their own games and to put the learning objectives into practice encouraged creative thinking, motivation, and problem-solving skills among the students. This could be observed in the courses and was also reflected in the learning achievements. The performance records were used for assessment and evaluation purposes and are not accessible for data protection reasons. The practical experience gained in the partner school internship also contributed significantly to the deepening of theoretical knowledge and enabled the transfer of what had been learned. Reflecting on their own game biography and playing the instructional games led to a change of perspective among many students regarding learning.

This reflection enabled the students to overcome their initial skepticisms and openly engage with a proven learning method from their childhood. The change in perspective was crucial in understanding that games can also be used to achieve educational goals. Experience helped to dispel concerns and skepticisms. Of course, like any method, learning through play is not a guaranteed success. The change in perspective also included the understanding that play is a possible learning method and must be carefully planned. This illustrates the relevance and impact of reflections in the educational process, as they not only have an evaluative character but also significantly promote critical thinking as well as a reorganization of perspectives and attitudes among students.

The teaching concept consists of a theoretical foundation, playing games, developing games, and reflection. These components must be implemented systematically. Reflection with the students was also extremely important for the change of perspective, as they shared their skepticisms and positive experiences with each other. From a university teaching perspective, events that implement such communicative encounters in courses lead to a change of perspective and promote critical thinking. Based on observations during the course, the action-oriented component proved to be particularly effective. In particular, social interactions during play and the explanation of game processes in a supportive environment not only promoted learning but also strengthened social cohesion and enhanced the students' interdisciplinary skills. With the increase in practical and hands-on learning methods in the courses, the motivation and willingness of the students to actively participate in the course

tasks and work on them with a high level of commitment also increased. The positive emotional reactions of the students while playing can be interpreted as valuable indicators of an effective learning process and student commitment.

Outlook

Play as a learning method offers potential at all stages of an educational career. A method can be understood as a set of rules that defines a structured collection of actions or sub-actions. When these actions are carried out in the specified order, they lead from an initial state to a desired target state of the conditions for the action (MACKE et al. 2008). The authors also introduce playful methods, such as role-playing, in their method sheets for higher education and demonstrate that this approach can help build understanding among students. Other authors, such as Kordts-Freudinger et al. (2021), emphasize that simulations and role-playing games can be used to facilitate the transfer of what has been learned. The experiences from the course show that the interweaving of theory and practice should also be understood as an interweaving of theory and action orientation. It is therefore desirable for teaching at universities of teacher education to provide students with more action-oriented experiences than is currently the case. In university teaching, role-playing games are frequently used as an instructional method. These serve to enable students to assume the roles and perspectives of others, act out realistic scenarios, and encourage self-reflection (RUIZ-PRIMO et al. 2011). Playing games at universities represents a research gap that offers great potential for teaching. The intention of this article is not to prioritize certain games, but to show that playing games creates genuine experiences that lecturers can work with in their courses. Group dynamics and interactions arise that can be transferred to social contexts. Learning itself can be made comprehensible as a process, because playing involves cognitive operations that are reflected in game processes, become visible, and can also be discussed. Playing a game in a course can create a positive atmosphere among students, motivating them to engage with various topics.

The connection between games and academic subjects is also possible. The educational adaptation of play makes it possible to achieve subject-specific learning goals. At the university level, it is essential to ask which playful characteristics are appropriate for the chosen topic or learning objective. Is it a surprise? Suspense? Or trickiness? The characteristics of a game used in teaching can serve as a reflection tool for lecturers to think about how exciting and creative their teaching is and how active learning and teaching take place in their courses. Testing and introducing innovative and interactive learning methods in courses also changes the learning environment. However, this requires the courage to change and the willingness to try out new approaches. This is the underlying problem - the unwillingness to use games because lecturers lack experience with this methodology. Overcoming these concerns is the most important step in utilizing innovative approaches to teaching. We draw on the experiences gained from the courses. The students also had these concerns, but were able to change their perspective by trying things out and reflecting on them.

The implementation of playful elements in teaching not only promotes the development of knowledge in a creative way but also strengthens students' motivation to learn and their positive attitude towards the learning process. In addition, gaming promotes the development of problem-solving skills and critical thinking, as students can play through and analyze complex scenarios together in a safe, playful environment. This prepares them for real-life professional challenges. At the same time, it strengthens interdisciplinary skills, as games usually require collaborative learning, which enhances students' communication and cooperation skills.

In summary, the results of the course also provide a sound basis for the further development of similar instructional strategies for teaching settings that successfully combine theory and practice. Higher education instructional concepts that develop and implement these approaches have the potential to significantly increase the effectiveness and sustainability of learning in higher education.

Bibliography

Benz, C., Peter-Koop, A., Gruessing, M. 2015. *Frühe mathematische Bildung: Mathematiklernen der Drei- bis Achtjährigen*. 1st Edition. Berlin: Springer.

Bohnsack, R. 2020. *Professionalisierung in praxeologischer Perspektive*. Leverkusen: Budrich.

Bollweg, P., Rauschenbach, T., Holtz, C., Grund, A., Römer, K., Schubert, P., Schneider, K., Schubert, M., Kehl, S. 2020. *Handbuch Ganztagsbildung*. 2nd Edition. Wiesbaden: Springer Fachmedien.

Breiner, T.C. 2019. "Historische Spieldiskurse". In: Breiner, T.C., Kolibius, L.D. (eds.) *Computerspiele: Grundlagen, Psychologie und Anwendungen*. Berlin: Springer, pp. 93–101.

Buhl, G., Rüdisüli, C., Kübler, M. 2020. *Spielen und Lernen verbinden - mit spielbasierten Lernumgebungen: Theorie - Empirie – Praxis*. 1st Edition. Bern: hep.

Chi, M.T.H. 2009. "Active-Constructive-Interactive: A Conceptual Framework for Differentiating Learning Activities." *Topics in Cognitive Science* 1 (1): 73–105.

eVV (Elektronisches Vorlesungsverzeichnis). 2023. "Bildung und Unterricht 3.1: Spielerisches Lernen in der Primarschule." *Fachhochschule Nordwestschweiz Pädagogische Hochschule,* 23.02.2023. „https://www.fhnw.ch/++api++/de/studium/paedagogik/veranstaltungsverzeichnis-evv/media/fs23-ph-primarstufe-bachelor-fhnw.pdf/@@inline-file/file". Last accessed: 07.10. 2025.

Engel, J., Kiesow, N., Klug, K., Larsen, J. 2022. *Kindliche Praktiken zwischen Freispiel, Sorge und pädagogischen Angeboten*. Weinheim/München: Beltz Juventa.

Erikson, E.H. 1950. *Childhood and Society*. New York: Norton & Company.

Freud, S. 1920. *Jenseits des Lustprinzips.* GW XIII.

Groos, K. 1896. *Die Spiele der Thiere*. Jena: Fischer.

Heckhausen, H. 1964. „Entwurf einer Psychologie des Spielens." *Psychologische Forschung* 27: 1–25.

Henting, Hartmut von. 1996. *Bildung*. Hanser.

Jaspers, K. 1980. *Die Idee der Universität.* Berlin: Springer.

Joyner, B., Young, L. 2006. "Teaching Medical Students Using Symbolic Role-Play: Twelve Tips for Successful Symbolic Role-Plays." *Medical Teacher* 28 (3): 225–229.

Klafki, W. 1993. *Studien zur Bildungstheorie und Didaktik.* Weinheim/München: Beltz Juventa.

Kordts-Freudinger, R., Schaper, N., Scholkmann, A., Szczyrba, B. 2021. *Handbuch Hochschuldidaktik*. Stuttgart: UTB.

Macke, G., Hanke, U., Raether, W., Viehmann-Schweizer, P. 2016. *Kompetenzorientierte Hochschuldidaktik*. Weinheim/München: Beltz Juventa.

Mehringer, V., Waburg, W. 2020. *Spielzeug, Spiele und Spielen: Aktuelle Studien und Konzepte.* 1st Edition. Wiesbaden: Springer Fachmedien.

Meyer, H. 2004. *Was ist guter Unterricht?* Berlin: Cornelsen Verlag.

Mogel, H. 2018. *Psychologie des Kinderspiels: Von den frühesten Spielen bis zum Computerspiel: Die Bedeutung des Spiels als Lebensform des Kindes, seine Funktion und Wirksamkeit für die kindliche Entwicklung*. 3rd Edition. Berlin: Springer.

Moser, G. 2023. "Kognitive Aktivierung und konstruktive Unterstützung. Ein Umsetzungsvorschlag am Beispiel «Wiese»". *Sachunterricht Weltwissen* 23 (2): 30–38.

Moser, G. 2024a. *Spielend im Unterricht lernen und spielendes Lernen planen*. Düren: Shaker.

Moser, G. 2024b. "Playing Purposefully with Students in Courses – A Concept, an Implementation, and an Evaluation of a University Course." *Central European Journal of Educational Research* 6 (2): 76–86.

Neitzel, B., Rohr, R.F. 2010. "Game Studies". *Medienwissenschaft* 04: 416–435.

Papousek, H. 2003. "Spiel in der Wiege der Menschheit." In: Papousek, M., von Gontard, A. (eds.) *Spiel und Kreativität in der frühen Kindheit*. Stuttgart: Klett Cotta, pp. 17–55.

PIAGET, J. 1969. *Psychologie des Kindes*. Stuttgart: Klett-Cotta.

RENKL, A. 2020. "Wissenserwerb". In: Wild, E., MÖLLER, J. (eds.) *Pädagogische Psychologie*. Heidelberg: Springer Medizin Verlag, pp. 4–24.

RUIZ-PRIMO, M.A., BRIGGS, D., IVERSON, H., TALBOT, R., SHEPARD, L.A. 2011. "Impact of Undergraduate Science Course Innovations on Learning." *Science* 331 (6022): 1269–1270.

SAUERBREY, U. 2021. *Spielen in der frühen Kindheit: Grundwissen für den pädagogischen Alltag.* 1st Edition. Stuttgart: Kohlhammer Verlag.

SCHNEIDER, M., PRECKEL, F. 2017. "Variables Associated with Achievement in Higher Education: A Systematic Review of Meta-Analyses." *Psychological Bulletin* 143 (6): 565–600.

STENGER, U. 2012. „Spiel als anthropologische Konstante." In: BOCKHORST, H., REINWAND, V.I., ZACHARIAS, W. (eds.) *Handbuch Kulturelle Bildung*. München: Kopaed, pp. 52–56.

TOMASELLO, M. 2020. *Mensch werden*. Berlin: Suhrkamp.

WESPI, C., LUTHIGER, H., WILHELM, M. 2015. "Mit Aufgabensets Kompetenzaufbau und Kompetenzförderung ermöglichen." *Haushalt in Bildung & Forschung* 4 (4): 31–46.

WITTEK, D., KORTE, J., MATTHES, D., PALLESEN, H. 2025. *Dokumentarische Professionsforschung. Grundlagentheoretische und empirische Bestimmung zur Professionalisierung von Lehrpersonen.* Bad Heilbrunn: Klinkhardt.

VYGOTSKY, L.S. 1978. *Mind in Society: The Development of Higher Psychological Processes*. Cambridge: Harvard University Press.

Dr. Gabriela Moser is a lecturer at the Institute for Primary Education at the University of Applied Sciences in Northwestern Switzerland (FHNW). Her work focuses on research and teaching in the field of playful learning in primary schools, university teaching at the Institute for Primary Education, and continuing education for teachers in northwestern Switzerland. She is currently working on issues of cognitive activation in general studies, comparing the effects of playful learning with other learning methods and investigating their effects. For her, teaching at the tertiary level means not only theoretical discussion but also a focus on practical application, which opens up new perspectives and attitudes toward learning for students.

Dr. Gabriela Moser
gabriela.moser@fhnw.ch