There is a game for everyone

Guidebook for teaching with (serious) games

GAMES IN BASIC SKILLS TEACHING

Co-funded by the Erasmus+ Programme of the European Union

“There is a game for everyone”

Guidebook for teaching with (serious) games

1. Presentation of the Erasmus+ project partnership

a. Project overview

The Games in Basic Skills Teaching project is an Erasmus+ project that focuses on the use of analogue and digital games in Basic Skills Teaching settings. We brought games to teach these specific target groups due to the fact that games add valuable aspects to education. Games change the classroom they are used in. They can create immersive worlds and offer challenging tasks. At the same time they bring a new form of interaction to the learning process. They are skills-oriented and emphasise soft skills like communication and collaboration. Games can motivate students who might be otherwise hard to motivate and they bring fun to the process of learning. They offer ideal circumstances to the process of learning based on psychology and recent learning theories, like Gee's learning principles, the Concept of Flow by Csikszentmihalyi, the theory of the Zone of Proximal Development by Vygotsky and Self-Determination Theory by Deci and Ryan. As the target groups and the learner profiles, as well as the equipment and the settings in the different classes, differed so much from each other, there was a wide range of diverse games and playful approaches used as well. The project used analogue as well as digital games, it applied approaches from basic role playing and card games all the way to VR games and AR applications with game-like elements.

The experience of the students and the teachers applying the games was as diverse as could be, but we think it is fair to say that there was added value for almost all of them. For a lot of the teachers and the students, using games in the classroom was a relatively new experience. Depending on the games used, teachers had to rethink their teaching process and sometimes a lot of preparation - technically as well as creating learning designs and getting to know the games - was needed to be able to properly integrate the games in the curricula of the different classes.

The amount of preparation depended on which games and which media were used for learning. Social and analogue games, like board or card games do not require much preparation setting up technology to use the games in class. Here, sometimes the only technical setup was to document the teaching with games like creating videos of the play sessions or doing interviews with the students and teachers before, during and after the sessions. When it comes to using computer games or VR and AR games in class the setup is of course more elaborate. Though, if this technology is available and used in the classroom, it is mostly also used beyond gaming and therefore is already set up and maintained by staff who are proficient in the use and maintenance of this technology anyway.

One of the major challenges besides the technological aspect of teaching with games is the integration of the games into the curriculum and especially the 45 to 60 minute lesson structure.

One of the major challenges besides the technological aspect of teaching with games is the integration of the games into the curriculum and especially the 45 to 60 minute lesson structure. Games are often not designed to be integrated into such a tight framework timewise and due to that playing them in class requires extra consideration of how to break down the play sessions to an appropriate time frame.

Infobox:
Games in Basic Skills Teaching - Erasmus Project (https://www.youtube.com/channel/UCcoEXDpJHzANxBD28ul5D6w)
Training course (link)

As teaching with games is such a promising field, especially when it comes to teaching Basic Skills and the dissemination of our work is crucial to the success of the project, we considered new means of dissemination to bring our experience to as many people as possible. Therefore, we documented our work on video and completed interviews with the teachers and the project partner staff to make it available to everyone. We created a YouTube channel where all of the interviews can be found. Additionally, we added videos to explain the use of games for teaching to demonstrate how the games can be applied in teaching. All of the material will also be presented through social media, as we also created a Facebook and a LinkedIn page for the project to guarantee that everything is publicly available and everyone is able to find what we created in the project. All of the resources are available for free and also follow the Open Educational Resources approach.

Besides this guidebook, there will also be an open training course available on Adobe Canvas called “Changing the Game” to show how we integrated the games we used into the teaching of Basic Skills and give advice on how you can do it yourself. The training course uses this guidebook as a basic resource and follows our final “10 steps to develop your teaching with games”, but it will also work independently. You can find some more information about the course in Chapter 5.

The following pages will be used to give an overview of the eight partners who participated in the project from seven different European countries.

b. VUC Storstrøm, Denmark (lead partner)

VUC Storstrøm is an adult education centre with approximately 200 employees of which 160 are teachers. We have about 5000 full time/part time students in 2019 with a turnover of approximately 18 M€. VUC Storstrøm covers a region with about 270000 inhabitants in a rural area and is represented in six cities.

VUC Storstrøm offers general adult education, higher preparatory examination, preparatory adult education (basic skills) and several special programs for learners with special needs, as well as custom-tailored courses for companies. Examination is mandatory in all subjects and at all levels giving formal competences. Our students are often adults - meaning from the age of 18 or 25 depending on the course - "second chance" students or students creating a new career path for themselves, so creating upskilling pathways is an integral part of our DNA.

All six of the departments operate as blended learning centres. They are fully digital and can connect through videoconference and collaborative tools. This means we can offer a wide range of educational possibilities no matter where our students are located thus ensuring equal access to education for all. This setup also means that we are working with many different types of students and study environments and we are therefore continuously working with developing relevant and innovative learning designs to ensure that we can help our varied group of students.

c. Berufsförderungsinstitut Wien, Austria

The Berufsförderungsinstitut Wien / Vocational Training Institute Vienna (BFI Wien) is one of Austria's leading institutes of employee-oriented vocational education and continuing training. It was established by the Federal Chamber of Labour and the Austrian Trade Union Federation in 1959. BFI Wien provides education with the objective of strengthening the professional and social integration of our target groups, securing them work as well as reintegrating them into the labour market. BFI Wien works for public institutions such as the Austrian National Employment Service, the Viennese Employment Fund, various ministries and European organisations as well as for private sector companies in commerce, service, trade and industry. Subsidiaries of the BFI Wien are the Fachhochschule des BFI Wien (University of Applied Sciences BFI Wien), Schulen des BFI Wien (Commercial Schools of BFI Wien).

BFI Wien provides a wide range of services in the field of vocational training and qualification, career counselling and guidance, and advisory services. VET training covers areas such as IT and communication technologies, tourism, health and social services, transport and traffic, building, wood, metal and electrical trades.

Basic skills training is of importance in many of BFI Wien programmes which include people with low educational backgrounds, with learning difficulties and disabilities as well as early school leavers. In most cases the basic skill training is part of a comprehensive vocational training. Either it is integrated into the training or it is implemented before the vocational or technical training. BFI Wien provides basic skills training in calculation and mathematical-logical understanding, writing and communication, social skills and German as a second and technical language. Examples are the “Integrative Vocational training courses according to the Austrian Vocational education law”, “Jugendwerkstatt (Youth workshop)” and “Lernwerkstatt (learning workshop)” a special opportunity for youths from 15 – 17 years who are transitioning from school to apprenticeships/jobs.

Currently BFI Wien employs about 600 persons and works together with 600 freelancers. We train about 40.000 persons per year.

d. Platon Schools, Greece

Platon schools (Kindergarten – Primary – Secondary – Lifelong Learning Centre) is a modern educational institution with 570 learners and 90 staff. The organisation pursues with great interest and a creative mind developments in the field of education; it constantly sets new goals holding at the same time an outstanding position in the educational scene. Through the use of the most up-to-date facilities, a diverse curriculum, experienced and skilled teaching staff and, most importantly, through consistency of principles and respect towards pupils and parents, our school for the last ten years has striven to provide an accomplished education for our pupils. Educational challenges are addressed through community-based and participatory approaches and by engaging local and regional stakeholders.

Through the Research and Innovation Department, Platon participates in international programs about the design, implementation and assessment of innovative pedagogical methods and materials. The Centre of Research and Innovation actively involves itself in the design of advanced educational materials, both conventional and electronic. The main aim is the exploitation of state-of-the-art technologies in the education process to enhance teaching and learning. The tools developed within the framework of educational programmes are the result of cooperation and joint efforts amongst specialists from a variety of academic fields, with a major focus on information technology, teaching and learning studies.

Platon is affiliated to: Katerini Municipality, International Hellenic University, District Educational Authority of Pieria, Chamber of Commerce of Pieria, Olympus Festival, Volunteering team of Pieria, Cultural and Athletic clubs. Platon also is the head of school education on Dlearn, a European network on digital learning.

e. City Lit London, England

City Lit is London's largest provider of short courses for adults. Founded in 1919, it has provided adult education in central London for over a century. City Lit helps learners from a variety of backgrounds and social circumstances to challenge themselves and unlock their potential. In 2020, City Lit launched its online learning provision to remain a hub of learning and support throughout the pandemic.

City Lit has adapted and innovated to meet London's changing needs, providing more than just adult education courses. Its offer helps people combat loneliness, develop new skills to improve employability, and change careers. It gives people a sense of purpose and fulfilment, improves their confidence, enables them to overcome mental health difficulties, and makes London and beyond a better place.

The college now runs around 5,000 courses online and in person per year and handles nearly 60,000 enrolments.

Universal Skills Centre at City Lit

The Universal Skills Centre focuses on the core competencies and skills needed by adults to participate, progress and express themselves in today's democracies.

We focus on the most in-demand skills inside and outside the workplace such as communication, decision-making, prioritising, innovating and team-building. Students learn and develop these competencies through working on their English, ESOL (English for Speakers of Other Languages), maths, digital skills and data literacy. We run courses for over 1500 Hearing and Deaf learners, at all levels, with and without exams. Our pedagogical focus is on task-based learning and the gamification of the classroom.

f. Verein Spielmacher and Games Institute Austria, Austria

Verein Spielmacher is a registered association in Austria that brings together professionals and people interested in using games in new contexts like education or professional development. It was founded in 2017 and the Games in Basic Skills Teaching project is the first major project it has contributed to. The expertise in Spielmacher has a strong connection to Games Institute Austria.

Games Institute Austria is a company located in Vienna, Austria, that works in the field of game-based learning and gamification. It was founded in 2015 and has since then developed a reputation for being one of Europe's leading companies in this area. The Games Institute explains the field in talks and articles, trains teachers in seminars and workshops and has developed several services and products like Escape Rooms for education and professional development (including the Games Institute's own Best Case Escape Room Case), skill assessment in games with our assessment tools GIST (Game Informed Self-Evaluation Tool) and SkillEDU (similar to GIST, but focussed on students approaching the end of their school career), Esports Education and Educational Game Design. We partner with other specialist companies in the respective fields like Seppo or Learn2Esport to bring the best gaming-related learning experiences to companies and educational institutions all over the world.

The Games Institute staff combine 15+ years in teaching, UI/UX design, business consulting and decades of experience in gaming, gaming culture and esports. Subsequently , we can offer authentic and relevant experiences to the gamers themselves as well as translate and transfer the relevant aspects of gaming to our customers and society in general.

g. CFC – Conferenza della Svizzera italiana per la formazione continua degli adulti, Switzerland

The Conference for adult lifelong learning in southern Switzerland (CFC, www.conferenzacfc.ch) is the umbrella organisation for general and vocational adult learning in the Ticino region (southern region of Switzerland). CFC is a non-profit organisation supported by the government of Canton Ticino and has a permanent secretariat in Lugano. CFC groups more than 80 members comprising: institutions, schools (public and private), adult education state providers, governmental bodies and individuals involved in adult learning and human resources retraining.

CFC promotes a sustainable adult education system, raises awareness on the importance of adult learning and creates cooperation and networks between adult learning organisations by running national and international projects, conferences and informative meetings.

Thanks to more than 20 years experience, CFC has acquired extensive knowledge on most topics related to adult education and developed and participated, in different ways, in various projects (at a regional as well as at national and international level), on the subject of training disadvantaged adults with low levels of basic skills and no formal VET qualifications.

h. Universal Learning Systems, Ireland

Universal Learning Systems is an international consultancy firm specialising in research, education, training and project management. ULS undertakes projects for a number of clients in the educational, development and management sectors. Based in Ireland, ULS also has offices in Prague, Barcelona, Amsterdam, Helsinki, São Paulo and Chicago.

The ULS focus is on professional development with a particular emphasis on work-based learning. ULS works in Ireland, Europe, China and the United States with a wide range of clients: these include universities, open learning institutions, schools, employers and community associations. It has particular expertise in learning around transformative education, disability and rehabilitation, e-learning, diversity, interculturalism, immigration, conflict resolution and strategic management. ULS has extensive experience of promotion of educational and learning innovation. It works closely with community stakeholders, adult education and employer networks. ULS has particular experience with post-graduate distance learning initiatives in change management and sustainable professional development. It is centrally involved in work based learning initiatives to promote employee growth and competence. ULS focuses on pro-active strategic planning for innovative learning and is actively involved in a wide range of evaluation projects.

ULS has a leading profile in EU distance learning and e-learning innovation networks. ULS has particular experience in project evaluation and quality assurance. ULS has developed an extensive range of e-learning courses in the security and pharmacy sectors in Finland in association with its partner company, ChangeLearning. ULS has experience of working with schools in developing enhanced engagement with teachers, communities and parents. ULS has developed human rights and diversity training for police training colleges in Ireland and Europe. Dr. Bruce of ULS is a member of the New Security Forum in Berlin and of the Garda National Diversity Strategy Board in Ireland.

ULS bases its work on the identification and development of opportunities for innovative learning competence to address future challenges. Capturing this innovation has become a key focus for ULS projects in recent years around advanced technologies and their application to human learning needs. Through its expertise on disability, migration and interculturalism, ULS has developed robust training methods and guidelines based on individual and community learning and development needs – particularly in a time of socio-economic crisis.

ULS has particular expertise in research, project management and innovative initiatives on migration, intercultural training and conflict transformation – with a strong track record of program development in Kosovo, Euzkadi, Bosnia, Catalonia, Romania, Cyprus, Palestine and Northern Ireland. ULS has also undertaken significant educational and training projects on fundamental rights and diversity management. ULS is Academic Adviser to the Conflicts of Interest program delivered by Expac in Northern Ireland and delivers the new Future Resolutions program developed by Expac and validated by Queens University Belfast. ULS is a member of the Association for Historical Dialogue and Research in Cyprus.

It has designed and delivered conflict transformation training (including mediation skills) to client agencies throughout Northern Ireland and the Border Counties of the Republic. In 2014 ULS concluded an academic convention and agreement with UOC, the Open University of Catalonia, in Barcelona for shared development of conflict resolution courses in the Campus for Peace and for joint postgraduate program development.

Current projects include:

- Innovative learning interventions in migration and social inclusion
- Research on labour market outcomes for ethnic minorities in Finland
- Post-war conflict transformation training in Northern Ireland
- Vocational rehabilitation professional accreditation (United States)
- Post conflict VET programs in Kosovo, Euzkadi and Bosnia
- Postgraduate course development for rehabilitation staff (US/Ireland)
- Diversity management programs for private and public sector
- Rehabilitation research and best practice in inclusive schools (Illinois)
- Inter-ethnic training and research on conflict (Cyprus and Ireland)
- Language learning initiatives in higher education in Taiwan
- Innovative technology supported programs in senior care in China
- Competence development for the ICT sector in Greece and Bulgaria
- Innovative learning on globalised change in Ecuador
- Research and training to combat cyberbullying in schools (Italy)
- Advanced ICT supported language learning for universities in Palestine.

i. FØNIX, Norway

FØNIX (FONIX) is the largest company within the vocational rehabilitation market in Norway. Our main office is in Sandefjord, Norway, (120 km south of Oslo) supporting 11 regional offices in the county of Vestfold. FONIX has approx. 200 employees – mostly certified trainers and instructors / teachers.

FONIX are an NGO and organised as a limited company (AS), but act as a non-profit organisation through our formal approval as supplier to the Norwegian Labour and Welfare Service (NAV).

FONIX is 100% owned by the municipality of Sandefjord. Sandefjord is the 8th largest city in Norway with approximately 65.000 inhabitants.

Our formal approval as supplier to NAV (The Norwegian Labour and Welfare Administration) requires that owners cannot take out dividends, and that all profits will benefit the users of the enterprise. In this setting, FONIX serves an important role for the community and public authorities regarding vocational rehabilitation.

At any time during the year, this service includes approximately 2.000 learners / jobseekers and approximately 300 migrants / language learners.
In 2019, more than 1.200 people got a job through FONIX.

2. General introduction to serious games, digital serious games and the games tested in the project.

a. Introduction

Infobox: Long tradition, plenty of material available
From practical guidebooks to academic literature
Felicia, Patrick. *Games in Schools. Using educational games in the classroom. Guidelines for successful learning outcomes.* https://www.academia.edu/193030/Digital_Games_in_Schools_A_handbook_for_teachers
Pechuel, Rasmus. *Game-Based Learning for Teachers - A Journey Through a World of New Ideas* http://eduproject.eu/game-based-learning/downloads/GameOn-Book-V1.pdf
Shapiro, Jordan. *MindShift - Guide to Digital Games and Learning* https://a.s.kqed.net/pdf/news/MindShift-GuidetoDigitalGamesandLearning.pdf

Short historical overview

Using Games and Play in classrooms is not a new concept. For decades, games and playful approaches have been an important topic for education. In general, you can say the younger the learners, the more central the role games played in teaching. Additionally, especially in alternative approaches like Montessori pedagogy, play and tinkering was at the centre of designing classroom experiences beyond early education. Then, in connection with the rise of computers and their arrival in schools and classrooms in the 1980s and 90s, educational video games entered the classrooms and were used to a relatively broad extent. Due to the discussion around the value and mostly the dangers of playing video games in the last 25 years, while games were maturing as a medium, society in general and educators especially shied away more and more from the use of video games in classrooms. So, it seems as if a new approach to considering the use of games in teaching started a few years ago and is on the rise now, especially in times of remote learning, while at the same time educators interested in using them in class do not have a lot of experience when bringing this medium to their teaching.

The younger the learners, the more central the role games played in teaching.

Throughout the last decade, a large amount of material has been created to facilitate the use of games in classrooms. There are numerous articles, guidebooks and manuals on how to bring games to the classroom which we will refer to in this guidebook, too, to use serious games in teaching and to choose the right games for teaching specific topics and subjects. These focus mostly on the use of digital serious games and often follow a similar approach by defining what a (serious) game is, giving an overview of the history of games and serious games. Additionally, most of them present a list of games suitable for classroom use. We consider many of the manuals and the academic literature used as a basis for these works valuable and recommend them for understanding and learning the use of games in classrooms.

Infobox:
Games and Teaching Section - Description of games and their possible use in the classroom
Research and Discussion Section - Discussion around Game Based Learning

What is different about our approach?

Even though there is validity in this approach and we also will mostly follow a similar structure, there are some caveats that we would like to address with our guidebook. The title of this publication "*There is a Game for Everyone*" tries to illustrate that we share a broader approach to understanding the value of games and play while at the same time being more specific in certain aspects of applying games in class that we deem valuable for consideration.

Using Games for Basic Skills Teaching meant bringing games and game-like experiences to these classrooms.

When starting out on our project, we soon had to realise that we struggled with the very basics of what our project set out to do. Using Games for Basic Skills Teaching meant bringing games and game-like experiences to these classrooms. We all agreed on the added value that this approach can bring to the students and to the classes, but what game and in which class and how to align that with the lesson structure and the curricula, was an ongoing discussion. What were the specific settings and the equipment at hand, who was the target group and how much did they know and use games beyond their classes? We quickly realised that there were so many specific conditions and settings that it seemed to make sense to start at the very beginning by having a look at the essence of what we set out to work with in the project. So, we started by answering a few basic questions.

What is a game? Is it different from the concept of play? Do we only play serious games in class? Are digital games better suited for classroom use? Is gaming in Basic Skills only valuable for gamers? Is there a topic or a target group that might not be suitable for games for learning?

The guidebook will present two approaches to the work with games in teaching, one called ***Games and Teaching Section*** *and a second one called* ***Research and Discussion Section*** *that dives more deeply in the discussions we had when trying to*

grapple with the concepts and how they can be applied to our specific target groups and courses.

The answers we came up with were diverse due to the fact that there were so many aspects to be considered, not only the setup, the curriculum and the game were relevant for teaching with games in basic skills teaching, but also the experience of the teachers and the students as well. Due to this realisation, we considered what else, besides the already existing work, might be important for teachers and educators to bring games to a (basic skills) classroom. The following work is the result of our considerations and we hope to fill some gaps that still seem to exist in the literature on the application of games for learning. The guidebook will present two approaches to the work with games in teaching, one that is more hands-on called **Games and Teaching Section** and a second one called **Research and Discussion Section** that dives more deeply in the discussions we had when trying to grapple with the concepts and how they can be applied to our specific target groups and courses. So, in the following you will find two paths to follow for each headline, one that focuses on the games and how they fit into our teaching and one that presents relevant aspects to consider when working with games in teaching. You can read both to get the full picture or only follow one track and hopefully still learn something new about how to bring games to the classroom. A second major part of this guidebook will exemplify how these considerations were translated to the classrooms at hand and what we as teachers and our students experienced when games and play came to their classroom. Later there will be a summary of our whole experience and what we learned from them. To round it up you will also find a description of the learning course we created over on Canvas and a presentation of our dissemination activities. So let's start the game and enter level 1!

Infobox:
Kahoot! https://kahoot.com/
Dragonbox Series https://dragonbox.com/

b. The difficulty of defining a game
    i. Games and Teaching Section

Using games in class

When talking about using games in teaching, you will quickly realise that a seemingly simple concept, that of a game, is not as clear as it seems. Many teachers state that they use games in their teaching. They might play with their students on a regular basis, but the games they use might not be integrated tools for teaching but rather a supplement to the rest of their teaching material. When we talk about the use of games in teaching, we specifically mean games as tools for learning. The relevant learning that is happening is directly in the game or the context and culture surrounding it. Game-based learning deals with learning in and around games and that is what we are aiming for with our project.

When we talk about the use of games in teaching, we specifically mean games as tools for learning.

Listening to teachers who claim that they are using games for their teaching already, you also get the impression that a wide range of tools are considered games, even though they do not seem to compare to the (video) games that are successful products, digital or otherwise. *Tetris*, *Minecraft* and *Pokemon* are well-known digital games and *Monopoly*, *Risk* and *Catan* are well-known board games. They fit into most of the definitions of what a game is and therefore most game-based learning principles apply, while other tools that are popular with teachers hardly fit into that category.

Popular ‘games’ for teaching

Some examples might be of help here. Quite common ‘games’ to be used in class are *Kahoot!*, the *Dragonbox* Series, escape rooms, or *GeoGuessr*. Do we consider these games? *Kahoot!* is a quiz app in which you can create and play quizzes about all kinds of topics. *Kahoot!* can be seen as a game, but we do not consider simple quizzes as real game-based learning tools as they do not present the depth of a real game like *Minecraft* or *Catan* and therefore most learning principles for game-based learning do not apply in this case. They are small game-like exercises to assess knowledge or introduce a topic, but gameplay is limited to choosing the right answer from the ones listed with the question. Deep gameplay does not happen as there is only one correct answer. *Kahoot!* still is a valuable tool for creating excitement and commitment and it is popular with students and teachers because students are in competition when playing and you get results that are easily comparable. Additionally, it is a tool that is easy to use in the classroom, as you can see in the learning design that uses *Kahoot!*. Teachers like working with it, because all of the relevant equipment is already available and therefore *Kahoot!* can easily enter existing classrooms.

Kahoot! can be seen as a game, but we do not consider simple quizzes as real game based learning tools as they do not present the depth of a real game like Minecraft or Catan and therefore most learning principles for Game Based Learning do not apply in this case.

Infobox:
Breakout Edu Https://www.breakoutedu.com/
Best Case Escape Room Experience https://www.gamesinstitute.at/
GeoGuessr https://www.geoguessr.com/
Minecraft https://www.minecraft.net/de-de/

The *Dragonbox* Series, including games like *Dragonbox Elements* and *Dragonbox Big Numbers*, are well-known learning games to understand basic concepts of maths. We consider them (good) learning games as they have the depth and the complexity that *Kahoot!* lacks. Here, students can experience real gameplay, they have the autonomy to try out and master a concept presented in a series of levels. The *Dragonbox* games are digital games for tablets and smartphones and We Want to Know, the game design studio behind the games, even presents learning material to embed the games in your teaching.

Escape rooms for education mostly use a case to break into instead of a room to escape from.

Escape room is an umbrella term for a whole number of game-like experiences that are similar to the popular Escape Room genre of live action puzzle rooms to be visited and escaped from as a team. Escape rooms for education mostly use a case to break into instead of a room to escape from, like the ones from *Breakoutedu* or the *Best Case Escape Room Experience*. Playing an escape room can be considered a game in our opinion, it potentially has the depth and the freedom to provide real gameplay. But especially in education, you have to look at what the riddles and puzzles in the escape room provide. Do they require gameplay when being solved or are they only worksheets that need to be solved to be able to open the locks? The more freedom and the more gameplay an escape room experience can provide, the more game-like the experience will be. We will dive deeper into the use and design of escape rooms for education later in this guidebook.

GeoGuessr is a browser based game that works with Google Maps to create a challenge for players to find out where they are located on the planet. Not created as a serious game when it came out in 2013, it has since then built a reputation for being a valuable learning tool. For a while now, the developer especially expands on the content and the value of the game clearly designed for educational purposes. As a teacher, you can also create an education account to use it in class. The *GeoGuessr Education Edition* offers assignments and follow-ups for teachers and offers a subscription model that directly addresses schools and teachers. *GeoGuessr* can be considered a real game due to its depth and complexity, the different play modes and the level of freedom for the players. As it also offers tools for creating new maps, it adds further value for teaching and working with the game in class. So, in this regard it can be considered as similar to other open-ended design-oriented games like escape rooms or *Minecraft*.

We consider the distinction between games for teaching and playful experiences to be relevant for the use in class. Playing and game-like experiences like *Kahoot!* can be valuable tools for teaching, but if they are not real games, it changes the understanding of their potential to be used for game-based learning. They can be fun and motivating and they can bring a playful spirit to your classroom, but they lack various aspects (eg. autonomy, cooperation or well-ordered problems) a 'real' game like *Minecraft* or the *Dragonbox* series brings to teaching and learning complex concepts and skills.

Infobox:
Salen, Zimmerman, Rules of Play - Game Design Fundamentals
http://legacy.gamesforchange.org/learn/rules-of-play-game-design-fundamentals/

ii. Research and Discussion Section

Why should we define games?

It is not easy to precisely define what a game is. Many scholars have done so and it is still an ongoing discussion especially as the term game has evolved over the centuries with an ever increasing rate of change in the last decades and years due to the success of digital games and the pushing of boundaries of what constitutes a game by independent developers in recent years. The term game is constantly evolving and this might be understood as a benefit for those using games in different contexts like education.

Games and play itself are separate concepts that bring different specifics as well as benefits to the classroom but they also share very basic features especially when it comes to their benefit for learning and education.

You might then ask why bother defining games, if this is an ever evolving concept? Definitions of concepts like that of a game are valuable in itself and help understanding this medium better even though you might not succeed in finding an all-inclusive definition. To understand what constitutes a game and what can be defined as a game also has value for educators who are willing to include games in their work due to the properties that games and play offer for the learners/players of games within a learning setting. Games and play itself are separate concepts that bring different specifics as well as benefits to the classroom but they also share very basic features especially when it comes to their benefit for learning and education. Game-based learning is the learning in and with games and the learning principles in connection with it are only applicable, if you choose ‘real’ games for your project.

Helpful definitions of 'play' and 'game'

There are a number of useful definitions of games and play by different scholars. Even though they are also relevant to us for education, we only focus on a few common definitions here that seem especially helpful for us as educators using games in class as they present good starting points to implement games in the learning process. In the following we will present the definitions given by Katie Salen and Eric Zimmerman from their seminal book *Rules of Play*:

"Play is free movement within a more rigid structure."

To specify what they mean by play and what the different forms of play are, Salen and Zimmerman elaborate on this concept and differentiate three forms of play:

1. "Being playful: Using slang in language or using a silly walk instead of just walking normally. In short, anything that deviates from a norm and finds freedom within rigid structures.
2. Ludic activity: E.g. bouncing a ball against a wall. Not a variation of a "normal" activity, but a new kind of activity that only serves the purpose of playing. It is, however, not rule-based as:
3. Game Play: Occurs only when players set the rigid rules of a game in motion. The game play itself is the experiential aspect of the game and occurs somewhere in between the formal structures of the game."

Aspect 2 (and partly also 3) apply in playful activities in class like ACT ESOL. Many applications that are on the borderline of games on the one hand and play or gamification on the other, offer certain aspects of game play, but still fall short when it comes to the benefits game-based learning can offer to students due to a lack of complexity and therefore game-based learning principles.

"A game is a system in which players engage in an artificial conflict, defined by rules, that results in a quantifiable outcome."

The authors also provide context for the relationship between games and play:

- "Games are a subset of play: Games constitute a formalized part of all activities considered to be play.
- Play is an element of games: Play is one way to frame the complex phenomenon of games."

Games can be defined as:

“A game is a system in which players engage in an artificial conflict, defined by rules, that results in a quantifiable outcome.”

So, games provide systems you can play around with, there needs to be some kind of conflict to be solved and the result or the outcome is quantifiable. All of these are valuable aspects for teaching. Interactive learning in systems offers a lot of opportunities for skill acquisition because knowledge is not learnt separately, but always embedded in a specific context and a system. Solving a conflict means excitement, challenge and a possibility for identification for players. And to be able to quantify an outcome with instant feedback helps players understand the effects of their actions and strengthens their learning through feedback and reward systems. But we will dive deeper into every single one of these aspects later, so don’t worry, if this sounds complex and overwhelming at the moment.

To round this up we would like to present two more definitions that are interesting for game-based learning teachers as well.

„...in anything but a game the gratuitous introduction of unnecessary obstacles to the achievement of an end is regarded as a decidedly irrational thing to do, whereas in games it appears to be an absolutely essential thing to do.“ Bernhard Suits, „The Grasshopper: Games, Life and Utopia“, 1978, p.39

The definition by Bernhard Suits emphasises the obstacles presented in a game. Adding more obstacles makes the game harder, taking away some of them makes it easier. This is especially interesting, if you apply game design in your teaching like we did with the escape room design project done by our Greek partner Platon.

"When you strip away the genre differences and the technological complexities, all games share four defining traits: a goal, rules, a feedback system, and voluntary participation." *Jane McGonigal Reality is Broken*

The McGonigal definition stresses other aspects than the ones before. And it leads to other conclusions for teaching. If a playful activity doesn’t have a goal or an end state, it cannot be considered a game and brings different specifics to the classroom. You could of course discuss this understanding of games and a game like *Minecraft* started out as a game without any endgame content and still could be considered a game. A feedback system is always very helpful for learners and raises their level of commitment. Voluntary participation is tricky when it comes to formal learning. Students are asked to play a game and don’t do it voluntarily. (We will expand on that later in chapter 2 c ii, The serious

games discussion.) This can be a problem, especially if they don't like the game. But if you find the right game for your group, the aspect of doing it voluntarily or not can be considered irrelevant in our opinion.

Play and games are different, yet they share an underlying attitude towards approaching specific situations. They bring freedom to what you try to achieve, they are make-believe, acting-as-if and in this respect, they can be seen as the opposite of real-life actions and mostly let students develop a playful attitude that gives different value to making mistakes for example. They do not have any consequences beyond their own realm.

"Play is an open-ended territory in which make-believe and world-building are crucial factors. Games are confined areas that challenge the interpretation and optimizing of rules and tactics - not to mention time and space." *Bo Kampmann Walther, http://www.gamestudies.org/0301/walther/*

Some of the aspects from the last definition were mentioned before, but interpretation and the optimization of rules and tactics, and we would also like to add processes to this list, are especially interesting for teachers when teaching skills. Games (with a certain level of complexity and depth) are the right tools for skill attainment because they let you play with a system in great length and depth and lead to a deep understanding of the system and its rules and processes. To go into further detail about the definitions of play and games here, doesn't seem appropriate as the concepts mentioned offer a wide variety of forms and situations they present to the people who play. It might be enough to mention major concepts that are especially valuable when brought to the classroom. And these are the core aspects of the value of game based learning, so we will expand on these later anyway.

We as educators should not stop at differentiating play and game, but we should be very clear about what a game is and what not and what the difference is in usage and effect when using games, (free) play and even toys in teaching. Even though some of the aspects of defining games and play seem contradictory to teaching, like the fact that they should have no consequences beyond their own realm, the added value they offer for the players though when learning through play, might be considered more important than the reflection of 'abusing' games and play for educational purposes. And using games in education works well, so philosophical considerations about the essence of games and play and how this conflicts with educational purposes will be left for someone else to discuss. To sum it up, some of the definitions of games are actually very useful when understanding games as tools for learning and teaching as they facilitate the comprehension of why games and play in the classroom help students to achieve better results and develop a different perception of learning.

Infobox:
The Wiki Game https://www.thewikigame.com/

c. The serious games discussion

i. Games and Teaching Section

Serious games and games with serious application

Wikipedia can be considered a valuable online tool for learning. Being able to navigate the huge open source encyclopaedia is not only a relevant skill, it is also a game. The objective of the game is: “Players (one or more) start on the same randomly selected article, and must navigate to another pre-selected target article, solely by clicking links within each article. The goal is to arrive at the target article in the fewest clicks (articles), or the least time. The single-player Wiki Game, known as **Wikirace**, **Wikispeedia**, **WikiLadders**, **WikiClick**, or **WikiWhack**, involves reducing one's previous time or number of clicks.”

To be able to play this game well, you need to bring a set of skills to the game like quick reading, understanding how hyperlinks work, and an interest in information in general to be able to find connections between articles and topics. These skills are also valuable for learning basic skills, too.

The Wiki Game or Wikipedia Race was not designed as a serious game. We could not find any information about who initially created it, but we are pretty sure that it has been played in a lot of computer classes without the teacher knowing about it. It has been developed into a browser game and an iOS-App by a single developer since then, but still the focus of the development is not solely on a ‘serious’ or educational use case. It can still easily be used in a classroom setting and creating a project around it that on the one hand enables players to become more proficient in the game, while on the other learning about wikipedia, hyperlinks, the use of digital platforms, maybe open source and encyclopaedias and their structure in general, sounds like a valuable project for basic skills teaching.

Infobox: Games for Change
https://www.gamesforchange.org/

Games for Change

As you can see later in our *Research and Discussion Section*, the concept of serious games is a problematic one. What all serious games share is that they could also be called Games with a Purpose. There is an extra purpose that gets added to the fact that a game is a more or less challenging and fun experience. These games are aiming for change, change for the learner or change for the world we live in. There is an organisation in the US that collects and presents these games to a broader public called Games for Change.

“Founded in 2004, Games for Change is a 501(c)3 nonprofit that empowers game creators and social innovators to drive real-world impact through games and immersive media. We convene industry experts through our annual Games for Change Festival, inspire youth to explore civic issues and STEAM skills through our Student Challenge, and showcase leading impact-focused games and immersive experiences through live Arcades for the public.”

The Games for Change Games Library and the Games for Change Festival are collecting and presenting games that can be valuable experiences and opportunities for learning.

The Games for Change Games Library and the Games for Change Festival do not discriminate commercial games from serious games or subdivide them into further categories. They are collecting and presenting games that can be valuable experiences and opportunities for learning. In their catalogue, you can find games like *Autonauts*, *Epistory: Typing Chronicles*, *Longstory: A Dating Game for the Real World* or *WAY*, all games that fit well into basic skills courses. Besides that, the Games for Change Games Library is a valuable resource for finding games suitable for teaching. You can find similar recommendation lists in other languages, too, like *Spieleratgeber NRW* or *spielbar.de* in Germany.

Even though the Games Library presents a large number of games to be used for learning, you can easily expand that list with more titles, especially as the library only includes digital games and the number of commercial games is relatively limited. Many digital games provide good content relevant for skill-oriented teaching, but due to their size and complexity cannot be implemented easily into lessons.

Infobox:
Autonauts https://www.denki.co.uk/portfolio/autonauts/
Epistory: Typing Chronicles http://www.epistorygame.com/
Longstory: A Dating Game for the Real World https://www.longstorygame.com/
WAY http://www.gamesforchange.org/game/way/

Serious games or Games with a Purpose - game examples

Games like *The Sims* 4 (PlayStation 4, Windows, MacOS), *Cities: Skylines* (PlayStation 4, Xbox One, Nintendo Switch, Windows, MacOS, Linux) or *Offworld Trading Company* (Windows, MacOS) offer ample opportunity for learning relevant knowledge and skills also for basic skills settings, but they are expensive, complex and need a high quality setup to be played in class. These games can be used in a number of ways as systems and decision-making tools, but at the moment there often is not enough room and time for large games like the ones mentioned. Other games from the Games for Change list might be easier to use in your classroom.

Autonauts (Windows) is a single player game where you automate production with robots. Manage these robots by programming them to harvest resources, transport items, craft various amounts of items, and feed colonists which help you progress throughout the game.
The main goal of the game is to automate as much as possible and help the colonists. The game has been released for PCs and offers a lot of opportunity to learn the basic concepts of programming and to understand how automation works. It can be used in a basic skills classroom for learning digital skills as well as for practising language skills as a lot of the instructions for playing are presented via text.

Epistory: Typing Chronicles (Windows, MacOS, Linux) is an atmospheric adventure typing game that tells the story of a writer lacking inspiration who asks her muse to help write her latest book.
In *Epistory* you play the muse, a fictional character in a world where everything is unknown yet and needs to be played and told to rediscover the story of the muse. Your adventure begins on a blank page, but the world will soon become larger and livelier as you gather inspiration, solve its mysteries and defeat its enemies. From movement to opening chests and fighting in epic battles, every element in the game is controlled exclusively with the keyboard.
As you progress and explore the fantasy origami world, the story literally unfolds in the writer's mind and the mysteries of the magic power of the words are revealed.
The game has been released in 11 different languages including English, German, French and Italian and covers all common keyboard layouts. It is a great game for practising typing skills and pronunciation in a language while at the same time presenting an interesting and charming story about a writer and its muse.

Longstory: A Dating Game for the Real World (Nintendo Switch, Windows, iOS, Android) is a queer-positive dating-mystery-relationship game for pre-teens that doesn't shy away from difficult topics like homosexual identity, bullying, healthy sexuality, fitting in, standing out, and figuring out what normal is.

Infobox:
The Sims 4 https://www.ea.com/de-de/games/the-sims/the-sims-4
Cities: Skylines https://www.paradoxplaza.com/cities-skylines/CSCS00GSK-MASTER.html
Offworld Trading Company https://www.offworldgame.com/

When the previous owner of Locker 1224 mysteriously disappeared, you are left holding the only clues. It is up to you, a girl in her early teens to navigate the school's social landscape through your decisions and conversations. The gameplay is structured as an interactive comic in which you solve puzzles and build relationships with new friends and old enemies to work out exactly what happened – and if there's anything you can do to make it right.
Players test approaches to romance, flirting, vulnerability and emotional awareness while solving the mystery and negotiating new social realities. Longstory is a game about identity that presents a lot of language in common everyday situations in the life of a teenager. It can be used in a variety of contexts, but also simply for authentic use of language.

WAY (Nintendo Switch, Windows) was created by a multidisciplinary independent game design team named Coco & Co including Chris Bell from thatgamecompany (Flower, Flow). In *WAY*, players are set in a 2D platforming game environment. At first, players navigate the game area alone, trying to make sense of what the game experience is meant to be. Moments later, the game reveals that your journey is happening simultaneously with another, unnamed, random player. Both players can see the movements of the other player but cannot interact directly.
As the game progresses, players will be met with puzzles that they cannot solve alone. Only the other player can see what path the other player must take to progress forward. Both players must use a mixture of gestures and simple, emotional grunts to guide their now destined partner to a dramatic and uplifting ending.
WAY's non-verbal gameplay is meant to elicit feelings of connection with random strangers from no particular part of the world. As players are unknowingly paired up with one another, they must adapt to gameplay changes while depending on a stranger to help them succeed and vice versa. This unique gameplay style is meant to spawn feelings of kinship and personal connection, which can be shared on a global message board on the game's website.

Infobox:
Serious games: “games that do not have entertainment, enjoyment or fun as their primary purpose”

ii. Research and Discussion Section

Serious games definitions

Having realised that defining games in general is a difficult undertaking, it gets even more confusing when you have a look at the discussion around serious games. As with games, there are also several common definitions of the concept of serious games highlighting different aspects of the games being ‘serious’. One definition that is quite common is that serious games are “games that do not have entertainment, enjoyment or fun as their primary purpose” (Laamarti 2014, 3). Having in mind that being fun and entertaining is one of the main advantages for the use of games in educational settings, this definition raises a lot of questions. It is clear that game designers for serious games follow different design objectives than ‘just creating a fun game’. Which is not to say that the approach by designers for commercial games is as simple as this. Actually, the design principles for making a game ‘fun’ for its diverse set of players follow the latest research and tried and trusted design principles that the companies have developed over decades of game design. But fun, as diffuse as the concept is and as hard as it is to pinpoint what exactly makes a fun game, is a main concept in game design when it comes to developing and especially ‘selling’ a game to an audience. But besides that, it is problematic to classify games by the intentions of their designers and the effect this design has on its users: “This problem is that if one wants to decide whether a specific game is a serious game or not, one would necessarily need access to the objectives or intentions of the game designer while designing that given game, which is far from practical.”(Laamarti 2014, 3)

Serious games are “games that do not have entertainment, enjoyment or fun as their primary purpose”.

Infobox:
Serious games is an umbrella term for the genre of games that follow a specific purpose beyond entertainment

Serious games as an umbrella term

Additionally, the term serious game is also used as an umbrella term for a whole genre of games as far ranging as Advergames, Training Simulation Games, Games for Change (games for communicating a specific relevant topic), Health Games and Games for Learning. Games used in a context like the one in our project could be classified as games for learning mostly, but you might also have heard of other terms like Educational Games, Edutainment Games, and Digital Game Based Learning (which in our opinion rather describes the fact of learning in and with games as well as the research area that works with digital games in learning). Two other aspects should be kept in mind when having a look at the topic of serious games. On a more philosophical note, regarding the definitions of games and play mentioned before, some researchers question if a game that is not designed for entertainment purposes can still be regarded as a game and if the intentions of the designers to present something serious for learning can be combined with a fun activity. Additionally, one could argue that the term serious game is a rather misleading one as it is more due to its context and setting. Every (commercial) game can also be used in a serious setting and the term serious game could thus be given to any game dependent on the context it is used in. As we will later see, especially when it comes to seeing games as a medium that can be analysed and consumed critically, the differentiation between serious games and commercial games falls short.

Every (commercial) game can also be used in a serious setting and the term serious game could thus be given to any game dependent on the context it is used in.

Infobox:
natural (people who choose to play a game) vs.
captive players (people who are told to play a game)

Serious Games - natural and captive players

Jacobs presents another interesting approach when discussing the motivations to play serious games and the acceptance of these games by the players. He uses the term natural players for people who play games because they choose to and captive players for those who are told to use games in class for example. There is a major difference between the two, as mentioned before, because being free to play or not play something changes the perception of a game by the players drastically sometimes, especially when it comes to topics they might not choose otherwise. Serious games mostly aim at captive players while a commercial games' success completely depends on the willingness of an audience to (buy and) play it. There is still a lack of research when it comes to how this affects the diffusion of serious games but it is relatively safe to say that most serious games lack in this respect compared to commercial games just due to the fact that they do not have a similar marketing budget and media presence like commercial games.

Serious games mostly aim at captive players while a commercial games' success completely depends on the willingness of an audience to (buy and) play it.

For us in the project, the discussion around the terminology of games and serious games lead to the decision that we do not consider this terminology relevant to the use of games in a basic skills classroom setting. It was only relevant to us, as teachers might decide to use serious games due to their label. Games considered serious might enter the classroom more easily through the threshold that teachers represent when choosing tools and methods to use in their classes. Our approach is a more inclusive one, not differentiating between commercial games and serious games but rather including both and even going beyond the boundaries of what defines a game (and including playful approaches and game design as well as commercial games). We were looking for fun and challenging experiences and how they elevate the learning in these classes and still had to consider the very different settings and prerequisites that you encounter in the different basic skills classes.

Infobox:
Lightbot https://lightbot.com/
Thomas was Alone https://www.bithellgames.com/thomas-was-alone
Brothers: A Tale of Two Sons https://www.hazelight.se/games/brothers/

d. Learning, skills, literacies and games

i. Games and Teaching Section

Games as learning systems

"We see gameplay as a resource of talent, social talent, competitiveness, or strategic talent", says David Barrie, co-founder of Game Academy, an English company that analyses gamers' habits from their online gaming profile and offers courses in valuable skills that reflect their aptitude.

"We see gameplay as a resource of talent, social talent, competitiveness, or strategic talent" David Barrie, co-founder of Game Academy

Games are in general mostly learning and testing systems. Except for a few specific genres, games are sets of problems that invite players to test their skills against them and succeed by learning and practising a challenge, whatever this might be, and get more proficient at it. A game about coding, like *Lightbot* (iOS, Android), presents you challenges in basic coding concepts and the levels build on each other, so that you elaborate on the basic concept and understand the task in a flexible system with direct feedback. It typically presents, like most other games, well-ordered problems that ask for active engagement and experimentation.

Games are sets of problems that invite players to test their skills against them and succeed by learning and practising a challenge.

In the context of gaming which is a social activity and is shared with other people, talked about and experienced together, you also learn other skills like the 21st century skills, social skills in general, or digital skills, to name a few more areas of expertise. Games present a variety of identities and can help shape the identity of its players. The culture around them provides ample opportunities to informally learn from others and be a teacher at the same time. Games also present social situations and social mechanics can

be found in a number of games. Two interesting examples here are the single player games *Thomas was Alone* (Windows, MacOS, Linux, Nintendo Switch, Microsoft Xbox, Playstation, iOS, Android) and *Brothers: A Tale of Two Sons* (Windows, Nintendo Switch, Microsoft Xbox, Playstation, iOS, Android). Both games let you play several characters in direct relation to each other. In *Thomas was Alone* you play a group of pixels-come-to-life that have different strengths and weaknesses and have to support each other to solve the levels. You switch between the different characters and play as one or the other and learn about their attitudes and identity. *Brothers: A Tale of Two Sons* tells the story of two brothers on a journey to find a remedy for their father's illness. It is a game about loss and grief, but also about helping and relying on each other. You play both brothers at the same time on one controller, controlling the one with one stick and the other one with the second stick. Other examples worth mentioning here could be *Tick Tock: A Tale for Two*, *A Way Out* or *It Takes Two*.

So, you learn in games and around games, i.e. the popular culture and the people who participate in it. All of that can be very relevant and fruitful for teaching (basic skills). It can be of considerable value to have a game like *Minecraft* as a topic in class without ever playing the game itself, but instead discovering the wealth of media products around the game, becoming producers and creators by actively writing, streaming, recording material for this affinity space. Through this, you acquire digital skills and media literacy, depending on what you create, you use and practise with a variety of digital hard- and software.

Infobox:
Cube Escape http://www.cubeescape.com/
Wilmot's Warehouse http://www.wilmotswarehouse.com/
Unrailed https://unrailed-game.com/
Rocket League https://www.rocketleague.com/
Keep Talking and Nobody Explodes https://keeptalkinggame.com/

Learning skills with games

Looking at games in more detail, you can identify a set of specific skills for each game. Let's give some examples:

The *Cube Escape* games (Windows, Android, iOS) are small (free) games that test your problem solving skills. You are asked to combine information and elements in the game to find the solutions. Escape rooms generally focus on critical thinking and creativity. They ask you to learn the combination of information and elements in the game and present a number of different puzzles and riddles.

Wilmot's Warehouse (Nintendo Switch, Xbox One, Windows, MacOS) asks (two) players to sort and organise goods in a warehouse. After doing that, you need to deliver some of the goods to the customers waiting at the desk. The quicker you bring the goods, the better your score is. You need a number of skills to be able to play this game successfully. You need to organise, do it methodically, be adaptable and if you play together, you need to communicate on point, find the right language and be decisive.

Unrailed (PlayStation 4, Xbox One, Nintendo Switch, Windows, Linux, MacOS) is a game about building railways for a train under time pressure with up to four players. So, communication and collaboration is essential in the game. You need to organise your group and the tasks at hand, you need to be adaptable, decisive, and show initiative.

Competitive games that are played cooperatively, like *Rocket League* (Nintendo Switch, PlayStation 4/5, Xbox One, Windows, Linux, MacOS) for example, ask for collaboration, communication and coordination. They are demanding and you need grit to persist, good orientation, reflexes and strategy, tactics, adaptability and initiative.

A board game like *Monopoly* is about building an empire of streets, houses and hotels to outgrow the competitors and win the capitalist race by ruining the other players. Here, you also need adaptability, initiative, financial literacy, numeracy and reading comprehension.

In *Keep Talking and Nobody Explodes* (PlayStation 4, Xbox One, Nintendo Switch, Windows, Linux, MacOS, Android), you need to communicate to be able to defuse bombs under time pressure. This means again communication and collaboration, eloquence and grit are necessary as is a methodical approach. You need to be able to analyse well, show initiative and be reliable.

Infobox:
Farming Simulator 19 https://www.farming-simulator.com/
Euro Truck Simulator 2 https://eurotrucksimulator2.com/
Factorio https://www.factorio.com/
Planet Coaster https://www.planetcoaster.com/
Production Line https://www.positech.co.uk/productionline/
Mini Metro https://dinopoloclub.com/games/mini-metro/
Mini Motorways https://dinopoloclub.com/games/mini-motorways/
Jenny LeCLue https://jennyleclue.squarespace.com/
Sherlock Holmes: Crimes and Punishment https://frogwares.com/sherlock-holmes-crimes-punishments/
Beholder https://beholder-game.com/
Orwell https://www.osmoticstudios.com/de/orwell-keeping-an-eye-on-you/
Papers, Please https://papersplea.se/
This War of Mine https://www.thiswarofmine.com/
Bury me, my Love https://burymemylove.arte.tv/
Path Out https://www.path-out.net/
What remains of Edith Finch http://www.giantsparrow.com/games/finch/

Simulations and interesting settings

If games simulate real-life behaviour, of course knowledge and skills within this specific area become relevant. To play *Monopoly* means you need to have at least a basic understanding of numbers and a budget. Simulations like *Farming Simulator 19* (PlayStation 4, Xbox One, Nintendo Switch, Windows, Linux, MacOS) represent the world of farming, *Euro Truck Simulator 2* (Windows, Linux, MacOS) lets you drive trucks and manage a small logistics enterprise, *Factorio* (Windows, Linux, MacOS) lets you build and manage complex production systems, *Planet Coaster* (Nintendo Switch, PlayStation 4/5, Xbox One, Windows, Linux, MacOS) makes you the creator and manager of roller coaster theme parks and *Production Line* (Windows) lets you build automated factory production lines.

Smaller games like *Mini Metro* (Nintendo Switch, PlayStation 4, Windows, Linux, MacOS, iOS, Android) or *Mini Motorways* (Windows, MacOS, Apple Arcade/iOS) simulate traffic infrastructure on a small scale and detective games like *Jenny LeCLue* (PlayStation 4, Xbox One, Nintendo Switch, Windows, Linux, MacOS, iOS, Android) or *Sherlock Holmes: Crimes and Punishment* (PlayStation 3, Xbox 360, Xbox One, Windows) put you in the shoes of a detective. *Beholder* (PlayStation 4, Xbox One, Nintendo Switch, Windows, Linux, MacOS, iOS, Android), the *Orwell* series (Windows, Linux, MacOS, iOs, Android) and *Papers, Please* (Playstation Vita, Windows, Linux, MacOS, iOS) let you experience what it is like to live in an oppressive state and *This War of Mine* (Nintendo Switch, Windows, Linux, MacOS, iOS, Android) lets you live in an area of civil war and you need to come up with really difficult decisions.

Other so-called ‘serious’ games like *Bury me, my Love* (Nintendo Switch, Windows, iOS, Android), *Path Out* (Windows, MacOS) or *What remains of Edith Finch* (PlayStation 4, Xbox One, Nintendo Switch, Windows) present challenging topics like fleeing from war or coping with death and are appropriate media products to deal with these sensitive topics in a mature and reflected manner.

Playing games together always trains your language skills because you need to put into words what you see on the screen.

The list of games interesting for teaching is seemingly endless and you can identify knowledge and skills in a lot of them that are relevant in education. Additionally, games as texts or media products can be valuable sources for discussing topics and reflecting on ethics and morals, etc. And if you look closer at a game, you can also identify more skills for a specific game, more topics and relevant knowledge. If you know the game well and are able to create specific challenges in a game, more skills can come into play.

Playing games together always trains your language skills because you need to put into words what you see on the screen. You can argue about what to do next, come up with strategies and develop hypotheses for solving a problem. So, games support literacy in the classical sense and many games also support the understanding and interpretation of complex information like technical texts, manuals, or tables and graphs.

ii. Research and Discussion Section

Basic skills teaching vs. knowledge based learning

This project set out to experience the use of games in classrooms for learning basic skills. Teaching skill-oriented classes has become a set standard throughout Europe. Even though teaching methods have often reflected a rather knowledge-based learning design in classrooms until today, there is a clear dedication to change the focus from a knowledge-based methodology to a more skill-oriented style of teaching. This means a major shift away from textbooks and worksheets to a more involving, individualised and activity-oriented way of presenting content and competent behaviour.

In preparation for a job, basic skills courses are a starting point for people who struggle with the basics of acquiring necessary skills in the context of traditional education. The students take part in these programmes to qualify for the labour market and they need to start at the very beginning, learning a (second) language, basic maths and digital skills. These subjects should be presented in a motivating and interactive way to make sure that the learners are able to acquire the skills needed.

Games are interactive and activity-oriented, they simulate real-world behaviour and present relevant and challenging systems, but set the stakes for failure low.

Learning, teaching and training are meant to be interactive, action-oriented and experiential. This is not easy to achieve when you keep in mind that the presentation of content and material to work with in education has not been designed to motivate its users for a deep, meaningful and challenging interaction with these tools. And that is exactly what games can bring to a classroom setting. So, one could suggest that games can be a valuable tool for teaching these specific target groups. Games are interactive and activity-oriented, they simulate real-world behaviour and present relevant and challenging systems, but set the stakes for failure low and if the students like the games, they can be a fun and motivating activity.

Understanding the concept of skills

The concept of ‘skills’ is difficult to grasp. The term is used widely in education nowadays and our project focused on games in basic skills teaching, but to really understand what is meant by the use of the word skill or competence, you need to dig deeper into the terminology. It sometimes seems as if there is an abundance today in different skills that are created by just combining a word that is relevant for learning like for example reading or writing and then add the word skill to it. But, of course, it is not as easy as that.

There are generalised categories of skills that actually include a bundle of skills and competences needed to be able to act skillfully in reading or writing. Every teacher and trainer knows well how long and intangible the list of skills included in this major skill is.

For reading, you need to be able to identify and decipher an alphabet including all of its letters and other symbols used in texts like punctuation, you need to be able to understand and recognize the patterns that are called words, phrases or sentences in their form and meaning. You need to build and at least passively understand (common) vocabulary used in that language. And that is only the sheer basics of reading. To understand a whole text you need to put the sentences together to create larger blocks of meaning, you need to know about reference and cohesion and of complex concepts like metaphors or emphasis. And all of these skills need to be trained, over and over again to get skillful at using a language or rather only at reading comprehension.

Literacies and competences

These categories that include a bundle of skills and are considered essential for being integrated into the job market are also called literacies. The word literacy comes from the ability to be able to use language in a competent manner. There is also the term numeracy when it comes to maths and understanding the system of numbers. The term literacy has been expanded in the recent past and now also includes other concepts like digital literacy, financial literacy, health literacy and media literacy. These all include a bundle of skills and they are also becoming more and more relevant for learning designers for basic skills teaching. They are often not set in the centre of the curriculum for basic skills training but they should be an integral part of the lessons for basic skills training.

“Individual competences are based on knowledge, constituted through values, disposed of as skills, consolidated through experience and realised through will.”

There is a bulk of foundational work on the concept of competences and skills in German academic literature. Erpenbeck and Heyse write: “Individual competences are based on knowledge, constituted through values, disposed of as skills, consolidated through experience and realised through will.” So, the decision to acquire a skill is always connected to being willing and motivated to undertake such a laborious task. Games are a good way of creating this motivation and they can be a motor to power skill development. They are good feedback systems, they offer ample opportunities for decision-making and they can be perfect places and systems to try out and consolidate skills, from basic skills and literacies to the 21st century skills, digital skills and other job relevant competencies like initiative, grit or openness to change.

Infobox:
Lorber, Martin, Thomas Schutz, *Gaming für Studium und Beruf*
https://spielkultur.ea.de/themen/forschung-und-wissenschaft/buchvorstellung-gaming-fuer-studium-und-beruf/
League of Legends https://na.leagueoflegends.com/en-us/
DotA 2 https://www.dota2.com/home
CS: GO https://store.steampowered.com/app/730/CounterStrike_Global_Offensive/
Call of Duty https://www.callofduty.com/en/home
KODE model https://www.kodekonzept.com/

Games in basic skills teaching

Basic skills teaching mostly focuses on the acquisition of language skills, learning a new language, being able to grasp the basic concepts of maths and acting competently in the digital world. These literacies are considered essential to successfully enter the job market. So, basic skills teaching provides courses to train these skills. Working with grammar or text for example means hundreds of hours of going through resources and exercising in the system of a language. Games as texts can be a motivating source to work with, at least with students who are already interested in games. Games can be used to practise vocabulary and pronunciation of words or to create texts and media content. Many games, serious as well as commercial, train students in working with numbers, doing calculations or understanding and maintaining a budget. There are games about the basics of coding and computational thinking and digital games by definition are themselves tools for training digital skills.

Games create the context in which communication, teamwork and critical thinking is needed.

Beyond that, the so-called 21st century skills are considered especially valuable for skill-oriented teaching and as a preparation to enter the labour market. At the core of this concept are four skills (though they are expanded on on a regular basis), i.e. communication, collaboration, critical thinking and creativity. These can be trained well with games, especially when it comes to multiplayer or cooperative games. The games create the context in which communication, teamwork and critical thinking is needed. Games like *Keep Talking and Nobody Explodes* or escape rooms in general provide a perfect opportunity to train and test these skills in a challenging and playful way.

Working with digital games in teaching automatically creates the occasion to practise digital skills. In general, video games being digital tools, let the students interact with hardware and software and some games specifically have digital skills like coding or the use of digital sources as their topic and main mechanic. Especially successful commercial games also have a lively community and a large amount of content is created in and

around the games. The students can act as consumers as well as producers in these communities and further expand on their digital skill set.

Other relevant skills in games for entering the job market and professional development are actually in high demand. Besides collaboration skills and creativity, adaptability and decision making can be found in a large number of games and the book *Gaming für Studium und Beruf* by Martin Lorber and Thomas Schulz gives a long list of other relevant skills. In their book they connect the skills to genres and specific games. By playing games from completely different genres, from Jump'n'Run games to MOBAs (Multiplayer Online Battle Arenas like *League of Legends* or *DotA 2*) and First Person Shooters (like *CS:GO* or *Call of Duty*) you learn many skills. Lorber and Schulz use the KODE model by Erpenbeck and Heyse as a starting point and identify a number of skills in these games like organisational skills, thoroughness, comprehension, responsibility, optimism, grit, initiative and many more.

Teaching 21st Century, Executive-Functioning, and Creativity Skills

An especially interesting article about the connection of games and 21st Century Skills is part of the book series Learning, Education and Games by Karen Schrier. The article *Teaching 21st Century, Executive-Functioning, and Creativity Skills with Popular Video Games and Apps* (Kulman, et al., 2015) describes the potential that game based learning can offer for skill-oriented teaching. For them, games are especially well suited to teach 21st century skills.

The use of video games and apps has potential for encouraging the practice of creativity, collaboration, executive functions, and digital literacy.

"21st century skills defined by the capacity to think flexibly and innovatively (creativity); the aptitude to communicate with colleagues both face to face and digitally (collaboration); capability in planning, self-management, organisation, time management, and critical thinking (executive functions); and the knowledge of how to use electronic media and tools (digital literacy) will become the core proficiencies for future success. The use of video games and apps has potential for encouraging the practice of creativity, collaboration, executive functions, and digital literacy. Employers around the globe are looking for 21st century skills to help them adjust to information-focused jobs that require problem solving, teamwork, the capacity to identify relevant facts, and organisational, planning, and efficiency skills."

According to the Partnership for 21st Century Skills (2009), they define these skill sets as:

"1. Learning and innovation skills, which include creative thinking and problem solving and communication and collaboration. These skills are crucial to working in a group, developing new ideas, and analysing and evaluating information.

2. Life and career skills, which encompass skills such as flexibility and adaptability; initiative and self-directed social and cross-cultural skills; productivity and accountability skills; and leadership and responsibility skills, many of which can also be described by the term executive functions. Executive functions are defined as brain-based cognitive skills that support self-management and critical thinking. Executive functions are based primarily in the prefrontal cortex of our brains and orchestrate various brain functions that integrate a person's perceptions, experiences, cognitions, and memories toward goal-directed behaviour. These are identified by many experts as the key to academic and vocational success in the 21st century (Brown, 2013; Barkley, 2012). Executive functions include a set of related skills that help prioritise, regulate, and orchestrate an individual's thoughts and behaviours.

3. Digital literacy skills, which include understanding about digital information; being able to access information effectively; evaluating, analysing, and using media; and being able to apply technology effectively. Proficiencies in being able to create media use technology for research, and competencies in using a variety of electronic forms of communication and networking tools are core digital literacy skills (Partnership for 21st Century Skills, 2009)."

So, the authors expand the definition of 21st century skills to include executive functions (management, flexibility, leadership, and cross-cultural skills) and digital literacy skills. This larger scope fits well with what you can learn in games with games being digital tools and many games also ask for managerial skills, flexibility, and initiative.

Games are excellent tools for teaching problem solving, strategic thinking, cognitive flexibility, and executive functions.

The authors also state that games are great for teaching these skill sets because they reach beyond the classroom and are played at home, too. "Teachers are increasingly turning to a variety of types of games for their teaching. One of the common observations described by teachers who use games in the classroom is the level and sophistication of engaged discussion that takes place among classmates that leads to additional learning and insights (Cornally, 2012)." It is all about the right choice of game to bring these benefits to classrooms.

They create a connection between Gee's learning principles (see pages 67, 93, 97) and games for learning 21st century skills as described above that can be leveraged for teaching. "Many of Gee's learning principles, such as the active, critical learning principle; the multiple routes principle, and the probing principle parallel 21st century skills." Games are excellent tools for teaching problem solving, strategic thinking, cognitive flexibility, and executive functions.

"The use and mastery of technology as crucial for 21st century skills becomes evident as educators begin to define the components of these skills. Far more than simple digital literacy, engagement with video games, apps, and interactive digital media requires collaboration, critical thinking, adaptability, creativity, and decision-making skills." Additionally, they do so in a manner in which high levels of motivation and sustained attention and effort are devoted to developing these skills. By capturing the attention of the users, these games are able to teach many of the skills through successful gameplay.

In games like *World of Warcraft* you need to develop leadership skills, if you want to be a proficient player, to be able to communicate and collaborate on a large scale and succeed in the game. These skills translate to the real world and are considered by employers

when recruiting new staff. Besides that, “[d]igital literacy skills are core requirements for expertise with video games and use of other digital media. As video gamers are digital in nature, any time spent playing can help increase a gamer’s digital literacy skills and comfort with digital technologies. Gaming can additionally inspire players to interact with various digital technologies to support, augment, or share their gaming experience.”

Infobox:
Barr, Matthew, *Graduate Skills and Game Based Learning, Using Video Games for Employability in Higher Education*
https://www.matthewbarr.co.uk/graduate-skills-and-game-based-learning/
The Legend of Zelda: Breath of the Wild
https://www.nintendo.com/games/detail/the-legend-of-zelda-breath-of-the-wild-switch/
No Man's Sky https://www.nomanssky.com/
The Elder Scrolls https://elderscrolls.bethesda.net/en
The Witcher https://www.thewitcher.com/en/
Tacoma https://tacoma.game/
Observation https://devolverdigital.com/games/observation
Her Story http://www.herstorygame.com/
Civilization https://civilization.com/
Eve Online https://www.eveonline.com/
RPG Maker https://www.rpgmakerweb.com/

Learning skills with games beyond basic skills training

In his book *Graduate Skills and Game Based Learning, Using Video Games for Employability in Higher Education* author Matthew Barr sees a clear connection between the development of what he calls graduate skills or generic attributes and playing games. Though graduate skills might not sound relevant to the learning of basic skills, there is a connection between the two when it comes to learning with games. He cites an article by Moy that states that these attributes and skills are best developed through active and interactive learning. There needs to be an emphasis on problem solving and reflection, to become proficient in these skills. These attributes are, e.g. critical thinking and problem solving, information literacy, a sense of curiosity or a sense of personal agency. Learning tasks should be relevant and meaningful to the learners, in order to support the development of these skills.

Motivation plays a major role in attaining skills and the fact that learning with games can be relevant and meaningful for the learner only supports the idea of bringing games to classrooms.

Games might be the perfect fit for this description, because they are inherently interactive and involve some kind of problem solving. Barr is convinced that there is a strong connection between graduate skills and game based learning: "Take, for example, the characteristics of a life-long learner, [...] are not explorers of game-based worlds driven by a 'sense of curiosity'? Many players relish the opportunity to uncover secrets and solve puzzles such as those offered by games such as *The Legend of Zelda: Breath of the Wild* (Nintendo EPD 2017) and *No Man's Sky* (Hello Games, 2016) or series including *The Elder Scrolls* (Bethesda 1994-) or *The Witcher* (CD Projekt Red 2007-). [...] In games such as *Tacoma* (Fullbright 2017), *Observation* (No Code 2019), and *Her Story* (Sam Barlow 2015), for example, the player is fundamentally tasked with assembling a narrative from disparate

and often inconsistent pieces of information." He draws a connection between Gee's game-based learning principles (see pages 67, 93, 97) and articles describing the repertoire of desirable higher education skills. Even though skills attainment is hard to measure and thus the empirical evidence for using video games to develop graduate attributes has been rather slight, there has been some work of excellent scholars to build upon and the acceptance with students is remarkable. Motivation also plays a major role in attaining skills, as we will also later see, and the fact that learning with games can be relevant and meaningful for the learner only supports the idea of bringing games to classrooms, no matter which level of education you are thinking of.

Students who had high scores in the game Civilization also had better skills related to problem-solving and organising and planning.

In a proof-of-concept study with the title *Good gamers, good managers?,* Alexander Simons, et al. explored if strategy video games are indicative of managerial skills and, if so, which ones. They found out that students who had high scores in the game *Civilization* also had better skills related to problem-solving and organising and planning than students with low scores in the game. They also suggest that (strategy) games may be used for stealth assessments and personality assessments.

As the topic of learning skills through games slowly gains momentum, you can also find media articles about this exciting outlook. Nathan Gibson listed 13 games in his article *Video Games That Can Teach You Real-World Skills* and connected them with skillful real life behaviour. According to him, you can learn physics by playing a game like *Kerbal Space Program*, learn about urban planning and electrical engineering in *Minecraft*, understand how economies work by playing *Eve Online* or understand computer logic by using the *RPG Maker*. A BBC article, the one that the initial quote from David Barrie in the Games and Teaching Section is taken from, also sees potential in the topic and presents the work of other specialists in the field. Game-based learning seems to be a powerful tool when it comes to skill attainment in the 21st Century, being a life-long learner and developing a toolkit that prepares you for the challenges in the digital age.

Infobox:
Microsoft Flight Simulator
https://www.microsoft.com/en-us/p/microsoft-flight-simulator-standard/9nxn8gf8n9ht?activetab=pivot:overviewtab
Project Cars https://www.projectcarsgame.com/
Assetto Corsa https://www.assettocorsa.it/en/
Football Manager 2021 https://www.footballmanager.com/games/football-manager-2021#desktop

e. Using Games for Learning and Teaching

i. Games and Teaching Section

Introduction

You can literally learn to fly an aeroplane by playing the right games. The *Microsoft Flight Simulator* (latest version 2020, Windows, Asobo Studio) can well compare to simulators used by pilots to train and practise. The main difference is simply that the game is structured and sold as a game. So, you can play it on PC at home and don't need to visit a location where you can use a 'real' simulator and that is what pilots, and enthusiasts as well, do, they practice flying by playing the MFS 2020.

Racing simulations like *Project Cars* (2015, PlayStation 4, Xbox One, Windows) or *Assetto Corsa* (2014, PlayStation 4, Xbox One, Windows) are more than just games. They are so good at simulating racing that professional racing teams use them as training tools and also for recruitment of new talent. Every year there are several competitions and challenges in a number of different racing simulations by professional racing teams to find the next new talent and through these some aspiring driver talents have been found and entered the professional racing scene.

Through playing management simulations like *Football Manager 2021* (Nintendo Switch, Windows, MacOS, Android, iOS) you understand how a club or a company is managed and learn the ins and outs of sports management and the financial literacy that go along with it.

Challenges for Game Based Learning

So, it sounds like games should be the go-to-method when it comes to teaching skills and presenting these skills in an authentic context. But it is more complicated than that. Today, we are still struggling with the requirements that digital education demands when bringing it to classrooms. Not every institution has a strong working wifi, there is a need for devices (and we are talking regular laptops, computers and tablets, let alone consoles or Gaming PCs that fulfil the requirements for complex and graphically demanding games) and especially in basic skills education you cannot expect a student to bring the hardware or the knowledge about how to use it in class.

There are numerous challenges to bring games to the classroom, but it is very much dependent on the situation. Who am I teaching? What is their experience with digital tools? What is the equipment at hand? How much time do we have for the game and the project? Questions like these are essential and by answering them you can start to identify the right game for your project.

Infobox:
O'Malley, et al., *How to Teach with Games* https://www.filamentgames.com/blog/how-teach-games-ebook/
SCRIPT, *Digital spielend lernen* https://www.edumedia.lu/project/projet2/
Denk, et al., *Game Based Learning im Unterricht. Wie man digitale Spiele im Unterricht einsetzen kann* https://www.juliusraabstiftung.at/publikationen/game-based-learning-im-unterricht/
Felicia, Patrick. *Games in Schools. Using educational games in the classroom. Guidelines for successful learning outcomes.* Brussels: European Schoolnet, 2020. https://www.isfe.eu/wp-content/uploads/2020/10/2020-GiS-handbook-for-teachers-FINAL.pdf
Pechuel, Rasmus. *Game-Based Learning for Teachers - A Journey Through a World of New Ideas* https://www.researchgate.net/publication/333917625_Game-Based_LearninG_for_Teachers_A_Journey_Through_A_World_of_new_ideas
Schrier, Karen (ed.), *Learning, Education & Games* https://www.karenschrier.com/publications
Shapiro, Jordan, et al. *Guide to Digital Games and Learning.* San Francisco: KQED, 2015. https://a.s.kqed.net/pdf/news/MindShift-GuidetoDigitalGamesandLearning.pdf

Useful resources

The first and most important step in bringing games to your classroom is identifying the right game for your specific project. You need ideas and examples to navigate through this enormous amount of possible games, so that you are able to find the right game for your project. But there is help to do so and it comes in different forms. Besides a checklist that we will present later on, to check on everything relevant about a game for teaching, you need sources to tell you which games might work for you. Before, we already mentioned sources like *Games for Change* or *spielbar.de* to identify games. But there are also more resources explicitly created for helping you to do so.

Resources for teachers to bring games to the classroom are plentiful, ranging from a wide variety of sources from American institutions and companies like *How to Teach with Games* from Filament Games, a provider of quality learning games, or KQED's *Mindshift - Guide to Digital Games + Learning*. Both are valuable sources to understand the basics of teaching with games.

In European projects some manuals were created like *Games in Schools - Using educational games in the classroom: guidelines for successful learning outcomes. A handbook for teachers* or *Game-Based Learning for Teachers. A Journey Through a World of New Ideas*. They go one step further and present a manual that shows and explains the main aspects of using games in class.

And there are also guides and manuals from National initiatives and institutions like from Luxemburg *Digital spielend lernen* from SCRIPT (Service de Coordination de la Recherche et de l'Innovation pédagogiques et technologiques), the national institute for development and innovation in education, or *Game Based Learning im Unterricht. Wie man digitale Spiele im Unterricht einsetzen kann* from several partners in an Austrian project like Donau Universität Krems and bupp.at, a government website that presents games and their potential for use in learning.

You can also have a look at more academic literature like the three book series *Learning, Education & Games* edited by Karen Schrier that collects articles on the topic of game-based learning presenting specific projects and relevant aspects about games in learning and in Volume 3 compiles a list of more than 100 games interesting for classroom use.

So, you might have found a number of titles interesting for your teaching. What is next? What else needs to be done to bring these games to class? What are these guides and books missing that I need to consider? We mentioned some aspects already before, like the question, if the application I would like to use is actually a game and what concepts of game-based or playful learning actually apply? We will have a closer look at the missing aspects in the following to make sure you are well prepared to start out on this journey. If you are interested in the research that goes into these considerations and that constitutes the basis for the benefits and expected learning outcomes, we recommend you read the *Research and Discussion Section* that goes along with this chapter.

Infobox:
Active Floor https://activefloor.com/en/interactive-learning/
Discovery Tour https://www.ubisoft.com/en-gb/game/assassins-creed/discovery-tour
Assassin's Creed Origins https://www.ubisoft.com/de-de/game/assassins-creed/origins
Assassin's Creed Odyssey https://www.ubisoft.com/de-de/game/assassins-creed/odyssey
Assassin's Creed Valhalla https://www.ubisoft.com/de-de/game/assassins-creed/valhalla

Not really a game

As we mentioned before, not everything that is considered a game is really a game bringing the necessities and the potential for game based learning with it. Gamified tools and platforms can be fun and valuable resources for teaching. Since they differ in essential aspects to real games in teaching, it makes sense to differentiate the two (cf. Chapter 2b). In some of the guides and manuals mentioned above, there is no real differentiation of the two and gamification tools like *Classcraft* are listed and recommended. Gamification brings along its own problems and challenges and we consider it a topic to be discussed elsewhere. For now, we would like to come up with two tools that are actually gamification tools and not real games. Although they are still interesting for teaching and were also used in the project, we would like to show why they are a special case and do not fulfil the requirements for being real games.

Active Floor (cf. the use of *Active Floor* at VUC in chapter 3) is an interactive learning tool that uses Augmented Reality to let you play simple games to learn and practice different concepts. The games are all small and include *Simon says*, *Memory* or *Spin the Bottle*. Of course, you can connect them to the content of your class, use specific learning material and redesign the games to integrate learning content, but that is about all you can do with the games. No real interactivity, no freedom to interact, no depth or complexity is presented to the players. Besides the simple interactivity and the fun and the social aspects of applications like these, there is not going to be much learning in the games. The potential for a deeper understanding of a topic through the game-based learning principles is not realised. That is why, similar to *Kahoot!* for example, we do not really consider *Active Floor* to be a game. It was used in one of our projects and you can see in the presentation of this specific project how it went, what the results were and how the students liked it. However, you need to be aware that gamification as such after a first period of novelty is only motivating for a small number of students who succeed in being among the best in their group. Besides the novelty and the use of digital interactive media in the class, the positive effects are limited and probably wear off as soon as the students are getting used to working with this tool.

Ubisoft's *Discovery Tour*

Another interesting and completely different example of gamification is the *Discovery Tour* by Ubisoft. Based on their original games *Assassin's Creed Origins* and *Odyssey* (and soon *Valhalla*), Ubisoft worked with historians to create a tool for digital museum education. The *Assassin's Creed* games are large Triple A titles that put you in a historic world like Ancient Egypt or Greece and tell an epic story of you being an assassin and going through a storyline to finally complete the game. The original games are created for an adult audience and are pretty explicit in their presentation which is why their games have an age rating of 16 or 18+. The *Discovery Tour*s use the same setting and let the players enter exactly the same world but with the gameplay content completely removed from it. So, age ratings are no longer a topic here and the tool can be used in classes of all age groups. And you would be surprised by how many students know the *Assassin's Creed* series already, even though they might be much younger than the recommended age rating. You don't see this only with games, but with all kinds of popular media.

Ubisoft presents guided tours through the world picking up and presenting topics that are interesting to historians, tourists and students of history or geography.

Back to the *Discovery Tour*, you can imagine that experiencing the world of Ancient Greece in a polished and opulent 3D environment sounds like an amazing opportunity. And it is - the world is presented in an impressive fashion and it is large and full of stories. So why then be critical about it? Because the world is everything that you get from the original game. There is no gameplay whatsoever. Instead, Ubisoft presents guided tours through the world picking up and presenting topics that are interesting to historians, tourists and students of history or geography. The material presented is well done and it reminds you of sightseeing tours with a guide or a guided tour in a museum (well prepared by historians and academically accurate). But that is about it. No gameplay and consequently no benefits of game based learning for your classroom.

What the *Discovery Tour* does well is the fact that the museum tour is interactive and presented in small chunks that are supported by additional material. Ubisoft also offers further material for teachers to go along with the use of *Discovery Tour* (see link above). But as there is no gameplay, there is also no challenge, no feedback, no real interactivity and complexity. The *Discovery Tour* is a gamification tool that makes use of 3D worlds and the name and setting of well-known and beloved games to bring players in. It uses the tool set for movement in the world and it even brings characters and scenes from the game to the Tour, but besides that it has little in common with other games.

Infobox:
Agricola, Lookout Games, 2007. Board game, players 1 to 5, session length 30-150 mins. Age rating/Recommended age 12
Carcassonne, Z-Man Games, 2000. Board game, players 2 to 5, session length 30-45 mins. Age rating/Recommended age 7
Codenames, Czech Games Edition, 2015. Board game, players 4 to 8, session length 15-30 mins. Age rating/Recommended age 10
Risk, Hasbro, 1957. Board game, players 2-6, session length 60+ mins. Age rating/Recommended age 10
Ticket to Ride, Days of Wonder, 2004. Board game, players 2-5, session length 30-60 mins. Age rating/Recommended age 8

Analogue vs. digital game based learning

Game based learning works with analogue as well as with digital games. Most manuals and articles focus on the use of digital games, but the benefits of game based learning are of course not limited to the digital world. There are some major differences when bringing them to class, especially when it comes to the setup, but both forms offer great opportunities. The learning principles that Gee identified in good games (see the R*esearch and Discussion Section* about this topic) also apply mostly to analogue games, especially when they are more complex and present interesting systems to work with.

Analogue games do not work well in remote learning. Digital games are a better fit for blended learning and a flipped classroom model.

For digital games you need to have the hardware available first. Analogue games mostly don't need any devices to be played. You might think that this makes analogue games more attractive to use then because everyone can use them in every classroom, but there are some specifics to be considered. We will quickly name them here and dive a little deeper into this topic in the following chapter on using analogue and digital games in the classroom. Consider board or card games for example. You not only need to set them up before playing, you also need everyone to know how to play the game before using it for game based learning purposes. Card games are often more simple when it comes to their setup and rule set, but they often also do not offer the same amount of depth as board games can. If a game play session lasts longer than a lesson, you also need a place to store the board and everything else needed for the game. It might also not be that easy to pick up the game where you left because in contrast to a digital game someone has to remember where you were last time. And digital games do not only keep track of where you left, they also help you quantify what was done in the game by keeping score and giving out achievements and setting specific missions. Another important aspect that is sometimes forgotten, is the fact that the computer also plays the role of game master and umpire in some situations which has to be done by a person in analogue games if needed.

Additionally, something else only came to mind due to the fact that remote learning became prominent throughout the period of the project. It is the simple realisation that analogue games do not work well in remote learning. Digital games fit into blended learning and a flipped classroom model quite well. To enable such an approach with analogue games would be hard to imagine. Of course, many successful board and card games like *Carcassonne*, *Codenames*, *Risk*, *Agricola*, or *Ticket to Ride*, have also been translated to the digital space and digital versions of them are well done and easily available, so if you want to bring a classic board game to your classroom, but have to work remotely with your students, the digital version of a board or card game might be the way to go.

Infobox:
Minecraft Education Edition https://education.minecraft.net/de-de/homepage

‘Natural vs. Captive players’

In the manuals mentioned above you will find serious games as well as commercial games. We have discussed the problematic terminology of serious games in detail above (see page 32). We mentioned there that you can differentiate the players of games, depending on if they play the game voluntarily (natural player) or not. A player that is asked to play a game is a captive player. He or she maybe does not show the same engagement with a game that might be shown, if the game was chosen by a natural player. This might be a valuable consideration for your classroom. What kind of game would you like to use?

Some learning games might not be appealing enough in presentation, topic, quality or depth to the audience.

Some learning games might not be appealing enough in presentation, topic, quality or depth to the audience and therefore the intended rise in motivation and engagement with the material does not happen. A possibility to bring extra motivation and engagement to a class might work differently, especially if you know that there are avid gamers in your class. You might choose one of their favourite titles and find connections to what you would like to teach. A game like *Minecraft* does have such an open-ended structure and as it is a 3D world to potentially build about almost everything, you can probably use it for all subjects and a wide variety of topics. The *Minecraft Education Edition* uses this openness and the potential of the tool to make it a full teaching universe with maps and material for all subjects and also a wide ranging number of topics and skills. If you are also aware of the different ways of presenting a game to a class (cf. the Hildgen model on page 86), you will probably go for games more popular with the students, if possible, to reach for better results and better engagement within the project.

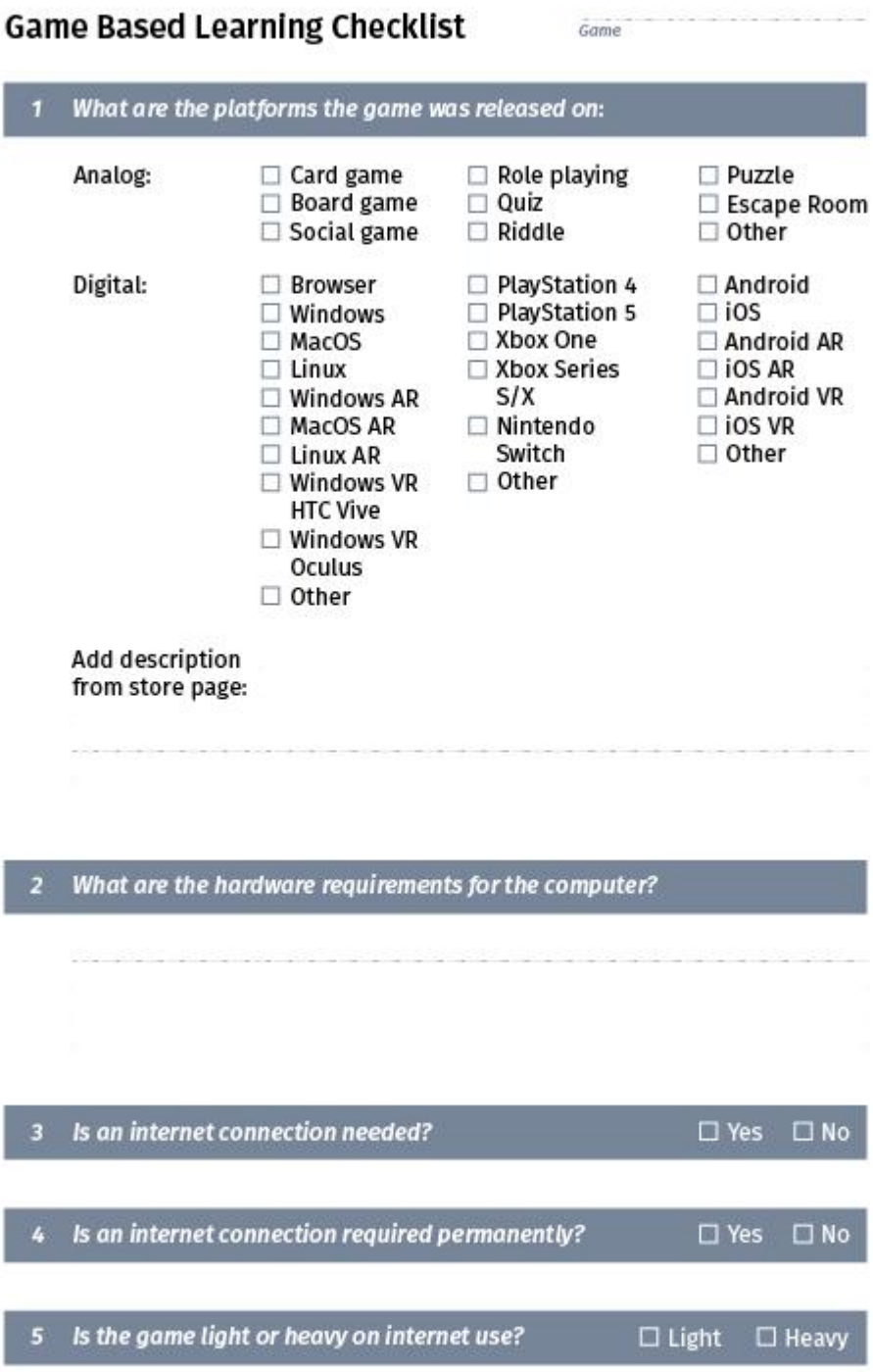
A game based learning checklist

The literature about the use of games for teaching mentioned above provides a lot of relevant information around games. You will find out about systems needed for the games, the age rating and a short description of game content. But there is more to be considered to actually bring the game to the classroom. Especially when it comes to digital games, there might be several versions of the game on different platforms that are identical or different in some manner. The game might need a wifi connection to run, maybe just for installing or permanently. Gameplay sessions might be relatively long for a lesson or it might take some time to understand the game well enough to be able to play it properly.

The game might ask for hardware requirements that cannot be fulfilled in the classroom setting, but you can bring it to class through pre-recorded footage and only use the game as a starting point for your project. Does it make sense to create a competition in the game and to let teams compete against each other? Questions like these are interesting to know about a specific game. You might even only come up with the right idea after having checked all these aspects.

As you can see with all these open questions, it makes sense to go through a checklist for a game to be clear, if and how it can be used in class, like this one:

Going through the checklist shows what is beyond reach for your specific classroom.



Game Based Learning Checklist

Game

1 What are the platforms the game was released on:

Analog:

- ☐ Card game
- ☐ Board game
- ☐ Social game
- ☐ Role playing
- ☐ Quiz
- ☐ Riddle
- ☐ Puzzle
- ☐ Escape Room
- ☐ Other

Digital:

- ☐ Browser
- ☐ Windows
- ☐ MacOS
- ☐ Linux
- ☐ Windows AR
- ☐ MacOS AR
- ☐ Linux AR
- ☐ Windows VR HTC Vive
- ☐ Windows VR Oculus
- ☐ Other
- ☐ PlayStation 4
- ☐ PlayStation 5
- ☐ Xbox One
- ☐ Xbox Series S/X
- ☐ Nintendo Switch
- ☐ Other
- ☐ Android
- ☐ iOS
- ☐ Android AR
- ☐ iOS AR
- ☐ Android VR
- ☐ iOS VR
- ☐ Other

Add description from store page:

2 What are the hardware requirements for the computer?

3 Is an internet connection needed? ☐ Yes ☐ No

4 Is an internet connection required permanently? ☐ Yes ☐ No

5 Is the game light or heavy on internet use? ☐ Light ☐ Heavy

Checklist page 1

6 How much space does the game need on a drive? ☐ Light ☐ Heavy

7 How many players can use one unit of the game?

Players How many devices are needed in class? _____ Devices

8 What is the interface/input device used for the game?

Keyboard:	☐ Yes	☐ No	
Mouse:	☐ Yes	☐ No	
Controller*:	☐ Yes	☐ No	*Maximum number of controllers for local multiplayer:
Touchpad:	☐ Yes	☐ No	
Touchscreen:	☐ Yes	☐ No	
Other:	☐ Yes	☐ No	

9 Do I have enough game copies for all players? ☐ Yes ☐ No

10 What is the price for one copy?

If the game is for free, what is the monetization model in the game?

11 Where can I buy the game?

12 What is the age rating for the game?

PEGI: ESRB: _____ USK: _____

Is there any sensitive or inappropriate content in the game? ☐ Yes ☐ No

13 How much time does the setup take?

Checklist page 2

14 *How much gaming literacy or gaming skill do you need to play the game properly? Is it difficult to effectively use the interface to play the game?*

☐ very easy to use ☐ easy ☐ medium ☐ complex

15 *What is the presentation of the game in class?*

Does everyone play alone?	☐ Yes	☐ No
In teams?	☐ Yes	☐ No
Number of players per team:		
Is gameplay shown to the class?	☐ Yes	☐ No
Done by the teacher?	☐ Yes	☐ No
Using an existing source?	☐ Yes	☐ No
Who provides the content and what is the context surrounding this creator?	Name/source	
Reliable, safe source?	☐ Yes	☐ No
Creation of digital footage and material?	☐ Yes	☐ No
Use of existing digital material around and for the game?	☐ Yes	☐ No
Identify the hardware you need for production or research.		
Identify the software you need for production or research.		

16 *How much time do I need to learn the basics of the game?*

Estimated: Minutes

17 *What is the overall playtime needed to fulfil your task in the project?*

Minutes

Does the playtime need to be in the lesson?	☐ Yes	☐ No
Can it be done (partly) at home?	☐ Yes	☐ No
Are there enough devices for this case for the students?	☐ Yes	☐ No

18 *What is the minimum time for one play session?*

Minutes

How many play sessions are needed in your project?

How many lessons do you dedicate to the project in your timetable/schedule?

Do you only play/show the game in class?	☐ Yes	☐ No

After having answered all these questions, several possibilities might come up to bring a specific game or a topic, genre or game mechanic to your class. The same game might be available on several platforms, or can be presented without having a number of PCs or a good internet connection.

Bringing a game to the classroom and opening up the potential of gaming culture for your teaching can work in different ways. Going through the checklist shows what is beyond reach for your specific classroom. It can also answer a few questions around the possibilities for game based teaching with certain games.

Preparation for game based learning

How do I bring a new medium to my classroom and integrate it into my teaching? The answer is the same across all media: start doing it yourself. If you like to bring literature to your course, start reading and study the medium. It is the same with film and it is the same with games.

To understand the full potential and the fascination of the medium, you have to play games yourself.

To bring games to your classroom, it makes a lot of sense to start playing games in your free time. You can also watch other people play in Let's Play videos. But to understand the full potential and the fascination of the medium, you have to play games yourself. That is why our list *10 Steps to Bring Games into your Teaching* starts out with this (presented below in further detail) and emphasises entering this thing called 'games culture'. Find other colleagues to play games with and discuss games to create a strong foundation for games projects in your institution. The knowledge of the culture and the ecosystem provides further possibilities for using games, bringing up relevant topics and starting to create and contribute to this culture and the field of game based learning.

This book and our learning course are intended to help you along the way as well as possible. It aims to answer questions that remain when reading other game-based learning guides. Coming from practitioners, it follows a very hands-on approach to integration of games. The process of successfully implementing game-based learning projects is long and wearisome. The more help you can get the better. This manual and the course are created to guide you through the steps to become a teacher experienced in game-based learning.

Infobox:
Kerbal Space Program https://www.kerbalspaceprogram.com/

Selecting a game - long versus short games

The *Research and Discussion Section* on *Using Games for Learning and Teaching* gives an overview of the research relevant for game based learning. You can find foundational texts from game based learning academia there. It will also provide other learning theories applicable to game based learning. Building on that foundation, we present an approach to selecting a game for your project here.

It is important to consider, if the intended learning in your project is happening in or outside of the game. If it is outside of the game, you might be more flexible when it comes to integration and the technical aspects of your project. The model of how to use games for classroom learning by Tom Hildgen (see page 86) shows other possibilities to integrate games in your teaching.

Smaller games with shorter playtime are easier to learn and enable players to play the game pretty quickly, but game-based learning principles are developed on the basis of longer and more complex games.

Another consideration is the size of the game. Size is an expression that sounds a little fuzzy and we do not really mean the size of the program on a hard drive, though this often corresponds. We are talking about the total length of the game, the length and number of gameplay sessions in your project and the complexity of presentation. Smaller games with shorter playtime are easier to learn and enable players to play the game pretty quickly. The mobile games market actually has this as a foundational principle. Do not waste any time and make the player enjoy the game as quickly as possible, the free-to-play market sees users install a game and, if they are not hooked by the gameplay, leave the game behind within a few minutes and proceed to the next title. This is a consideration for using mobile or at least smaller games, but there are other aspects like monetization or the use and abuse of personal user data that present additional challenges for using mobile or free-to-play games.

Besides that, the learning principles by James Paul Gee that can be found in good games are developed on the basis of longer and more complex games. If a game is singleplayer, short and small, it might not enable creating an identity through gameplay, customising the gameplay experience, playing cooperatively or enabling systemic understanding. But larger games like *Minecraft*, *Cities: Skylines* or *Kerbal Space Program* are much more demanding to be integrated into a project. If your school doesn't offer the equipment for using these games, the only way to approach them might be by showing gameplay,

discussing and reflecting on it. If you haven't worked with games yet, we do not recommend starting out with such a big game. You might miss out on some especially interesting aspects of game-based learning in the project. But you need to get used to this new approach and this is more easily done through using a game with less requirements and less complexity in playing and preparing it for class.

Integration in the classroom - Different approaches to game based learning

Game-based learning is not simply playing a game in class, as we already stated in the introduction to chapter 2. It means learning in and with/around games. It also means providing the right context for the games and aligning the content you learn in the game with your curriculum. It means using games to produce and create, to experience a new world, complex systems and simulations of real life situations and settings. You can apply game based learning also with analogue games, though the world building aspect might not apply here often. Analogue games offer a different setting than digital games, mostly being more abstract than digital games and using very specific mechanics like cards or dice to keep the game moving forward.

Digital game-based learning offers more possibilities than working with analogue games simply due to the fact that potentially everything can be simulated and a more diverse and bigger world can be presented. A board game is limited to its board and pieces, a computer game is limited only by the capacity of the system it is running on. And the computer or the artificial intelligence in the game will keep track of where you are, make sure you follow the game rules, offer the possibility to save the game and also offer possibilities for changing and adapting the game to your style.

Good Learning and Good Games

Good learning with games can happen, if you play the right game in class. James Paul Gee wrote in his seminal work *What video Games have to Teach us about Learning and Literacy* (Gee, 2003) that you can identify a number of principles of good learning in good games. We will go into more detail about Gee's principles in the *Research and Discussion Section* of this chapter. He presented a shorter, more accessible list of principles in his article *Good Video Games and Good Learning*. The article lists these principles, like e.g. Well-ordered Problems, to demonstrate what you learn in games and how. The learning is in general independent of the classroom and can happen everywhere. But in class, you need to make sure that the gameplay develops in the right direction for your students because the learning in games does not happen automatically. It happens, if a game works for you and you have an intense and deep gameplay experience with it. This has nothing to do with action or pacing. It means that you have to work with the game and its systems to understand the mechanics and the systems to succeed in the game and reach specific goals. To make sure this is going to happen with as many of your students as possible, you need to be the guide on that journey through the game. You should be the mentor of the successful gaming journey your students embark on. You should know the game well yourself or at least have someone around to know it well, so that questions about the game might be answered and competent play can be demonstrated. It also helps you understand where your students are at the moment and what needs to be considered or done to achieve what you are aiming for. For some games, it might also make sense to define certain challenges in your project to make your students try the right approach and learn through it. Playing a game offers flexibility and freedom, one of its major assets, but this can also turn around on you, if you are not able to take your students with you on this journey and guide them to the right questions, situations or challenges.

We recommend mixing gameplay sessions with opportunities for reflection.

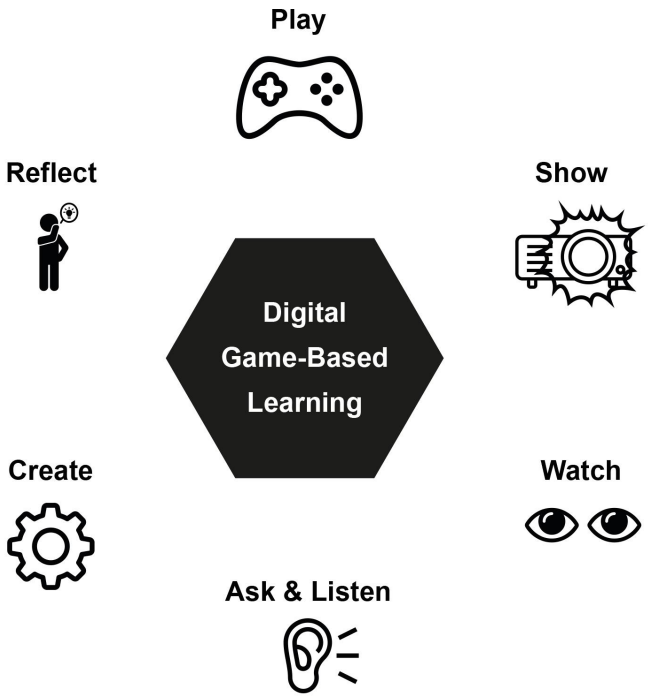
In general, we recommend mixing gameplay sessions with opportunities for reflection. It helps students better understand what they experienced, if there is a conversation about it. You can also create connections between what you experienced in the game with relevant knowledge of the world and specifically the knowledge from the curriculum. These game-based learning cycles of play and reflection seem useful at every single stage of your project every time you play because they can also be used for answering questions, delivering explanations, giving other examples, demonstrating successful gameplay and collecting material. Depending on the length of the play sessions you are going for, we recommend at least one interruption of gameplay per lesson or a reflection afterwards. If there is a creative side to your project, creating material around a game,

adapting a game world, creating a city or something similar (like in *Minecraft* for example) these reflection sessions might not be necessary all the time. Your project is not only about playing the game itself and the connection to the relevant knowledge is something that needs enough time and might have a positive effect not only on the students' knowledge but also on their gameplay, if the content of the game and its main mechanics are directly related to your curriculum. Learning more about the topic could mean getting better at the game, then. And if your students like the game you will be surprised about how keen they are on acquiring this knowledge.

We said before that learning skills and playing games are a great fit because games are inherently interactive and action-oriented. Some games also offer other possibilities for learning. Gee mentions 16 aspects of good learning in games (see page 93). Some are there all the time, like interaction, well-ordered problems or situated meaning, others are dependent on specific games, like customisation or cross-functional teams. You are probably not able to apply all of them in your project and this shouldn't be your goal either. To realise some of them already makes your classroom experience something special and meaningful. Besides the learning principles, games bring more benefits to your classroom. They might be part of the students' everyday life and choosing the right game will raise their level of engagement drastically. They will show and tell you what they know about the game and open up this part of their life. For students, who might not be this accessible otherwise, this might be the right topic.

Other ways of bringing game based learning to your classroom

Even if you are not able to use a game in class the way it is described above, you can apply game-based learning. Tom Hildgen developed a model for the use of digital game-based learning in education (for a closer examination of the model see page 86). He mentions six different approaches to games in class. Besides playing games, you can also reflect on them, show and watch them, ask about them and listen. Additionally, you can also create games and be creative in games. Talking about games, games culture, or your personal gaming biography and preferences can be interesting and a topic of passion for your students. They might tell you about their latest achievements in their efforts to become a semi-professional esports athlete, their journey and experience in a specific game or their habits of spending money for games. These topics open up great possibilities to discuss, evaluate and learn about gaming. You can also reflect on more specific topics, some of the (serious) games mentioned before present very relevant and controversial topics and offer the possibility to walk a mile in someone else's shoes. These can be valuable experiences and are a great opportunity for learning.



Modell nach Hildgen in: Ein Modell für den Einsatz von digital game-based learning in Bildungseinrichtungen, *2018*

Creative projects about gaming are especially interesting. Being creative can take on different forms, from creating your own game, to building something in or for a game and even creating media about games (wikis, guides, videos, etc.) Especially if you go for game design (a topic we only recommend to teachers experienced in game-based learning and/or game design), you need a lot of time, not only for preparation, but also for the project itself. Designing, even if it is only a slight adaptation of an existing game, is complex and time constraints only hinder creativity. Game design is still a worthwhile endeavour and combines most of the benefits of working with games, but time is of the essence here and the results should also be presented accordingly afterwards.

To round it up, games can enter your classroom in different forms. Playing and creating games are the most promising approaches for game-based learning, but if you are limited in your approach to a game no matter why, you can also bring games, games culture and game-based learning to your classroom. It is just important to start and then further possibilities and ideas might develop.

10 steps to develop your teaching with games

Becoming a game-based learning teacher is a long process. Just like studying literature or movies, you need to learn about the medium and get to know the works that you intend to bring to class. Reading an article is not enough, some videos added on top of it might help to give you a first impression. Especially with games being an interactive and playful medium, you need to experience the possibilities and the fascination of games firsthand.

To help you understand this process of becoming a game-based learning teacher, we define ten steps to develop your teaching with games. If you go through these ten steps, then you and your school are able to apply game-based learning to its full potential. They are not intended to be done one after the other. Some of them happen at the same time and most are an ongoing process. But we hope they help you understand what is needed to lay a strong foundation for game-based learning for you and your school. The ten steps are:

1 Play games in your free time.

2 Identify the learning goals in the games you play.

3 Identify areas in your teaching where extra motivation through games would be useful.

4 Find other colleagues or bring other colleagues to play games, too.

5 Form a group to discuss and test games.

6 Identify a game that can be used in class for a specific topic.

7 Create a learning scenario around the game.

8 Use the game in class and evaluate the outcome (also beyond the skills you would like to teach).

9 Let other colleagues use the game and the scenario in class, too.

10 Together with colleagues develop a library of tried and tested games and the projects they are used in.

Even though you might think that only steps 6 to 8 are relevant for game-based learning, we recommend you complete all ten steps. Steps one to three prepare you personally for what is to come. You are the teacher in class when doing the project, so you should have solid knowledge about gaming, devices and the game that is going to be used for the project. We mentioned before that games are a topic for debate, not only about the reasons why working with games in education in general (we hope to give you good arguments with this manual), but also about the different aspects of gaming culture, about the comparison of specific titles, about strategies and when it comes to game-based learning also about the potential of different games and the procedure of bringing them to class. That is what steps four and five are meant for. Maybe you do not need to convince colleagues to start gaming in general, there is a good chance there are at least some colleagues who already enjoy games and have a keen interest in the topic. After having completed your project in class, they can also help you evaluate your project by trying it out themselves or you can support each other in developing a number of game-based learning projects. This might also help you to work on the infrastructure of your school to be better able in the future to use game-based learning. The investment in technology is good use, if you have a team of colleagues transforming their teaching and working with the tools the school acquired for digital education.

The 10 step structure is also the basis for our learning course on Canvas. There are 10 steps with questions, info, exercises and examples of game-based learning to guide you along this way and give you the resources and the understanding of how games and games culture work and how you can use it to its full potential for teaching. We will tell you a little bit more about the course in chapter 5.

Benefits beyond learning goals

To connect the learning goals from your curriculum with the learning principles in good games by finding and applying the right game in your classroom, is something really worthwhile and an opportunity for experiential learning for your students. Beyond that, there are several aspects about the use of games in the classroom that are also well worth mentioning.

A growth mindset sees intelligence as something that can be developed. It leads to the desire to embrace challenges, persist in the face of setbacks, see effort as the path to mastery and to learn from criticism to be able to find lessons and inspiration in the success of others.

One aspect of learning, the mindset of the learner, is something to be considered, too. According to Carol Dweck, a psychologist from the US who has been a professor for psychology at Columbia and Harvard University, there are two different mindsets in people. A fixed mindset is constituted through belief that intelligence is static. This leads to a desire to look smart and a tendency to avoid challenges, give up easily, see effort as fruitless, ignore useful negative feedback and in general feel threatened by the success of others. A growth mindset instead, sees intelligence as something that can be developed. It leads to the desire to embrace challenges, persist in the face of setbacks, see effort as the path to mastery and to learn from criticism to be able to find lessons and inspiration in the success of others. Dweck states that “[the] passion for stretching yourself and sticking to it, even (or especially) when it’s not going well, is the hallmark of the growth mindset. This is the mindset that allows people to thrive during some of the most challenging times in their lives.”

Playing a game is something that fosters a growth mindset in people, as you have all the ingredients necessary for the development of such an attitude. Games present challenges one after the other. They will make you fail and retry again, make you invest effort into the solution for the challenge presented to you in the game and be inspired by the results of others in the game, presented to you via the many channels of gaming culture, videos, wikis, guides and the like.

Another important aspect of learning with games is player motivation. We already stated that games can be very motivating for players because they play games on a daily basis, define themselves as gamers and it is an integral part of their identity. For others, who do not see themselves as gamers, the fun activity of playing a game together can turn a challenging task into a fun activity and provide extra motivation for learning.

There are six paradigms for player motivation in games: Action, Social, Mastery, Achievement, Immersion and Creativity.

But when we talk about motivation for playing games, there is another relevant aspect that might influence your choice of game for your project. Nick Yee is an academic who has worked on player motivations in games. Starting from Richard Bartle's relatively old and simple model of player types in games he released several articles that elaborated on that idea. A few years ago, he started a consulting company called *Quantic Foundry* who developed a tool for checking why certain players prefer different genres or tasks in games. They did a mass survey with more than 400,000 gamers to develop a model that can put the different motivations of playing a game in context to each other. We will look at the model in more depth in the *Research and Discussion Section* of this chapter. The model presents six different paradigms to group all kinds of players. They are called Action, Social, Mastery, Achievement, Immersion and Creativity and all players of all games can be located somewhere in this model. So, some of your students might prefer to be social in games, others like achievement or mastery and some might just like to be creative. This is relevant when it comes to choosing the right game as well as when defining the different parts students might play when you bring your project to the classroom. We guess it is hard to find a game that fulfils all desires of all students in your groups (maybe *Minecraft* might achieve this with its potential openness), but you might consider including students in your project in different ways. Besides or instead of the gameplay, they might be the perfect fit for the creative part in the project, creating new challenges, designing levels or creating media products from texts to video footage. If you catch players with their personal preference for playing games, you might hit the sweet spot for them and their motivation for the project might be raised tremendously, maybe even beyond the specific game-based learning project.

Prosumer culture

Games culture supports such an approach, like the one mentioned in the chapter before, to be creative with games and to make the production of texts an integral part of your project. Gamers are 'pro-sumers', that means in gaming culture you are not only consuming digital media products from your favourite pop culture, it is quite normal to also become an active producer in this culture. Gamers create texts, videos, guides, Let's Plays, live streams, fan art and fiction, mods, artwork for games, levels, etc. It is just what they like doing. For many it is the reason why they identify with a game and its culture so much and show engagement way beyond the consumer culture that we know and live in.

The digital tools and media platforms make it easy for participants of games culture not only to be consumers, but to actively take part in the discourse around a game and become producers themselves.

There is a lot of academic literature to describe this culture that is not only restricted to games, but is especially strong here. We will describe this attitude in more detail in the *Research and Discussion Section* in this chapter. When we are talking about the reasons why gamers behave like this, we are looking at affinity spaces and participatory culture and are referring especially to the works of Henry Jenkins and again James Paul Gee.

Participatory culture is the culture of prosumers. The digital tools and media platforms nowadays make it easy for participants of such a digital culture not only to be consumers, but to actively take part in the discourse around a game and become producers themselves. You can see that with the sheer number of YouTube channels and Twitch streamers. If you are interested in finding out more about your students, we suggest a quick and informal survey with them to see who has an active YouTube or Twitch channel or has already contributed to games culture in a specific way. You might be surprised how many there are in your group of learners, especially if they are young and grew up in the digital age.

Affinity spaces are (digital) spaces around a cultural product, in our case games. Communities are built around games and the fact that you play and enjoy the game makes you eligible to enter this relatively open-ended group of people. They are mostly hobbyists, but there are some professionals in the mix, too, and in general there are different statuses and merits that you can earn through mastery, other expertise or simply by following this culture for long. Everyone can be a teacher there while at the same time always also potentially being a learner. You can easily use that in your game-based learning project simply by asking your students what they play, for how long, what they have contributed to this culture and what they think they can contribute to your project.

Digital literacy & media literacy

Being a prosumer in this culture means that you need to be able to develop certain aspects of digital and media literacy to be able to join the discourse. People born in the digital age, sometimes called ‘digital natives’, mostly have a different approach to technology and digital media than older people. For them, it seems natural to use digital media for consumption and also for production. They do not automatically have all the skills to be digitally literate, but they do not shy away from tinkering with digital media and learn through trying (similar to the growth mindset mentioned before).

So, if your students belong to this age group, you will find it pretty easy and natural to include the creation of media products in your project. For older people, it might not be as natural to go in this direction, but with games and the culture surrounding it, you can develop digital and media literacy with them by playing games and actively taking part in this culture. Of course, this can also apply to analogue games as well, if you include digital media for information and the production of footage or something similar in your project.

Gaming literacy

Gaming literacy is a skill set like the others. Specifically, it is the knowledge and the competence to be able to play and understand games with their interfaces and act skillfully within them. It has to do with the ability to run them on your system, using the interfaces to play them, and succeed in the tasks presented to you by the game.

You can categorise games by the complexity they present to their users and the gaming skills they demand to be able to play them accordingly.

There is digital knowledge necessary for the respective devices and interfaces, you need to understand the presentation of the game's means to interact with it and you need to act proficiently in the game itself. It also includes knowledge around a game like the use of sources described above, video content, guides and wikis.

You can categorise games by the complexity they present to their users and the gaming skills they demand to be able to play them accordingly. Simple games like some card games, mobile 'One Tap' games or browser games might only ask for very simple inputs and do not ask for more than understanding basic game mechanics. Others - like some console or PC games - ask for competent use of a controller or the understanding of complex interfaces and systems. This is also important when you think back to the questions about how long it takes to learn a game, what the time of an average play session is and the like.

Create challenges

Good learning in games happens when a game works for you and you have an intense and deep gameplay experience with it. To ensure this, you might need to guide your students. They need to play the game the 'right' way. They need to dive in the game deeply and approach the systems and mechanics in a comprehensive and very specific manner. You can try to support this by creating specific challenges for the sessions in your game-based learning project. You can ask for a score to reach within a predefined amount of time or in a match. You can define an achievement to reach for, let the students play with restrictions, or ask for a specific end product after having finished the project.

Creating challenges helps novices as well as experienced players to use the game for the best learning results.

Different games offer different challenges. To find the right one for your project is easier when you know the game well and know how to combine the game content and mechanics with the learning goals and the skills training you are aiming for. Creating challenges helps novices as well as experienced players to use the game for the best learning results. But the question of their gaming literacy still plays into what your challenges should look like. Maybe create different challenges for different gaming skill levels, but students who are not that experienced in games might also play a support role in teams designated to complete the challenges. Collaborative learning is inherent in games, even if you use single player titles in your project.

Assessment & evaluation

The skills you acquire in games can be tested with other games or in real-life situations, but they do not translate well to the traditional testing methods in schools and institutions.

It is difficult to assess skills with regular assessment methods. Regular testing methods check on knowledge acquired and it is not easy to check skills with a text based format. Additionally, skills learned in a game, especially the more abstract ones like e.g. communication or organisational skills, cannot be displayed in a traditional testing format. The skills you acquire in games can be tested with other games or in real-life situations, but they do not translate well to the traditional testing methods in schools and institutions. You can instead evaluate the development of your students by checking on the gameplay and how it evolved and by letting them create material around the game that exemplifies their learning in the game. We recommend seeing the bigger picture instead and following the students closely in their development when they play the game and after the project to find out how their skill set and understanding developed. Using a game and a project several times with different groups (and maybe also by other teachers in other classes) will help you evaluate the real value of the project when it comes to skill acquisition. Using digital media and even drastically changing the way you teach by implementing (digital) game-based learning in your teaching will also raise the level of digital and media literacy for your students.

Support for bringing GBL to class

We have mentioned other manuals and guides for game-based learning several times already. They can help you on your way to become a game-based learning teacher. But they do not present everything needed to develop game-based learning projects for your class. They mostly deliver explanations on the how and the why, give information about possible games and how they fit into curricula. But you do not find something like our checklist there or they do not mention the communication in preparation of your project.

But there are other sources, especially for some (serious) games that are used for learning, that give you more material and more information, sometimes even access to a community of game-based learning teachers (thank you *Minecraft Education Edition*!). The most successful learning games know about the value of giving out extra material to teachers to ease them into using the games in class as much as possible. Good examples here are first and foremost *Minecraft* (*Education Edition*), games like *Geoguessr* (you need the *Education Edition* account for 99€ per year for this), the *Dragonbox* games, the Ubisoft *Discovery Tour* or the games from Filament Games. You can find lesson plans there, material for connecting the game to curricula, extra (educational) worlds or simply ideas for creating projects. The most complete solution here definitely is *Minecraft* as it is this successful and the *Education Edition* is part of the *Office365* package and is played by millions of people. Microsoft supports its users well and the community is very active and vibrant. There are even a lot of videos and also podcasts to help you with your journey of becoming a *Minecraft* Educator.

Game-based learning in the classroom example 1: *Geoguessr*

To exemplify the process and the form of a game-based learning project for basic skills teaching, we will describe two projects in the following to demonstrate how a game can be chosen and a project developed.

Our first game is *Geoguessr*. Already mentioned several times before, it is a game about finding out where you are located using a street view application and a map. It is a game well suited for classroom use for a number of reasons. The project is going to happen in English as a second language classroom. The focus is on getting better in English and learning and practising vocabulary for orientation and geography.

To start out, we go through the checklist and assume we have a group of young adults mixed with some older adults. The group consists of 20 people and you are able to use 10 computers in class. The game runs on PC in a browser and is available on iOS tablets as well. The project aims to create digital material in the project and the computers will be used for that, too. The extra material is designed by the students and they are asked to present one specific country (maybe the one they come from) to be able to play *Geoguessr* more effectively. This presentation could be about language or the alphabet or specific information about vegetation or certain aspects of settlements in this country. The extra material is going to be a short presentation for every group. You should try to create the teams who play together as heterogeneously as possible, mixing more experienced gamers with beginners. This will level the strength of the teams and will create an extra learning dynamic in the groups, helping each other to become proficient at using the game.

There are no specific hardware requirements for browser games. They run on every system that can run a browser. You need a permanent internet connection, but it does not use the internet connection heavily, so it runs on a decent wifi. There is no space required on the hard drive, browser games do not need to be installed on the computer. The game can be played in multiplayer, too, but only one player is meant to be playing. We will put two people in front of the game, as we only have one computer for two people. This is not problematic, instead we will make good use of the setup with two people at one station. Playing the game together makes people talk about what to do and think out loud to come up with a possible solution. So, having 10 computers actually works really well with the group that we have. The price for the game is really cheap. You can buy a pro account as a teacher for 2€ (monthly fee, you have to buy the account for one year, only PC version so far) and invite as many players as you like to your game. You can also play it for free, but then you can only play once every 24 hours. So, we recommend buying a pro account for the game and invite all your students to play the same game you play. We also recommend that you create an account for every single group of 2, so that they can track their progress in the game and compare each other beyond only one game.

The game is played with the mouse and is really easy to use, so you do not need any gaming literacy to be able to join in. The game can be bought on the *Geoguessr* website, the iOS version can be bought in the Apple App Store. The game is for free there, but there

are additional in-app purchases and the game presents advertisements on the main screen, if you use the free version. The game does not contain any sensitive or inappropriate content. There is no actual age rating, but the App Store gives an age rating of 4+. So, *Geoguessr* is open to all ages for teaching and especially for our designated group. As the game does not offer problematic content, is relatively cheap and no software needs to be bought and installed, the communication around preparing the project is relatively limited. You probably do not need a lot of tech support to prepare the project, as the game does not need any installation and it does not need to be bought. Besides that, it is relatively clear and obvious why such a game makes sense for learning and that it can be easily used as a tool for learning.

You do not need any time for setting up the game, you just start the computer and browser or the iPad and the App and are ready to go. This will only take a few minutes every time you play. The game will be played in groups of two and the gameplay sessions will take between 15 and 30 minutes. Overall, the game is going to be played for about 5-6 hours in class in 10 to 15 sessions. You can play the game as much as you want, one game is relatively short. To be good enough at the game to use it well in class, you probably do not need too much time. Depending on your previous knowledge about orientation, maps and in general world knowledge, you will become proficient enough at the game in a relatively short amount of time.

The game is going to be presented by the teacher as an introduction and once in a while within the project to discuss certain aspects and demonstrate how to play the game well and this will be presented on the teacher's laptop and the projector in the classroom. The students will demonstrate their gameplay, too, also using the teacher's laptop and the projector in the room. The project is meant to take about 20 lessons. At the end of the project, students create a presentation in their group to help other players understand a specific country better and be ultimately better at the game. The project is going to happen in English classes and presentations and discussions around the game are all going to be in English. The language level of the students ranges from A2 to B2. The main goal for the project is to present different countries and to use language proficiently to talk about places and to be able to understand how you can orient yourself in a foreign place. There are specific challenges presented by you to the class. Teams are asked to reach a specific score on a specific map, this might be a map for a whole region or continent or this can be the map for one specific country (maybe the country you live in and that the participants should get to know better as a side effect of the project).

The project is going to be evaluated afterwards by grading the presentations and your colleague doing the same course with a similar group is going to do a similar project afterwards using the material you created in your course before. The students are interviewed afterwards to describe what they like about the project, what they learned and how this project could help them in their preparation for a job.

Infobox:
Hidden Folks https://hiddenfolks.com/

Game-based learning in the classroom example 2: *Hidden Folks*

The second game we are going to present to you is called *Hidden Folk*s. It is a small indie production that can be played on all computers (Windows, Linux, MacOS), on consoles (Nintendo Switch) and on mobile devices (Android and iOS). The game is well suited for classroom use, as it does not have an age rating, the play sessions are short and the game is available on many major platforms.

The situation we use the game in, could be this one. We have a group of students at the age of 12, the class has 24 students and you have tablets for all students, but only every second lesson. The students are a mixed group, but they all have some experience with games. They know how to use the iPads, as you have used them in class before. The project is part of your English lessons and is designated to strengthen the understanding and active use of the vocabulary you can find in this game. There is going to be a translation part of the game and the students will collectively try to translate the hints given in the levels. The students have English in their second year, their language level varies from A1 to A2. The project is going to last for about 10 lessons (only every second lesson) and the lessons afterwards are going to build on the knowledge from the project. The end product is going to be a translation of the game that is going to be compared to the translations in-game. The price for one unit is 5,49€ in the Apple App Store, 4,99€ on Android, 11,99€ on Steam and 11,99€ on Nintendo Switch. The game is already available on the tablets and the students do not need to buy the game. You still invite the parents and the colleagues also teaching the class to a play session of the game and communicate clearly how and why you are using the game in class and what result you are going to expect.

The game runs on all Switch consoles and on mobile devices. The versions of the operating systems evolve of course, but at the moment it runs on most mobile devices. On PC it runs on most systems, too, as it is not demanding when it comes to graphics or processing power. You will also work with the iPads to create the translation, so no extra hardware is needed. You need the internet to install the game, but besides that no internet connection is required. The game does not take a lot of space on the devices, about 100 Mb on tablets and 300 MB on a PC. The game is meant to be single player and there will be sessions for the students when they play alone, but for some time, especially in the later stages of the project the students will work in groups of two or three. The game is played with mouse on PC and with the touch interface on tablets and phones and it is easy to play, no advanced gaming literacy necessary. Every student can use a device as there are tablets for all students. You do not need a lot of time to set up the game, just start the device and load the small game or the application. In the first sessions and late in the project, gameplay is shown to the students by using a tablet and showing the gameplay on a projector.

The game can be learned pretty easily and within a few minutes as the main game mechanic is a *Find Waldo* adaptation. You understand how the game works quickly and besides reading the descriptions and looking for the item or the person there is not much to do. In class, the game is going to be played for about 5 hours, using about 30 minutes per lesson for the game. In general, the gameplay sessions can be relatively short as the game can be paused and continued at any time. The students can also play the game in their free time at home, independent of the progression in class. Using the descriptions of the items and the people and their locations in the level (in English), the students learn to understand the descriptions and figure out the meaning of the comparisons, the metaphors, etc. used in the game. After having figured out what they mean by finding the item or the person, they will discuss the use of language in specific examples and try to find similar examples in their mother tongue. Starting from this, they will collectively start to find translations for these examples in their first language and compare them to the version in their language in the game. They will create a translation of (most of) the sentences for the game and create a presentation of the game and their translation for the end of the project.

The project is going to be evaluated by watching play sessions of the group in higher levels and assessing the quality of the single contributions of the group to the final presentation and the translation. Your colleagues are interested in the presentation and the content of your project and would like to learn more about the game by playing it after the project is finished.

Infobox:
Gee, James Paul, *What Video Games Can Teach Us About Learning and Literacy* https://www.jamespaulgee.com/academics
Gee, James Paul, *Good Video Games and Good Learning* https://www.jamespaulgee.com/academics

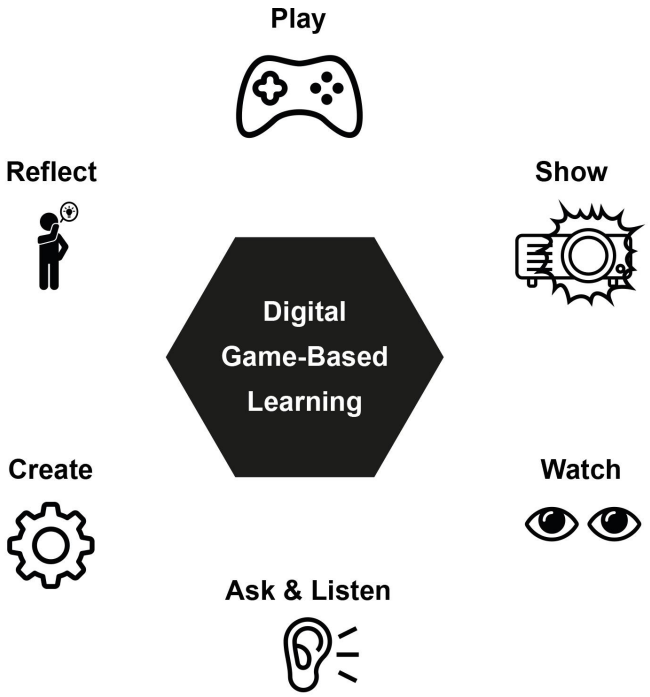
ii. Research and Discussion Section

Game-based learning

Today there is plenty of research on the use of games for teaching. The research area has been followed for more than two decades. The last few years show a major uprise in publications. Besides studies on the effectiveness and possibilities of games usage for learning and teaching, throughout the last few years a number of guides and handbooks have been published to help teachers and facilitators in bringing games to their classes. We referred to them earlier and they of course also present some of the following information laying the foundation of working with games in classrooms. Still, we would like to discuss some of the foundational theories for game based learning in this chapter in a more comprehensive way, as other considerations might come to mind when you know a little more about the research in this field. As Game-Based Learning as a discipline borders on many other research areas like Learning and Positive Psychology, Social Studies, or Classroom Management, we will show some relations here that might help you when applying game-based learning in your classroom.

Different Ways of using games in a classroom

Before we dive deeper into the field of digital game-based learning, we will have another look at the model suggested by Tom Hildgen that shows and explains different approaches of bringing digital games to your classroom. Due to equipment or other restrictions, you might not be able to let everyone play a game in class for learning. The topic gaming might still be interesting to you and relevant for your students. So, digital games can be part of your teaching and games culture a topic for your classroom. Therefore, Hildgen describes the possibilities to make games a topic in class and use them for learning in different ways.



Modell nach Hildgen in: Ein Modell für den Einsatz von digital game-based learning in Bildungseinrichtungen, *2018*

The obvious approach is to PLAY a game in class. How to do that is the topic of our manual. If you have the devices and sufficient copies of the game, you can use the game in class, apply the game-based learning cycle of playing and reflecting and make the game the main place for learning. Of course, you can and should expand on the content of the game and add additional learning material to the experience, further discuss the game and work on concepts, skills and knowledge beyond the game itself.

You can also SHOW the game to your students. If you do not have the equipment in class, maybe you can bring yours from home or a student can provide a device to play a game on. Of course, there is no real game-based interactivity happening in class and therefore the learning is going to be about the game like e.g. strategies in a game, discussing the world presented, the story line or maybe topics beyond one single game like the monetization model free-to-play. Hildgen recommends knowing the game well when

demonstrating game play in class, which should in general be the case. But if you are well prepared and know what to expect of such an initial play session, there might also be other possibilities like learning about the game play together. We still do not recommend just bringing a game to class without further preparation. Like movies and other media used in class, you should know the medium and what to expect of the specific game you are going to present.

But there might be further restrictions to playing games in class. Games as well as the devices used to play them are normally not (yet) part of a school's equipment and they are expensive. If you do not own the hardware you can also bring games to your classroom and WATCH gameplay. YouTube and Twitch can be valuable sources for finding out more about games. Let's Play videos and live streams are the way to go here. The people playing the game might be very good at the game and thus demonstrate competent game play, they might bring background knowledge on the topic and the world the game plays in. One fantastic example here is the YouTuber called *City Planner Plays* (https://www.youtube.com/c/CityPlannerPlays) who is a city planner in real life and plays the city building simulation *Cities: Skylines* through his professional lense. The knowledge presented here gives ample opportunity to learn about and discuss topics in city planning like infrastructure development or housing cost, a city budget and the like.

Still, you need to be aware that these producers do not all follow standards of political correctness, language standards, etc. So, we recommend checking a YouTuber, if his videos fulfil these standards, so that you can bring the videos to class and recommend them to your students beyond the classroom. With *City Planner Plays* you have a great example of the value YouTubers and videos can bring to class, but there are many others who do not fit in a classroom setting and it is your responsibility to find out.

Another possibility for making games a topic in your teaching is to ASK students about their use of games AND LISTEN to them. You might realise that they play games that are not age appropriate, and this is already a first topic for discussion. Especially, if you like to start out with games in teaching, it might be a valuable first step to bring the topic to class by asking your students and finding out what they play and why. You can use a game and the students' experience for a number of discussions and exercises in your classroom from text production to presentations and beyond. And to offer the possibility to your students to learn more about how the games industry works and what to be aware of, is something that enables them to reflect on their behaviour around games and what the implications of their behaviour can be. Hildgen doesn't offer too much information on what the approach to ask & listen can provide for teaching beyond that. But as games are a storytelling medium like literature, or film, the possibilities are enormous to create content for teaching.

Many young people who consider gaming their one favourite pastime, are very interested in understanding and practising game design. They love to CREATE a game or a prototype to learn how games are made. In school or in a course there is probably not enough time to create games, as game design is complex and a long process. But you can still create something in the context of games or a specific game and use this process for a lot of different opportunities for learning.

Analogue games, i.e. card games and board games seem much more approachable when it comes to creating games and paper prototypes are done more easily as they need no coding in the production process. You can also adapt existing games by changing the rules or you can design content for a game like a level, a dungeon or a campaign. For digital games, there are sometimes level editors or character editors or you can create worlds, cities, etc. in games like *Minecraft*, *Cities: Skylines* and the like. You can also show your students the basic principles of coding and basic coding tools to start out in the creation process of digital games. These games are of course not comparable to commercial games, but they still offer a lot of possibilities for learning and practising skills around game development.

Tom Hildgen describes a last approach to game based learning that goes beyond all of the above and is more of an approach to REFLECT your teaching and let your teaching methods and the way the learning material is presented to the students be guided by the way games let players learn. As James Paul Gee described in the learning principles, it is pretty clear how learning with games works. You can integrate these principles to your style of teaching and let games be a role model for how to engage the learners. We will expand on all the aspects that make games such powerful tools for learning in the following. Games can be role models for successful teaching and creating motivation for the learners and they can be amazing tools for learning, if you know how to integrate them into teaching and how this influences and changes your lessons as well as your role in the classroom.

Other relevant learning theories in connection with game based learning

Learning in and with games is founded on a number of relevant learning theories. Games teach in different ways and therefore there are connections to different learning theories. Matthew Barr describes these relations in his aforementioned book *Graduate Skills and Game Based Learning, Using video Games for Employability in Higher Education*. There are two broad categories of learning theories, the instructivist and the constructivist model.

Instructivism represents a more traditional approach to learning and teaching and understanding learning as the acquisition of knowledge and propagating a traditional classroom structure with the teacher being at the front of the class, transmitting knowledge through written texts and speech mostly.

Constructivism sees the learner as central to the learning process. “Constructivism refers to the active process through which learners may themselves construct new knowledge, by applying existing knowledge to new problems.” He quotes Savery and Duffy who define three principles being at the core of constructivist learning:

1. Understanding is *in* our interactions with the environment
2. Cognitive conflict or puzzlement is the stimulus for learning and determines the organisation and the nature of what is learned
3. Knowledge evolves through social negotiations and through the evaluation of the viability of individual understandings

Principle two and three illustrate perfectly how learning in and around a game can happen. Games present this cognitive conflict and thereby make the players engage in it and the community around a game serves as the perfect place for social negotiations and evaluation of the understandings. Barr goes even further when applying constructivism to game based learning: “in learning about the world around us, may we not [...] draw upon experiences gained through video games? Interactions with other players, for example, may serve as an analogue for effective communication in the real world.”

Experiential Learning starts with the premise that good educational design has to consider “the learner’s place in society, how they might contribute to it, and how they - as an individual - experience it”. Every learner’s experience will be different, and the best learning environments (and teachers) should be able to adapt to these differences. Kolb’s adaptive learning cycle that is at the centre of experiential learning consists of four steps and actually can be seen as a model that our recommended game-based learning cycles in class are a reflection of. The four steps are active experimentation (doing), concrete experience (feeling), reflective observation (watching) and abstract conceptualisation (thinking). Step one is actually playing the game, step two is about following guidance in the game, approaching challenges and receiving the feedback given by the game, step three is thinking about, reflecting, observing and discussing the experiences made in the game (happening while playing and especially supported in our feedback rounds when discussing gameplay and creating connections to the real world) and step four consists of

formulating theories and hypotheses for how to succeed in specific challenges (done in- and outside of the game).

Social Learning happens in communities of practice, a concept that is in close connection to the affinity spaces defined by Gee. They are defined as “groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly”. So there needs to be “a domain of knowledge, a community of people, and some notion of shared practice.” In Vygotsky’s work about what he calls the Zone of Proximal Development (ZPD), he sees learning as a social process happening between learners and adults and their peers. The ZPD is defined as “the distance between the actual development as determined by independent problem solving and the level of potential development as determined through problem solving through adult guidance, or in collaboration with more capable peers.” Gaming lends itself well to the concept of ZPD and the development of the learner’s skills and understanding happens in-game as well as in the discourse with the community of practice around a specific game.

Scaffolding and **Mastery Learning** have a clear focus on what a learner can achieve and what the best way for the learner would be to achieve mastery. This differs a lot from student to student, but the concept asserts that the vast majority of learners can achieve mastery given the right support and amount of time to practice. Games are pretty good at adapting to players, they mostly give you enough time and opportunity to practice and provide direct feedback to the player’s actions.

Flow Theory

If you have ever had a look into game-based learning and the benefits games can offer for learning, you have probably already heard about the concept of Flow from optimal experience psychology that has been developed by a Hungarian scientist named Csikszentmihaly.

You reach the flow channel, if you reach the optimal experience by finding the ideal mix of challenge and skills.

Flow describes a dimension of experience. You can be either anxious of, or bored by something. Too much novelty in a situation leads to anxiety, too little leads to boredom. The ideal state, the channel in between the two, is called flow. So, you reach the flow channel, if you reach the optimal experience by finding the ideal mix of challenge and skills. Flow does not only happen for high-skilled individuals, but potentially for everyone. As games are learning tools that customise your experience and will challenge you a little more with every task presented, they are probably particularly suitable as flow-inducing activities.

In their article *Toward an Understanding of Flow in Video Games*, Cowley, Charles, Black and Hickey give an overview of how they see the connection between Flow and game play. They state that the model is an oversimplification, but it helps to understand how Flow and playing games are related:

Eight Elements of Flow and Corresponding Game-play Elements

Flow Elements	*Game-play Elements*
A challenging but tractable task to complete	The complete gaming experience (including social interaction during gameplay).
Full immersion in the task, no other concerns intrude	High motivation to play, no imperative to do otherwise; empathetic to content.

Feeling of full control	Familiarity/skill with controller, genre conventions, game-play mechanics.
Complete freedom to concentrate on the task	Telepresence and an environment dedicated to gaming.
The task has clear unambiguous goals	Missions, plot lines, levels; any explicit outcome of a successful play session.
Immediate feedback on actions	Well-timed, suitable rewards and penalties: contingencies.
Being less conscious of the passage of time	Focusing on another, temporally independent environment.
Sense of identity lessens, but is reinforced afterward	Embodiment in game avatar; sense of achievement after play – e.g.,"Hi-Score"

"As a result, games give immediate access to their inherent potential for optimal experience, and that potential is facilitated by the structured nature of further game-play. Thus there is a common correlation between simply completing computer games and getting "in the flow"."

Gee's learning principles

James Paul Gee has been mentioned several times before. He wrote some of the foundational texts for the research area of Game-Based Learning and especially his book *What Video Games Can Teach Us About Learning and Literacy* (2003, 2007) and the article *Good Video Games and Good Learning* (2005) present the basic principles of using games in classrooms.

Gee sees games as refined products that depend on their success in teaching its players to play the game.

To start with the latter, Gee's article presents 16 principles of good learning that can be found in good video games. Gee does actually not directly propagate bringing games to a classroom, he rather sees games as refined products that depend on their success in teaching its players to play the game and therefore can be regarded as valid examples for the evolution of successful learning principles. These principles serve as an example for any institutional learning. If education tries to be as engaging and motivating as the most successful learning tools (i.e., commercial video games), educators should implement these principles in the learning they offer. The list reads as follows:

1. **Identity:** Players build a sense of identity throughout the video game, either through direct input or an on-screen character they inherit.
2. **Interaction:** Communication occurs between the player and the game and/or between players. There is an interactive relationship between player and game.
3. **Production:** Gamers help produce the story through some form of interaction, such as solving a puzzle or completing a level. At a higher level, players are able to create worlds, adapt them and develop new versions. Players help 'write' the game worlds they play in.
4. **Risk Taking:** Failing in a game holds few consequences in comparison to real life, empowering players to take risks. 'Failure' in a game is a good thing, it provides direct feedback to the players to enable him/her to adapt.
5. **Customization:** Games usually offer a level of customization so that users can play — and succeed — at their competency level. They offer different paths for getting to the solution of a problem and players can try out strategies as well as different in-game identities.

6. **Agency:** Players have control over the gaming environment. They acquire ownership over what they are doing.
7. **Well-Ordered Problems:** The gaming environment contains problems that naturally lead into one another, allowing a player's mastery to grow and evolve. Players are led to form valid hypotheses for new problems based on what they experienced in the game before.
8. **Challenge and Consideration**: Games offer a problem that challenges the players' assumed expertise. They offer a cycle of expertise inherent in the game's structure, a valid approach to become an expert in a topic.
9. **Just in Time or On Demand:** Players receive information as they need it, not before, so that they are not overwhelmed and can make good use of it at the right time.
10. **Situated Meanings:** Players learn new vocabulary and meaning in situated contexts in relation to actions, images and dialogues in games.
11. **Pleasantly Frustrating:** Good games stay at the edge of the player's regime of competence, they are challenging but doable. This is highly motivating for its players.
12. **System Thinking:** Games make players think in relationships, not just individual actions taken, helping them see how the pieces fit or can be fitted together.
13. **Explore, Think Laterally, Rethink Goals:** Games force players to expand their situational knowledge and consider courses of action other than linear ones.
14. **Smart Tools and Distributed Knowledge:** In-game tools (or characters) help players understand the (game) world. Understanding a system and applying relevant tools properly is a helpful skill for modern workplaces.
15. **Cross-Functional Teams:** In multiplayer environments, players have different skills, forcing them to rely on each other and to work and plan in relation to the specific skills of the members of a team — a needed soft skill for students.
16. **Performance before Competence:** Competency occurs through taking action in the game, reversing the typical model in which students are required to learn before being allowed to act.

For better understanding of the principles, which were taken from the article itself, we added explanations illustrating the meaning of the principles. Especially when it comes to the preparation for the modern world of work, games are promising because they present knowledge and skill acquisition in a way that resembles the demands of modern workplaces, like collaborating remotely in cross-functional teams or applying smart tools to be able to proficiently work in complex systems.

You can analyse a game to identify the relevant principles in it and especially with long-form, complex games, you will be able to identify most of them. Some of the principles have major consequences for the way you are teaching your classes. They will redefine the way in which your students and the whole class will learn. They will create a new attitude towards making mistakes and appreciate the freedom to tinker, find new ways and be creative. Games can create intrinsic motivation through creating identity, a sense of agency in the players and the possibility to reach for mastery in a system that challenges you optimally. These (video) games potentially prepare its players well for the world of work in the 21st century through offering these opportunities in a digital space.

We mentioned before that you will probably not be able to find all these principles in any game, but many of them apply for most games, especially the more foundational ones like identity, agency, well-ordered problems, interaction, risk-taking, and situated meaning. The principles applied are dependent on the game, its genre, its systems and its complexity. But being able to bring some of the principles to your game-based learning classroom is worth the effort. While applying other learning theories as well and being able to create a magic circle (with a game), an atmosphere of playfulness and creativity and changing the mindset of the learners, game-based learning promises a major change for learning in general and the acquisition of (basic) skills especially.

Humans think best when they reason on the basis of patterns they have picked up through their actual experiences in the world.

In his book *What Video Games Can Teach Us About Learning and Literacy* (2003, 2007) Gee expands the list of learning principles built into good video games. The 36 principles were also developed in connection with, as he calls it, “three important areas of current research”, i.e., “Situated Cognition” arguing that learning is always embedded in a specific world, materially, socially and culturally, “New Literacy Studies”, taking on the premise that reading and writing are always also regarded “as social and cultural practises with economic, historical, and political implications”, and “Connectionism” stating that “humans don’t often think at their best when they attempt to reason via logic and general abstract principles detached from experience. Rather, they think best when they reason on the basis of patterns they have picked up through their actual experiences in the world”. The combination of these approaches with the learning principles shows that learning outside of institutions happens differently and games give a good example of how the learning in institutions should be designed to create successful and deep learning and skill attainment.

We list all 36 principles with explanations here, quoting directly from Gee's book:

1) Active, Critical Learning Principle

All aspects of the learning environment (including the ways in which the semiotic domain is designed and presented) are set up to encourage active and critical, not passive, learning.

2) Design Principle

Learning about and coming to appreciate design and design principles is core to the learning experience.

3) Semiotic Principle

Learning about and coming to appreciate interrelations within and across multiple sign systems (images, words, actions, symbols, artifacts, etc.) as a complex system is core to the learning experience.

4) Semiotic Domains Principle

Learning involves mastering, at some level, semiotic domains, and being able to participate, at some level, in the affinity group or groups connected to them.

5) Metalevel thinking about Semiotic Domain Principle

Learning involves active and critical thinking about the relationships of the semiotic domain being learned to other semiotic domains.

6) "Psychosocial Moratorium" Principle

Learners can take risks in a space where real-world consequences are lowered.

7) Committed Learning Principle

Learners participate in an extended engagement (lots of effort and practice) as an extension of their real-world identities in relation to a virtual identity to which they feel some commitment and a virtual world that they find compelling.

8) Identity Principle

Learning involves taking on and playing with identities in such a way that the learner has real choices (in developing the virtual identity) and ample opportunity to meditate on the relationship between new identities and old ones. There is a tripartite play of identities as learners relate, and reflect on, their multiple real-world identities, a virtual identity, and a projective identity.

9) Self-Knowledge Principle

The virtual world is constructed in such a way that learners learn not only about the domain but also about themselves and their current and potential capacities.

10) Amplification of Input Principle

For a little input, learners get a lot of output.

11) Achievement Principle

For learners of all levels of skill there are intrinsic rewards from the beginning, customized to each learner's level, effort, and growing mastery and signaling the learner's ongoing achievements.

12) Practice Principle

Learners get lots and lots of practice in a context where the practice is not boring (i.e. in a virtual world that is compelling to learners on their own terms and where the learners experience ongoing success). They spend lots of time on task.

13. Ongoing Learning Principle

The distinction between learner and master is vague, since learners, thanks to the operation of the "regime of competence" principle listed next, must, at higher and higher levels, undo their routinized mastery to adapt to new or changed conditions. There are cycles of new learning, automatization, undoing automatization, and new reorganized automatization.

14) "Regime of Competence" Principle

The learner gets ample opportunity to operate within, but at the outer edge of, his or her resources, so that at those points things are felt as challenging but not "undoable".

15) Probing Principle

Learning is a cycle of probing the world (doing something); reflecting in and on this action and, on this basis, forming a hypothesis; reprobing the world to test this hypothesis; and then accepting or rethinking the hypothesis.

16) Multiple Routes Principle

There are multiple ways to make progress or move ahead. This allows learners to make choices, rely on their own strengths and styles of learning and problem solving, while also exploring alternatural styles.

17) Situated Meaning Principle

The meanings of signs (words, actions, objects, artifacts, symbols, texts, etc.) are situated in embodied experience. Meanings are not general or decontextualized. Whatever generality meanings come to have is discovered bottom up via embodied experiences.

18) Text Principle

Texts are not understood purely verbally (i.e., only in terms of the definitions of the words in the text and their text-internal relationships to each other) but are understood in terms of embodied experiences. Learners move back and forth between texts and embodied experiences. More purely verbal understanding (reading texts apart from embodied action) comes only when learners have had enough embodied experience in the domain and ample experiences with similar texts.

19) Intertextual Principle

The learner understands texts as a family ("genre") of related texts and understands any one such text in relation to others in the family, but only after having achieved embodied understandings of some texts. Understanding a group of texts as a family (genre) of texts is a large part of what helps the learner to make sense of such texts.

20) Multimodal Principle

Meaning and knowledge are built up through various modalities (images, texts, symbols, interactions, abstract design, sound, etc.), not just words.

21) "Material Intelligence" Principle

Thinking, problem-solving and knowledge are "stored" in tools, technologies, material objects, and the environment. This frees learners to engage their minds with other things while combining the results of their own thinking with the knowledge stored in these tools, technologies, material objects, and the environment to achieve yet more powerful effects.

22) Intuitive Knowledge Principle

Intuitive or tacit knowledge built up in repeated practice and experience, often in association with an affinity group, counts a great deal and is honored. Not just verbal and conscious knowledge is rewarded.

23) Subset Principle

Learning even at its start takes place in a (simplified) subset of the real domain.

24) Incremental Principle

Learning situations are ordered in the early stages so that earlier cases lead to generalizations that are fruitful for later cases. When learners face more complex cases later, the hypothesis space (the number and type of guesses the learner can make) is constrained (guided) by the sorts of fruitful patterns or generalizations the learned has found earlier.

25) Concentrated Sample Principle

The learner sees, especially early on, many more instances of fundamental signs and actions than would be the case in a less controlled sample. Fundamental signs and actions are concentrated in the early stages so that learners get to practice them often and learn them well.

26) Bottom-up Basic Skills Principle

Basic skills are not learned in isolation or out of context; rather, what counts as a basic skill is discovered bottom up by engaging in more and more of the game/domain or game[s]/domains like it. Basic skills are genre elements of a given type of game/domain.

27) Explicit Information On-Demand and Just-in-Time Principle

The learner is given explicit information both on demand and just in time, when the learner needs it or just at the point where the information can best be understood and used in practice.

28) Discovery Principle

Overt telling is kept to a well-thought-out minimum, allowing ample opportunity for the learner to experiment and make discoveries.

29) Transfer Principle

Learners are given ample opportunity to practice, and support for, transferring what they have learned earlier to later problems, including problems that require adapting and transforming that earlier learning.

30) Cultural Models about the World Principle

Learning is set up in such a way that learners come to think consciously and reflectively about some of their cultural models regarding the world, without denigration of their identities, abilities, or social affiliations, and juxtapose them to new models that may conflict with or otherwise relate to them in various ways.

31) Cultural Models about Learning Principle

Learning is set up in such a way that learners come to think consciously and reflectively about their cultural models of learning and themselves as learners, without denigration of their identities, abilities, or social affiliations, and juxtapose them to new models of learning and themselves as learners.

32) Cultural Models about Semiotic Domains Principle

Learning is set up in such a way that learners come to think consciously and reflectively about their cultural models about a particular semiotic domain they are learning, without denigration of their identities, abilities, or social affiliations, and juxtapose them to new models about this domain.

33) Distributed Principle

Meaning/knowledge is distributed across the learner, objects, tools, symbols, technologies, and the environment.

34) Dispersed Principle

Meaning/knowledge is dispersed in the sense that the learner shares it with others outside the domain/game, some of whom the learner may rarely or never see face-to-face.

35) Affinity Group Principle

Learners constitute an "affinity group," that is, a group that is bonded primarily through shared endeavors, goals, and practices and not shared race, gender, nation, ethnicity, or culture.

36) Insider Principle

The learner is an "insider," "teacher," and "producer" (not just a “consumer”) able to customize the learning experience and domain/game from the beginning and throughout the experience.

Learning in games is active and requires commitment, it is ongoing beyond the game or beyond a classroom and it happens on multiple routes, always being incremental and situated in a context.

The scope of these 36 principles goes way further than the 16 learning principles from the article. They especially expand on the topic of affinity groups and participatory culture. Games offer the possibility to join the discourse around a game and become a producing or learning member in this group. We have also talked about this before in our *Games and Teaching Section* and we will expand on the idea of affinity spaces and participatory culture down below.

Another focus is on the attitude of the learners. Learning in games is active and requires commitment, it is ongoing beyond the game or beyond a classroom and it happens on multiple routes, always being incremental and situated in a context. It is the same with text, information is not presented in an abstracted way like in textbooks, but situated, connected with experiences and intertextual. This leads to an understanding of meaning, not just a memorization of words.

As we said before, these principles can also serve as a great approach to good learning design beyond games. But games might be the easiest way to bring these principles to your classroom. We were talking before about the changes in the classroom setup, in the roles of teachers and students and especially in the attitude of the learners and their approach to learning content. Many of the aspects that were presented before like being a prosumer, being a teacher and a learner at the same time in an affinity group around a game, can be found in Gee's principles, too. Being a linguist and a specialist for discourse analysis, Gee always connected his findings to areas of research beyond learning theories. Learning and teaching are social processes that are defined through cultural aspects, society, status, prior experience, etc. Therefore, we also aim to at least mention major concepts and theories that need to be considered when evolving your teaching by applying game-based learning. Game designers know that design, user experience, ways to create commitment and the creation and development of identities are essential to the success of their products. For education, they are attractive as well and bringing games into learning offers a valid route to enrich your classroom and the learning experiences you offer.

Complexity in games and the culture surrounding them and their potential for learning

Expanding on Gee's principles, we would like to mention another relevant aspect in your decision which game to bring to your classroom. We talked about short- and long-form games on page 65 stating that it might be better to start out by using smaller games in the classroom. Though long-form games might be harder to integrate and time might be restricted for your project, long-form games still hold special benefits that are interesting to consider for game-based learning projects.

A game and any of its associated interest-driven sites interact with each other to create learning and change over time.

Complex commercial games that are popular and have a considerable amount of players offer the opportunity to take part in what Gee calls the "Game/Affinity Paradigm" or GAP. "What this means is that if we want to know what sort of learning goes on in and around [a game], we must look not just at the game, but at both the game and any and all of its accompanying interest-driven sites. A game and any of its associated interest-driven sites interact with each other to create learning and change over time. So the unit of learning here is "game + interest-driven site"". "Good examples of the GAP create, in some cases, stiff competition for formal institutions of learning and even for the credentialed experts who come from them and inhabit them. In some cases, instances of GAP are offering young people 21st Century skills of the type sometimes not even on offer in our schools."

These affinity paradigms are to be found in the culture around specific games. They develop especially around games that offer complex systems and deep and evolving strategies to succeed in the game or other complex endeavours like design or architecture. Most of these games, like some games mentioned before (*Cities: Skylines*, *Kerbal Space Program*, *Civilization* and the like), are complex and long-form. So, they offer valuable content and the opportunity to develop precious skills by actively taking part in that paradigm inside and beyond the game. Gee describes the story of a grandmother becoming an expert in designs for *The Sims*: "Tabby Lou is passionate about making a purple potty for her granddaughter [for *The Sims*]. She finds an interest-driven site (that she eventually comes to love) and its tools to realize that passion. The site is organized in such a way that she becomes passionate about the other people on the site and their shared passion (designing for *The Sims*). Energized by these people, wanting to rise on the site and to serve others who are part of it, she persists through thousands of hours of practice with complex digital tools."

Good video games create highly complex environments that create new worlds for video-gamers, immersive worlds that intrigue, engage, and enable sophisticated learning.

“The sense of video-gamers being empowered to solve complex problems allows them to experience the feeling of in-depth understanding, to learn how to take risks and solve challenging problems. Essentially, good video games create highly complex environments that create new worlds for video-gamers, immersive worlds that intrigue, engage, and enable sophisticated learning. Good video games draw players into very challenging learning experiences and motivate them to continue, often for long periods of time. Good video games also create interesting and important problems that players need to solve in order to continue their involvement in worlds in which they love to virtually live;”

Sanford and Hopper examined the connection between video games and complexity theory and emphasised the potential of learning through game play. Through video games they see “learning as a complex and emergent process, an ongoing fluid relationship between personal knowing and collective knowledge as the learner/player observes and acts in the observed world.” Complex learning happens in adaptive, self-organising systems that offer experiences to the learner, so that the understanding and the learning happens by transforming the learner. Video games offer exactly this, adaptive, self-organising systems and simulations to play with and make sense of. Games “encourage players to focus on connections and relationships [...] rather than decontextualized skills and facts, thus encouraging meaningful learning and understanding that empowers learners to adapt their perceptions and resulting actions in the video game world. Learning is understood as an emergent process, an ongoing renegotiation of the perceived boundary between personal knowing, collective knowledge and the environment as a person observes, acts and engages in the perceived world.” Therefore the success of the medium, therefore the engagement of (young) learners with these problem-solving tools called games and therefore the recommendation to bring them to classrooms, for all age groups and skill levels, including basic skills teaching.

You might think that complex games and the learning of complex systems do not fit in education in general and in basic skills education especially, but we tend to disagree. There are several reasons for suggesting the opposite. First and foremost, many students/players might engage with these games already anyway. Besides that, you can also train the relevant basic skills within complex games and if your students show a high amount of identification with a game or a topic, the complex game might be the way to go. And finally, we would like to conclude these considerations with James Paul Gee’s view on learning in a VUCA world, a volatile, uncertain, complex and ambiguous world. According to Gee, learning in this world should focus on “Problem Solving, System Thinking, Collective Intelligence, and Participation”. Games and the cultures surrounding them can provide exactly this, as we described above. This has to do with the reasons for intrinsic motivation and extensive commitment that we will talk about in the following.

Participatory Culture and Affinity Spaces

In a report for the John D. and Catherine T. MacArthur Foundation called *Confronting the Challenges of Participatory Culture*, as part of the Media Education for the 21st Century series, the author Henry Jenkins clearly defines what can be understood as participatory culture.

Jenkins describes a participatory culture as one:

1. With relatively low barriers to artistic expression and civic engagement
2. With strong support for creating and sharing one's creations with others
3. With some type of informal mentorship whereby what is known by the most experienced is passed along to novices
4. Where members believe that their contributions matter
5. Where members feel some degree of social connection with one another (at the least they care what other people think about what they have created).

The affinity paradigms or affinity spaces we mentioned before are typical representations of participatory culture. Participatory culture exists within gaming as a whole as well as for specific games (also beyond digital games), especially long and complex games that are popular and have a large community. For Jenkins, the development of participatory digital culture is a challenge for the users as well as the educators, but it also provides great potential for life-long learning and the development of the right skill set for the 21st century digital world.

He also raises specific concerns that need to be considered when you integrate these concepts into your pedagogical work: the participation gap, the transparency problem and the ethics challenge. There is “unequal access to the opportunities, experiences, skills, and knowledge that will prepare youths for full participation in the world of tomorrow.” The transparency problem means that the “challenges young people face in learning to recognize the ways that media shape perceptions of the world.” And the ethics challenge is the “breakdown of traditional forms of professional training and socialization that might prepare young people for their increasingly public roles as media makers and community participants.” These considerations are of course also relevant for basic skills teaching and can be addressed by bringing games as one form of participatory culture and digital medium to your classroom. When you bring a very popular free-to-play game to your classroom like *Fortnite* for example all of the concerns mentioned above will be at play with its players and you can help develop the right attitude towards these games with the group of gamers in your class.

When it comes to (informal) learning in this culture Gee’s concept of affinity paradigms and affinity spaces might be relevant, if you are able to work with popular and complex commercial games. Above we have already described how the participation in these affinity groups can work. It is not easy to bring the benefits and the interaction from these groups to your classroom, but affinity spaces still have high significance for game based learning in your classroom. Gee writes:

"Affinity spaces are an important form of social affiliation today, places where effective learning occurs. They are a form with which young people today are particularly familiar. These young people are in a position to compare and contrast how learning works in such spaces and how it works in schools, not always to the credit of schools."

In another article, Gee describes the features for nurturing affinity spaces as he calls them which can be found in gaming communities that share a positive attitude and respect.

Features of Affinity Spaces

1. A common endeavor for which at least many people in the space have a passion—not race, class, gender, or disability—is primary.

2. Affinity spaces are not segregated by age.

3. Newbies, masters, and everyone else share a common space.

4. Everyone can, if they wish, produce and not just consume.

5. Content is transformed by interaction.

6. The development of both specialist and broad, general knowledge are encouraged, and specialist knowledge is pooled.

7. Both individual and distributed knowledge are encouraged.

8. The use of dispersed knowledge is facilitated.

9. Tacit knowledge is used and honored; explicit knowledge is encouraged.

10. There are many different forms and routes to participation.

11. There are many different routes to status.

12. Leadership is porous and leaders are resources.

13. Roles are reciprocal.

14. A view of learning that is individually proactive, but does not exclude help, is encouraged.

15. People get encouragement from an audience and feedback from peers, though everyone plays both roles at different times.

Nurturing affinity spaces are an exciting concept for educators having a look at digital participatory culture and games and games culture. But there are major differences between these groups and schooling and these differences make it hard to bring the nurturing culture around games to your classroom.
“People choose to be in an affinity space, while schools are expected to force (or “motivate”) students to do things they may not want to do. In an affinity space, many people share a passion. Schools (supposedly) cannot be about passions, since everyone has to do, learn, and know the same things, namely, “what every educated person ought to know””.

Though still, these spaces can be of high relevance for learning, especially if you acknowledge the (possible) participation of your students in this culture. It might be the case that they are already active members in such groups and the only thing needed to connect to this world of shared, passionate learning is to actively support and promote it.

But probably many of your students in a basic skills programme are not actively participating in such groups and cannot imagine how to or just do not have the means to be ready to join such a community of learners. This might be because they lack the equipment to actively participate and play these games. Or it might be that they just do not understand the benefit of such an approach because the only learning they know so far has been traditional schooling and this may have failed them before.

“Humans do not learn anything deeply by force. Humans do not learn anything in depth without passion and persistence. That is why, for most people, what they learn in school is short-lived unless they practice it in work or other settings after school.”

Gee calls these nurturing affinity spaces knowledge communities. “Such spaces build, transmit, sustain, and transform knowledge. But this knowledge is always in the service of something beyond itself. This does not mean such knowledge has to be practical in the sense of serving the needs of society as a whole. But it has to be in the service of doing, that is, in the service of solving problems.” So, in general, teaching should always aim at contextualising knowledge and this seems especially relevant for basic skills teaching. Instead of abstraction and decontextualization, knowledge and even challenging content and skills can be learnt thoroughly and high levels of expertise can be reached by practically every learner, if knowledge serves some meaningful purpose for the learner. This denies rote memorization of facts, standardised testing and a formula or a curriculum standard of what is to be expected of every single student to signify they have achieved what is necessary to pass the course.

Instead, assessment and therefore teaching and learning need to change dramatically. Assessment is a particularly important and central part of that change. According to Dan Schwartz, a learning scientist Gee quotes, “looking at the choices people make in a course of actions devoted to solving problems in a certain area is a much better assessment both of what they know and of how well prepared they are for future learning in the same area He suggests we should teach and assess choices, not knowledge, as content.”

Choice assessment is a very interesting topic in education but goes beyond our scope here. Still, it will be necessary to change assessment profoundly, if we want to be able to fully integrate the potential of (informal) learning in participatory culture and affinity spaces.

Self Determination Theory and intrinsic motivation

(Intrinsic) motivation seems to be some kind of silver bullet for education. If you are motivated enough, you can actually achieve almost everything as it seems. But, in contrast to extrinsic motivation based on reward systems (grades are such a reward system actually), intrinsic motivation in students is really hard to achieve. People are intrinsically motivated, if you acknowledge several aspects in their personality that are essential for intrinsic motivation. Extrinsic motivation, the motivation through external factors like reward or pressure, leads to weaker and less persistent results than intrinsic motivation. Besides that, intrinsic motivation also leads to personal well-being and thus can enhance the process of learning and work dramatically.

Perhaps no single phenomenon reflects the positive potential of human nature as much as intrinsic motivation, the inherent tendency to seek out novelty and challenges, to extend and exercise one's capacities, to explore, and to learn.

In their seminal article *Self-Determination Theory and the Facilitation of Intrinsic Motivation, Social Development, and Well-Being*, Ryan and Deci describe that it is the natural way of behaviour for human beings right after birth, what is necessary to achieve intrinsic motivation in people and what the benefits of intrinsic motivation are. “Perhaps no single phenomenon reflects the positive potential of human nature as much as intrinsic motivation, the inherent tendency to seek out novelty and challenges, to extend and exercise one's capacities, to explore, and to learn. Developmentalists acknowledge that from the time of birth, children, in their healthiest states, are active, inquisitive, curious, and playful, even in the absence of specific rewards.”

But intrinsic motivation is very dependent on a supportive environment, so Ryan and Deci’s theory describes factors that help and hinder the development of intrinsic motivation in people. Of course, this has high relevance for educators and if you as a teacher are able to facilitate intrinsic motivation in learners then the results achieved differ tremendously compared to traditional education and a system of extrinsic motivators.

In their article they show that many of the factors mentioned in Gee’s work that provide opportunities for good learning are foundational for intrinsic motivation and games are

especially good at providing these factors. Optimal challenges and instantaneous positive feedback support the feeling of competence in a learner. Besides that, “choice, acknowledgment of feelings, and opportunities for self-direction were found to enhance intrinsic motivation because they allow people a greater feeling of autonomy.” The third factor to enhance intrinsic motivation is relatedness, the sense of security and the possibility to relate to people that offer this security and can serve as a role-model.

So, a feeling of competence, autonomy and mastery is at the core of intrinsic motivation. If you can provide that for your learners, and games are a great way to do so, learning in your classroom can reach an exceptionally high level.

A feeling of competence, autonomy and mastery is at the core of intrinsic motivation.

In another article, *A Motivational Model of Video Game Engagement*, Przybylski, Rigby, Ryan tested the three major elements for intrinsic motivation, competence, autonomy and relatedness in connections with playing digital games. They found that these factors for self-determination theory are well applicable for playing games. They can be strong motivators to go on playing and immerse yourself in gameplay. Their “approach suggests that both the appeal and well-being effects of video games are based in their potential to satisfy basic psychological needs for competence, autonomy, and relatedness.”

The motivation for playing games can be very different for players. They can satisfy a number of different needs by playing their favourite games. These games should offer the ingredients for self-determination theory, but there are other reasons at play, too.

Motivation model (potential and caveats)

Motivation is key when bringing learners to learn difficult concepts and diving deep into a topic no matter which one. Motivation is also key when bringing players to play games. Above, we stated that games are actually a fantastic tool to create intrinsic motivation with players and thus they have great potential when being used as tools for learning. But, it is not that simple and you cannot follow a simple formula like playing games in general is motivating for everyone, so any game in class raises the level of motivation for all of the students.

Games can create intrinsic motivation for your students, but in game studies the motivation model for gamers has been a topic for discussion for quite a while. Starting out with the assumption by Richard Bartle from his famous article *Hearts, Clubs, Diamonds, Spades: Players who suit MUDs*, there were supposed to be four different types of players in (online) games: so-called killers, achievers, socialisers and explorers, categorised according to their orientation on two different paradigms, acting in the game vs. interacting with others in the game and player-orientation vs. world-orientation. Any player could be located within these paradigms and thus be identified as one of these four types. The general assumption made sense, but it was not supported by a sufficient amount of player data.

Players can be categorised in three different paradigms, with different motivations at the extreme end and 12 motivations underneath that make players engage with a game. The paradigms are Action vs. Social, Mastery vs. Achievement, and Immersion vs. Creativity.

Therefore, years later Nick Yee and colleagues expanded on the idea and created tools to measure the motivators for gamers with online surveys. The results indicated that players actually could be categorised in three different paradigms, with different motivations at the extreme end and 12 motivations underneath that make players engage with a game. The paradigms are Action vs. Social, Mastery vs. Achievement, and Immersion vs. Creativity (cf. the model below). The 12 motivations can be grouped under each of the headlines: destruction and excitement as part of Action, competition and community under Social, challenge and strategy as part of Mastery, completion and power under Achievement, fantasy and story as part of Immersion, and finally design and discovery under Creativity. These categories are not exclusive to each other, but they include all the possible motivations for people to play games.

Bringing games to your classroom and thus turning your students into players means that the players will be motivated one way or the other through aspects of these paradigms.

And the reasons for being motivated might be very different, one person being motivated by the social aspects in the game, another one by the possibility of being creative and a third one because of the immersion the game offers.

When we are talking about motivation here though, we are talking about long-term motivation and the ability to play a game and tackle a set of problems thoroughly and with persistence. Your students might be motivated to join in your game based learning just because of the novelty of the medium, because of the fun in playing a game or maybe because it can be played collaboratively. Still, these motivations documented by Yee can be interesting and fruitful for you as a game based learning teacher. Some games cater perfectly to players interested in some of these motivations. A game like *Minecraft* can offer engagement through all the different paradigms, but maybe only if you cover different modes of playing. And you might also offer some of the aspects of the gamer motivation model outside of the game. Especially social and creative actions can happen at the fringe of the game and your project around it or even completely outside of it.

GAMER MOTIVATION MODEL QUANTIC FOUNDRY

Action "Boom!"	Social "Let's Play Together"	Mastery "Let Me Think"	Achievement "I Want More"	Immersion "Once Upon a Time"	Creativity "What If?"
Destruction Guns. Explosives. Chaos. Mayhem.	Competition Duels. Matches. High on Ranking.	Challenge Practice. High Difficulty. Challenges.	Completion Get All Collectibles. Complete All Missions.	Fantasy Being someone else, somewhere else.	Design Expression. Customization.
Excitement Fast-Paced. Action. Surprises. Thrills.	Community Being on Team. Chatting. Interacting.	Strategy Thinking Ahead. Making Decisions.	Power Powerful Character. Powerful Equipment.	Story Elaborate plots. Interesting characters.	Discovery Explore. Tinker. Experiment.

Infobox:
Bridge, Public domain, 1925. Card game, players 4, session length 60 mins. Age rating/Recommended age 12
https://bicyclecards.com/how-to-play/bridge/

Magic the Gathering, Wizards of the Coast, 1993. Card game, players 2, session length 30 mins. Age rating/recommended age 13, https://magic.wizards.com/en
Yu-Gi-Oh! Trading Card Game, Konami Digital Entertainment B.V., 1999. Card game, players 2, session length 20 mins. Age rating/Recommended age 8, https://www.yugioh-card.com/en/
Diplomacy, Avalon Hill Games Inc., 1959. Board game, players 2-7, session length 360 mins. Age rating/Recommended age 12+, https://www.playdiplomacy.com/
Catan, Kosmos, 1996. Board & Card game, players 3 to 6, session length 45-120 mins. Age rating/Recommended age 10, https://www.catan.com/digital-games
Carcassonne https://www.asmodee-digital.com/en/carcassonne/
Codenames https://codenamesgame.com/
Risk https://www.hasbrorisk.com/en/download
Ticket to Ride https://www.daysofwonder.com/online/en/t2r/

f. Using analogue and digital games in class

i. Games and Teaching Section

Differences and commonalities in using analogue and digital games

Game-based learning is not the same for analogue and digital games. We have mentioned some aspects before, but we think it is necessary to collect all the relevant information in this separate chapter to give you an overview. Game-based learning, as we describe it here, has been mostly developed on the basis of digital games. But still, a lot of the principles for game-based learning also apply for analogue games. You can also learn in and around analogue games.

A digital game offers better opportunities to document game sessions as a whole and use the data tracked by the game as a source for assessment.

There are some major differences when bringing them to class, especially when it comes to the setup. Analogue games mostly don't need any devices to be played. But consider board or card games for example. You not only need to set them up before playing, you also need everyone to know how to play the game before using it for game-based learning purposes. Card games are often more simple when it comes to their setup and their rule set (probably with the exception of games played competitively like *Bridge*, or Collectible Card Games or Trading Card Games like *Magic the Gathering* or *Yu-Gi-Oh*), but they often also do not offer the same amount of depth as board games can. In general, if a game play session lasts longer than a lesson, you also need a place to store the board or the cards played and everything else needed for the game (or rather games, as you probably need several sets to let everyone in your class play). It might also not be that easy to pick up the game where you left because in contrast to a digital game someone has to keep track of the last session. And digital games do not only keep track of where you left, they also help you quantify what was done in the game by keeping score and giving out achievements and setting specific missions. Another important aspect sometimes

forgotten, is the fact that the computer also plays the role of game master and umpire in some situations, done by a person in analogue games if needed and can lead to a lengthy discussion, if there is disagreement about these rules. A digital game also offers better opportunities to document game sessions as a whole and use the data tracked by the game as another source for assessment. This needs to be done separately for an analogue game by doing recordings of the session on video for example. So, if you decide to play a board or card game in class and it is a more complex game and the play sessions span over several lessons, you need to prepare accordingly. Maybe take some pictures and use extra material to document the game state, the score and the standings to be well prepared for the next part of the session.

Additionally, something else only came to mind due to the fact that remote learning became prominent throughout the period of the project. It is the simple realisation that analogue games do not work well in remote learning. Digital games fit into blended learning and a flipped classroom model quite well. They can easily be played outside of class and by this may present the right way to integrate gaming in your teaching without using valuable classroom time for it. To enable such an approach with analogue games would be hard to imagine. Of course, many successful board and card games like *Diplomacy*, *Catan*, *Carcassonne*, *Codenames*, *Risk*, or *Ticket to Ride*, have also been translated to the digital space and digital versions of them are well done and easily available, so if you want to bring a (classic) board game to your classroom, but have to work remotely with your students, the digital version of a board or card game might be the way to go.

Specifics of analogue game based learning

Analogue games are a very broad field. They span from simple social games played without any equipment, role playing and riddles to complex strategy board games and collectible card games of hundreds of cards and endless possibilities of combinations. They present a wide range of social interactions and of very simple to very complex games.

As analogue games are often more abstract than digital games in their systems and their presentation, they also ask for a more elaborate connection to the curriculum than e.g. digital simulations.

They have in common that you play (mostly) without any support of digital media. If there are game tiles and boards, cards or dice, they are mostly provided with the game package when you buy it. You need to learn the game by reading the manual and playing it for a first time to understand its mechanics and systems. The games are mostly meant to be played in one session, though some games are so long that they expect you to return to it and to be stored meanwhile in a safe place to return to next time. They mostly require a specific amount of players, but this can vary widely depending on the game. Digital games also have a fixed number of players, but for some analogue games this is even more limiting. Most games can be played by two to four players, a number of others ask for three to six players. Some games even need a higher player count like *The Werewolves of Miller's Hollow* that can be played by eight to 18 players. You have to check for that and keep it in mind when bringing any game to your class. With digital games it seems easier to us to add 'players' to a game by letting two players play a single player game together, as there is nothing to hide from others or maybe more to discuss while playing depending on the game.

As analogue games are often more abstract than digital games in their systems and their presentation, they also ask for a more elaborate connection to the curriculum than e.g. digital simulations. The connection between the relevant knowledge and skills for your class and the content and the mechanics of the analogue game might be harder to establish than in a digital simulation of real-life systems and professions. Still, more general skills like communication, negotiating skills or collaboration are also an integral part of playing analogue games and can be brought to the classroom by using analogue games.

Especially if your target group does not have the affinity to digital games culture, analogue games are a great fit to bring game-based learning to this class. If your students are not used to digital games or digital tools in general, then the hurdle to bring them there might be too much to enable digital game-based learning in this classroom. If you lack the technical equipment in your teaching setting, then of course analogue games are the only opportunity to apply game-based learning in your classroom.

Escape room games

Escape rooms represent a very interesting and specific case for (analogue) game-based learning in the classroom. Escape Rooms, Breakouts, Escape Games or Exit Games started out as a digital game genre. Then, they were brought to physical locations and escape room adventures at dedicated places became a popular pastime. Due to this success, they were adapted for use in the classroom a few years ago.

An escape game follows a very specific setting. Players enter a room and their task is to escape the room in a predefined amount of time. To do so, they have to solve puzzles and riddles. Escape games in education do not use specifically prepared rooms to lock in the players and let them try to escape, rather they use a case to break into or a digital equivalent to it. The case is locked with several locks that need a combination of numbers or a key to be unlocked. Educational escape games are also developed in the digital space today using various tools from *Google Forms* and *Microsoft Powerpoint* to *Genial.ly*, *LearningApps*, *Actionbound*, *H5P* and more. They simulate the setting with several locks to find the codes and keys for.

You can use educational escape room games for assessment as well as introduction to a specific topic.

A common setup for an escape room has the following ground rules. The time to break into the case and unlock all the locks is mostly 40 to 70 minutes. There is a game master who leads through the game, helps if necessary and can give advice. The game consists of several puzzles, all related to the locks on the case or other tools the players might need to solve the puzzles like a blacklight, a lense, etc. A group of players normally consists of four to ten players and the puzzles are either all presented right from the beginning or have to be unlocked first by solving other puzzles. Of course, you can also find variations of this setup, some escape games taking a longer or shorter amount of time and others being open to less or many more players.

The potential of escape room games for teaching and learning is immense, especially as it is not only a great tool for training 21st century skills, it also offers the possibility to bring game or rather puzzle design to a classroom. You can use educational escape room games for assessment as well as introduction to a specific topic. They apply ways and means of encrypting and decrypting information, understanding the size and language of a puzzle and using information at hand to tackle a specific problem. Students work in teams, they communicate information, form hypotheses and test their ideas against a set of problems. Escape room games can be about almost everything, they can be used for every subject and are interesting to almost all age groups. They can include digital tools and information as well as all kinds of riddles and puzzles. Playing an escape room game does not automatically lead to learning the content you are presented as a participant. What

you can learn in such a game is using a game mechanic proficiently and the tools at hand to solve a specific problem. Being the game master in an escape room game and guiding the teams to victory and through challenges, gives teachers valuable insights into their students' thought processes and their ability to collaborate as well as demonstrating flexibility, grit and perseverance under pressure. Escape room sets for education like *Breakout EDU* and the *Best Case Escape Room Experience* also offer reflection cards for discussing the performance of the team within the escape room game and hint cards that can be used as a currency of information. You can trade in one of the hint cards for a specific piece of information when your team is stuck.

We mentioned before that escape room games for schools have become a popular tool among teachers. This is of course a development to support, but at the same time it also is a challenge in itself as teachers are rarely trained to design good escape room games. This leads to puzzles resembling simple worksheets and simple encryption methods, crossword puzzles and quizzes are sometimes the only game-like elements in these teacher-designed escape room games. Therefore, we strongly recommend escape room training for teachers to understand the potential and the wealth of possibilities when using escape room games as a method for teaching and learning. The Games Institute Austria and other providers train teachers all over Europe and offer courses for people interested in understanding the method and designing escape room games to be able to use this method proficiently in your teaching.

Bringing escape room design to a classroom can be very valuable, as it offers the possibility to acquire a deeper understanding of the topic at hand.

But escape rooms cannot only be used to test students in their knowledge and their use of a 21st century skill set. They are especially fruitful when you have the possibility to bring escape room design to your classroom. One of our partners in the project developed a school project about the co-creation of an escape room game with the teacher and the students as well. The students used their knowledge of STEAM topics and co-created an escape room game by researching and collaboratively developing riddles and puzzles for the game. Bringing escape room design to a classroom can be very valuable, as it offers the possibility to acquire a deeper understanding of the topic at hand. Designing puzzles and riddles is not easy. You need to know the topic at hand really well and to be able to translate this knowledge to puzzles and riddles demands an approach to the material at hand that asks the right questions. To give you one example, we will have a look at designing a multiple choice quiz for an escape room game. You do not only need to know what good questions are and what the right answers would be, you also need to come up with good wrong answers. They need to be not correct, but also need to be close to the right answer to make the decision, which answer to choose, not obvious and something

you need to consider. At the same time, the wrong answers actually need to be really wrong and unambiguous to make sure that you have a clear right and wrong in your quiz. This means that students need to dive deeper into a topic, check their understanding and test the quizzes and questions they developed.

Besides that, you will also have a look at storytelling for the game, develop prototypes that are reiterated through testing and analysis and apply many of the learning principles and theories we mentioned before. Bringing escape room games to your classroom is valuable and enhances the experience for most if not all of your students. They will take part in an action-oriented way of teaching, use scaffolding and mastery learning, will be intrinsically motivated and their learning will be social and experiential.

Examples of great analogue games for game-based learning

Agricola, Lookout Games, 2007. Board game, players 1 to 5, session length 30-150 mins. Age rating/Recommended age 12

Anno Domini, ABACUSSPIELE, 1996. Card game, various sets, players 2 to 8, session length 30 mins. Age rating/Recommended age 10

Bridge, Public domain, 1925. Card game, players 4, session length 60 mins. Age rating/Recommended age 12

Carcassonne, Z-Man Games, 2000. Board game, players 2-5, session length 30-45 mins. Age rating/Recommended age 7

Catan, Kosmos, 1996. Board & Card game, players 3 to 6, session length 45-120 mins. Age rating/Recommended age 10

Chess, Public Domain, 1475. Board game, players 2, session length 20-90 mins. Age rating/Recommended age 6

Codenames, Czech Games Edition, 2015. Board game, players 4 to 8, session length 15-30 mins. Age rating/Recommended age 10

Concept, Repos Production, 2013. Board game, players 2-12, session length 40 mins. Age rating/Recommended age 10

Diplomacy, Avalon Hill Games Inc., 1959. Board game, players 2-7, session length 360 mins. Age rating/Recommended age 12+

Dixit, Asmodee, 2008. Card game, players 3-6, session length 30 mins. Age rating/Recommended age 8

Evolution, North Star Games, 2014. Board game, players 2-6, session length 60 mins. Age rating/Recommended age 12

Istanbul, Pegasus Spiele, 2014. Board Game, players 2-5, session length 40-60 mins. Age rating/Recommended age 10

Love Letter, Z-Man Games, 2012. Card game, players 2-4, session length 20 mins. Age rating/Recommended age 10

Magic Fold, Happy Baobab, 2018. Board game, players 2-4, session length 20-30 mins. Age rating/Recommended age 7

Monopoly, Parker Brothers, 1933. Board game, players 2-8, session length 90+ mins. Age rating/Recommended age 8

Pandemic, Z-Man Games, 2008. Board game, players 2-4 (cooperative), session length 45 mins. Age rating/Recommended age 8

Risk, Hasbro, 1957. Board game, players 2-6, session length 60+ mins. Age rating/Recommended age 10

Scrabble, Mattel, 1938. Board game, players 2-4, session length about 50 mins. Age rating/Recommended age 10

Taboo, Hasbro, 1989. Board game, players 2+, session length 5-15 mins. Age rating/Recommended age 13

Ticket to Ride, Days of Wonder, 2004. Board game, players 2-5, session length 30-60 mins. Age rating/Recommended age 8

Trivial Pursuit, Hasbro, 1981. Board game, players 2-6, session length 30-90 mins. Age rating/Recommended age 12

Ubongo, Kosmos, 2003. Board game, players 2-4, session length 20-30 mins. Age rating/Recommended age 8

Uluru, Kosmos, 2012. Board game, players 1-5, session length 30 mins. Age rating/Recommended age 8

Village, Pegasus Spiele, 2011. Board game, players 2-4, session length 75 mins. Age rating/Recommended age 12

The Werewolves of Miller's Hollow, Asmodee, 1986. Card game, players 8-18, session length 30 mins. Age rating/Recommended age 8

Wizard, Amigo, 1984. Card game, players 3-6, session length 45 mins. Age rating/Recommended age 10

Digital games translated to board games:

Minecraft: Builders and Biomes, Ravensburger, 2019. Board game, players 2-4, session length 30-60 mins. Age rating/Recommended age 10

Cities: Skylines - The Board Game, Kosmos, 2019. Board game, players 1-4, session length 70 mins. Age rating/Recommended age 10

Sid Meier's Civilization: A New Dawn, Fantasy Flight Games, 2017. Board game, players 2-4, session length 60-120 mins. Age rating/Recommended age 14

Stardew Valley: The Board Game, Concerned Ape, 2021. Board game, players 1-4, session length 45-200 mins. Age rating/Recommended age 13

This War of Mine: The Board Game, Awaken Realms, 2017. Board game, players 1-6, session length 45-120 mins. Age rating/Recommended age 18

Limitations

Research around the use of analogue games for game based learning is still sparse. There are several possible reasons for this. First, many principles that describe learning in digital games also apply for many analogue games as well. Interactivity and Risk-Taking are to be found in many board or card games and other principles like Systems Thinking or Challenge and Consolidation work with certain analogue games as well. But still, the presentation is different to digital games, as the tools used for playing the games like dice, cards, or meeples create a higher level of abstraction than in digital games, due to the fact that the analogue game system has to consider different ways of presenting mechanics and game elements, as the means are more limited in comparison to digital games.

Many analogue (board and card) games and especially social games have a limited information capacity compared to digital games. This does not apply to all analogue games, some have great depth in presentation like strategy war games or collectible card games, or they have a certain meta game around them that lets the players develop strategies and come up with new solutions to a problem. Games like these, e.g. *Poker*, *Bridge* or *Magic the Gathering*, are potentially endless. You can easily finish one game, but the true potential is released when you play it over and over again.

Besides that, the field of analogue games is probably even less defined than digital games. At the fringe, you find activities like role-playing, re-enactments, or very open social activities (cf. the *ACT ESOL* activity, done at CityLit London, description in chapter 3). If you restrict the field to 'real' games only, then game based learning is more easily applicable. But sometimes the means are very limited and it might make sense to bring 'games' and play to your classroom, even though they do not fit well into set categories.

The games played in class at BFI, Vienna, eg, were both 'handmade' games (cf. chapter 3, *Connect Four* and *The Reactor Game*). They do not need a lot of expenses spent on the equipment, work well with the groups and are of course relatively simple to integrate into the existing curriculum. So, analogue games are even less definable than digital games. There is no real limit to the tools and games when it comes to diversity in experience. But still, game based learning with these tools and games can be valuable for your classroom. If you go for well-known, commercial games, you will probably also be able to integrate them into your teaching and use the game with game-based learning reflection cycles, but due to the means of presentation and the limitations in converting systems to analogue games, they might be more challenging for you as a teacher to be implemented properly in your teaching.

Analogue ‘serious’ games and board game conversions of digital games

There are also analogue ‘serious’ games by now and some of them are actually really interesting for teaching. Some titles are *Evolution*, *Climate*, *Oceans*, *Cytosis*, *Peptide* and *Photosynthesis*, or *Coding Turtles*, *Compounded* and *Subatomic: An Atom Building Game*. Of course, there are many more board and card games with educational value, especially at pre-school, Primary and early Secondary level. These are sometimes related to alternative pedagogy approaches and play an important part in early education, though they are often not explicitly used for game-based learning. They are rather a reward or a pastime in class and learning happens only accidentally. They can of course also be applied for game based learning, but with analogue games you need to be even more aware of the presentation, as these often target a young audience and therefore may lack depth or are not suitable for older target groups.

An interesting development needs mentioning in our opinion, too. As you can see in the chapters before, games are converted from analogue to digital and vice versa. Additionally, some analogue games make use of extra digital applications to keep track of the progress or add more elements to the game. But you can find most well-known analogue game classics also in great digital versions, sometimes even adding to the gameplay in the digital version. And these digital versions might be a great substitution for the analogue version, especially when it comes to distant learning or a flipped classroom model. Some games come in the look of a board or card game, but are only released in digital form (*Dicey Dungeons* for example), and some successful digital titles like *Civilization*, *Cities: Skylines*, *Portal* or *Stardew Valley* are also converted to a board or card game, often differing a lot in gameplay to the original digital game.

Roundup

But using analogue games in class sounds easier than it is, if you want to use them properly and not just as a fun activity besides teaching. You need to make sure that they are properly integrated into the lessons and the curricula, as well. And this might sometimes be even more challenging than with a digital game. You need to consider more than just finding the right game and creating material around it to create a connection to the learning goals for the specific courses. There is a game for everyone, also when it comes to using them for learning, but oftentimes circumstances like the equipment, the experience of the teacher or the knowledge and skill set of the students limit the choice of games to be used in class, especially when it comes to analogue games. There might be a great game for learning and practising financial calculations and how to set up and maintain a budget, but if it is an elaborate hour-long board game and every student needs (to buy) a copy to work with, then you have high barriers for using them in your class. So, sometimes it is more feasible to use a game that does not need a lot of setup, technical requirements or higher financial and time investment to be used for teaching, even though there is one that would perfectly fit your needs for the learning goals. The right choice might rather be a card game that does not fit perfectly, but everyone can play it without any extra expenses or equipment and it doesn’t need a lot of preparation before playing.

3. Learning Designs based on case stories from the project

a. Overview

Games tested in the project:

Every partner had to create two learning designs within the project. Due to restrictions and preferences the list of learning designs is very diverse. You can find classical computer games on the list, as well as gamified learning tools, paper games, role-playing tools and basic exercises in game design.

The following pages are going to present the learning designs done by the partners. Even though we gave guidelines to follow, you can easily realise in the following that the designs differ in length, depth and approach. As we wanted to show how complex and diverse the topic of game based learning can be, we did not unify the designs, but kept them the way they were done by the partners. This also demonstrates how different the understanding of working with games and creating learning designs was in our project alone.

The partners created the following designs:

VUC:	*Keep Talking and Nobody Explodes VR*
	Active Floor
BFI:	*Connect four*
	The Reactor Game
Platon:	*Keep Talking and Nobody Explodes PC*
	Escape Room
CityLit:	*ACT ESOL*
	Lateral Thinking Game
Fönix:	*Kahoot!*
	The Frostrune

Game Based Learning projects - structure of the presentation:

We tried to find a structure of learning designs specific for game based learning that also considers the facts and requirements of the games themselves. Some of the partners elaborated some of the parts (or even the whole design) more than others. What is the minimum to be required and what is the maximum content for such a design is still left to be decided, it is probably also dependent on the view of the teachers themselves. Our learning designs contain the following aspects:

- *Game facts*
- *Game description*
- *Target group & Setting*
- *Checklist*
- *Project outline*
- *How to embed*
- *Use in class*
- *Student Experience*
- *Testimonials & Quotes*

b. Keep Talking and Nobody Explodes - VUC

Game facts and game description:

Description:

You're alone in a room with a bomb. Your friends, the "Experts", have the manual needed to defuse it. But there's a catch: The Experts can't see the bomb, so everyone will need to talk it out – fast!

Put your puzzle-solving and communication skills to the test as you and your friends race to defuse bombs while attempting to communicate quickly before time runs out! Whether it's defusing a bomb or deciphering information from the manual, everyone has a crucial role to play.

Features

- **A co-op party game for two or more players** – While usually played in person together, you can play remotely using your favourite third-party voice chat service.
- **Face challenging puzzles** – Test the limits of your communication skills... and friendships?
- **A different bomb every time** – Procedurally generated puzzles keep the action fresh.
- **Only one copy of the game needed to play locally** – Have friends join in as Experts by printing or viewing the free Bomb Defusal Manual: www.bombmanual.com
- **Mission and Free Play Modes** - Missions increase in difficulty as new modules are introduced. Unlock Free Play Mode to set the pace by configuring your own custom bombs.
- **Steam Workshop mod support (Steam only)** – Try new community-made modules, missions, and more from the Steam Workshop! (PC/Mac/Linux only)
- **VR Supported** – Enter an unmatched immersive experience, isolated from your Experts. Swap out between rounds and share the experience with your friends!

Platforms

Mobile	iOS
	Android
PC	Mac OS X, Windows, Linux
Console	Xbox One
	PS4
	Switch
VR	PS VR
	HTC Vive
	Oculus Rift
	Google Daydream
	GearVR
	Oculus Go
	Oculus Quest
Genre	Local Co-op, Party, Puzzle
RATINGS	

Platforms

Windows, macOS, Linux, Oculus Rift/Quest/Quest2, iOS, Android

Developer:

Steel Crate Games

Based in Ottawa, Ontario, Canada

Source: https://keeptalkinggame.com/

Target group & Setting:

I played KTANE in my English classes, 9th and 10th grade.

Setting:

An ordinary classroom, e.g. 50 m2 with flexible and moveable tables and chairs arranged in groups of 4 with 4 students in each group. The students played Keep Talking and Nobody Explodes 3 times with a duration of 90 minutes each time.

Checklist:

12 *What is the age rating for the game?*

This game was rated PEGI-3 and is suitable for all ages.
Skill Rating: This game is enjoyed by 10+ year-olds as it's a good match for their ability and maturity.

Source: https://www.taminggaming.com/game/Keep+Talking+and+Nobody+Explodes

13 *How much time does the setup take?*

20 min depending on how many groups are playing

14 *How much gaming literacy or gaming skill do you need to play the game properly? Is it difficult to effectively use the interface to play the game?*

☐ very easy to use ☒ easy ☒ medium ☐ complex

15 *What is the presentation of the game in class?*

Does everyone play alone?	☐ Yes	☒ No
In teams?	☒ Yes	☐ No
Number of players per team:	☐ Yes	☒ No
Is gameplay shown to the class?	☒ Yes	☐ No
Done by the teacher?	☐ Yes	☒ No
Using an existing source?	☒ Yes	☐ No

Who provides the content and what is the context surrounding this creator? — Name/source: https://keeptalkinggame.com

Reliable, safe source? ☒ Yes ☐ No

Creation of digital footage and material? ☐ Yes ☐ No

Use of existing digital material around and for the game? ☐ Yes ☐ No

Identify the hardware you need for production or research. .....

Identify the software you need for production or research. .....

16 *How much time do I need to learn the basics of the game?*

120 Minutes

17 *What is the overall playtime needed to fulfil your task?*

180-225 Minutes

Does the playtime need to be in the lesson?	☒ Yes	☐ No
Can it be done (partly) at home?	☐ Yes	☒ No
Are there enough devices for this case for the students?	☒ Yes	☐ No

18 *What is the minimum time for one play session?*

20-30 Minutes

How many play sessions are needed in your project?	4-6
How many lessons do you dedicate to the project in your timetable/schedule?	4-6

Do you only play/show the game in class?	☒ Yes	☐ No

Game Based Learning Checklist

Keep Talking and Nobody Explodes

Game

1 What are the platforms the game was released on:

Analog:

☐ Card game	☐ Role playing	☐ Puzzle
☐ Board game	☐ Quiz	☐ Escape Room
☐ Social game	☐ Riddle	☐ Other

Creation of digital footage and material?	☐ Yes	☐ No
Use of existing digital material around and for the game?	☒ Yes	☐ No
Identify the hardware you need for production or research.	☒ Yes	☐ No
Identify the software you need for production or research.	☒ Yes	☐ No

Digital:

☐ Browser	☒ PlayStation 4	☒ Android
☒ Windows	☐ PlayStation 5	☒ iOS
☒ MacOS	☒ Xbox One	☐ Android AR
☒ Linux	☐ Xbox Series S/X	☐ iOS AR
☐ Windows AR	☒ Nintendo Switch	☐ Android VR
☐ MacOS AR	☐ Other	☐ iOS VR
☐ Linux AR		
☐ Windows VR HTC Vive		
☐ Windows VR Oculus		
☐ Other		

Add description from store page: Source: https://www.bombmanual.com/how-to-play-pc.html

Requirements
Windows 7 or higher for PC. Mac OS X 10.9 or higher for Mac. SteamOS/Ubuntu 16.04 or later for Linux.
A mouse, trackpad, or gamepad can be used to play.
Two or more players.
Play locally with friends in the same room or play remotely using your favorite voice chat service.
Any number of players can participate as Experts: it's up to the Experts to work efficiently as a team!
A copy of the Bomb Defusal Manual in paper or digital form.

2 What are the hardware requirements for the computer?

Source: https://www.bombmanual.com/how-to-play-pc.html

Defuser Controls: Mouse, gamepad

3	*Is an internet connection needed?*	☒ Yes	☐ No
4	*Is an internet connection required permanently?*	☒ Yes	☐ No
5	*Is the game light or heavy on internet use?*	☐ Light	☐ Heavy
6	*How much space does the game need on a drive?*	☐ Light	☐ Heavy

7 *How many players can use one unit of the game?*

2 to ? Players — How many devices are needed in class? One per group ____ Devices

8 *What is the interface used for the game?*

Keyboard:	☐ Yes	☐ No
Mouse:	☒ Yes	☐ No
Controller:	☒ Yes	☐ No
Touch:	☐ Yes	☐ No
Other:	☒ Yes	☐ No

9	*Do I have enough units for all players?*	☒ Yes	☐ No

10 *What is the price for one unit?*

14.99 USD

If the game is for free, what is the monetization model in the game?

11 *Where can I buy the game?*

https://keeptalkinggame.com/#aboutgame

Is there any sensitive or inappropriate content in the game? ☐ Yes ☒ No

Project outline:

The idea and purpose of bringing KTANE to the classroom was because learning should be fun. Furthermore, I have experienced the advantages of game-based teaching in my classes regarding the students' motivation to attend school, and how it could improve their learning outcomes and help them succeed with their education. Acknowledging the benefits of game-based teaching and learning, I believed that KTANE would contribute to build confidence in the classroom by improving the students' motivation, socialisation, solidarity, collaboration and thus their learning success, because of the hidden learning scenarios that occur playing games. The students learn without really knowing it, as they have to use their proficiency in a subject or their foreign language skill to be able to solve a problem or a task etc., and without realising it, they practice an area from the curriculum and some of the skills mentioned.

Learning goals

- To communicate and collaborate in English
- To improve the students' English language skills, their vocabulary and fluency.

Introduction:

Having decided that the students should play KTANE, I had to think about how to implement it successfully. First, I had to learn how to play the game myself, so the first step was to talk to a colleague, who had already played it in class, and could introduce me to the game, the VR glasses and the manual. We played the game a few times, meanwhile my colleague told me all about her own experiences combined with some tips and tricks.

Secondly, it was very important to me to give the students the correct introduction, so they felt confident playing the game and wouldn't back out of it, if they e.g. thought it seemed too difficult.

How to embed:

Bringing KTANE to your classroom, as a teacher, maybe you may have to think differently about how you define successful teaching, e.g., in regard to the loss of control – when handing control over to the students, while they are playing and you as the teacher can still be confident that they are learning something – because they do! Playing games, the students practice a number of skills e.g., they collaborate as a team, they are social and active, they plan a strategy to be capable of playing the game the best way and to win – here to be able to defuse the bomb.

Use in class:

Introduction:

- First, I described the game.
- Goal: To defuse a bomb by disarming all its modules before its countdown timer had expired.
- Then I showed them the manual.
- I explained that they should work in groups of 4 – and by communicating and collaborating they should guide the person with the VR glasses, so he or she would be capable of defusing the bomb.
- Then I showed the students a bit of the video on YouTube, so they could see what the bomb and some of the modules looked like.
- We agreed that the first sessions should be in Danish until they felt confident about playing the game and then they could switch to English.

1. Level: First session:

- In groups of 4 the students chose the person who should wear the VR glasses.
- I showed “the player” how to use the remote control and guided her through the manual to the first task, called “The first bomb”.
- The other students had a look at the manual and chose a module each to focus on during the process.
- We jumped into the game and I joined the group and if needed explained to them what to do and how to use the manual in order to disarm the modules.
- After 3 sessions they felt confident about the game and knew how to play it. They were ready to play the game on their own and I left the group.
- They played the game 3 times before switching to English.

2. Level: Second session:

- In groups of 4 the students should jump to the next level and defuse the bomb called “Something old and something new”.
- As a pre-task, each of the group members should describe the keypads in the module “On the Subject of Keypads”.
- The goal with this task was to find a common language in the group, since each person describes and compares the keypads individually and to be able to find the correct keypad in the manual– the group members had to understand the description and the symbols the player e.g. compared the keypads to.

Evaluation:

In plenum, we evaluated the students’ experiences and their learning outcomes playing the game.

Student experience, testimonials and quotes:

- *Keep Talking and Nobody Explodes* is a lot of fun and a brilliant game that the students truly enjoy playing.
- The students felt motivated playing the game and were very positive about it.
- Some of them had a lot of obstacles talking English but felt confident communicating when playing the game.
- Many of them realised that it wasn’t that difficult to play the game in English because of the manual written in English.
- Having played the first session, the students found it very useful to work with the module called “On the Subject of Keypads” by describing the keypads individually in the groups in order to find a common language which would improve the process when trying to disarm the module.
- Positive feedback from the students - who were non-gamers. One mentioned "that it was a different and fun way to learn English.
- The students enjoyed playing KTANE and asked if they could play it again next semester.
- A few students were not that keen on wearing the VR glasses but preferred the roles as experts.

Students:

- “It was a different and fun way to learn English.”
- “Because of the help needed from the experts in order to be able to defuse the bomb, VR made it easier to venture into speaking English.”

c. Active Floor - VUC

Game facts and game description:

Description:

Interactive learning, movement and fun!

ActiveFloor is an interactive floor where children navigate in and play various activities and learning games by using their feet.

An interactive floor for any child (and adult) who likes to play

With an interactive floor you give kids of all ages the possibility to learn and develop – both intellectually, physically and socially – in the way that is the most natural for them: by using the whole body.

Right now, you can find ActiveFloor at schools, nursery schools, libraries, hospitals and in various playing areas all around the world.

Active Floor consists of three main elements:

1. A ceiling-mounted installation box with a projector and a computer.

2. A camera that tracks movement.

3. A white vinyl floor that makes up the foundation of your interactive playing area.

“Teachers and students, children and educators across the world love Active Floor”

For many years, students have been asked to sit still when they have been taught to read, write and do maths – but today we know that bringing in movement over the course of the day can further students’ learning, motivation and their well-being at school.

With an interactive floor from ActiveFloor, the students get an equal approach to auditive, visual and kinetic learning. ActiveFloor creates greater interactivity and makes it possible to strengthen the collaboration and communication in the classroom.

The learning games with content for maths, language arts and science provide you, as a teacher, with plenty of opportunities to integrate movement and ‘fun’ in the teaching of students – and you can even make your very own game content. When you work with

movement and gamification, you catch the students' attention in a whole new way while you bring in the learning targets of the individual subjects.

Interactive learning game templates:

ActiveFloor has developed a great number of learning games that are ready for use, but teachers as well as students can easily make their very own learning content, by uploading their own content through our website, and thereby creating their own games. Do you teach **maths**, **English** or **science**? You can decide the content and the degree of difficulty that suits you.

Source: https://activefloor.com

Target group & Setting:

I played ActiveFloor in the subject English language teaching.

Target group:

9th and 10th grade.

Setting:

The classroom with The ActiveFloor projector installed. 4 teams of max 4 participants per team.

Checklist:

Game Based Learning Checklist

Active Floor
Game

1 What are the platforms the game was released on:

Analog:

☐ Card game	☐ Role playing	☐ Puzzle
☐ Board game	☐ Quiz	☐ Escape Room
☐ Social game	☐ Riddle	☐ Other

Creation of digital footage and material?	☐ Yes	☐ No
Use of existing digital material around and for the game?	☒ Yes	☐ No
Identify the hardware you need for production or research.	☒ Yes	☐ No
Identify the software you need for production or research.	☒ Yes	☐ No

Digital:

☐ Browser	☐ PlayStation 4	☐ Android
☒ Windows	☐ PlayStation 5	☐ iOS
☐ MacOS	☐ Xbox One	☐ Android AR
☐ Linux	☐ Xbox Series S/X	☐ iOS AR
☐ Windows AR	☐ Nintendo Switch	☐ Android VR
☐ MacOS AR	☐ Other	☐ iOS VR
☐ Linux AR		
☐ Windows VR HTC Vive		
☐ Windows VR Oculus		
☒ Other		

Add description from store page: https://activefloor.com/en/interactive-floor/

ActiveFloor's interactive floor consists of three main elements:

1. A ceiling-mounted installation box with a projector and a computer.
2. A camera that tracks movement.
3. A white vinyl floor that makes up the foundation of your interactive playing area.

Place the interactive floor in a room or hallway occupied by the children, and derive full advantage of the floor.

2 What are the hardware requirements for the computer?

Vinyl floor (3x4 metres).
Wireless keyboard.
Hosting with usage report every quarter.

16:10 projector kit.
Tracking camera.
Installation box & installation materials.

PC windows 8/10.
Standard speakers.
Hotline service agreement with on-site service.

3 *Is an internet connection needed?* ☒ Yes ☐ No

4 *Is an internet connection required permanently?* ☒ Yes ☐ No

5 *Is the game light or heavy on internet use?* ☐ Light ☐ Heavy

6 *How much space does the game need on a drive?* ☐ Light ☐ Heavy

7 *How many players can use one unit of the game?*

1-? Players How many devices are needed in class? 1 Devices

8 *What is the interface used for the game?*

Keyboard:	☒ Yes	☐ No
Mouse:	☒ Yes	☐ No
Controller:	☐ Yes	☐ No
Touch:	☒ Yes	☐ No
Other:	☐ Yes	☐ No

9 *Do I have enough units for all players?* ☐ Yes ☐ No

10 *What is the price for one unit?*

If the game is for free, what is the monetization model in the game?

The price of interactive floor is divided into to –
the hardware price and the software price.
When buying an ActiveFloor, you will make a one-time payment and get ownership of the equipment.
After this, you may choose to purchase a subscription to a technical support and software package, lasting 36, 24 or 12 months – it will always be possible for you to extend the period.
A support and software package will ensure that your ActiveFloor is going to work at optimal performance, and that you have free technical support 24/7.

11 *Where can I buy the game?*

https://activefloor.com/en/the-price-of-interactive-floor/

Is there any sensitive or inappropriate content in the game? ☐ Yes ☒ No

12 *What is the age rating for the game?*

?

13 *How much time does the setup take?*

10 minutes

14 *How much gaming literacy or gaming skill do you need to play the game properly? Is it difficult to effectively use the interface to play the game?*

☒ very easy to use ☒ easy ☐ medium ☐ complex

15 *What is the presentation of the game in class?*

Does everyone play alone?	☐ Yes	☒ No
In teams?	☒ Yes	☐ No
Number of players per team:	☒ Yes	☐ No
Is gameplay shown to the class?	☒ Yes	☐ No
Done by the teacher?	☒ Yes	☐ No
Using an existing source?	☒ Yes	☐ No

Who provides the content and what is the context surrounding this creator? — Name/source: https://activefloor.com/en/interactive-learning/

Reliable, safe source? ☒ Yes ☐ No

Creation of digital footage and material? ☐ Yes ☐ No

Use of existing digital material around and for the game? ☐ Yes ☐ No

Identify the hardware you need for production or research.

Identify the software you need for production or research.

16 *How much time do I need to learn the basics of the game?*

30 Minutes

17 *What is the overall playtime needed to fulfil your task?*

45 Minutes

Does the playtime need to be in the lesson?	☒ Yes	☐ No
Can it be done (partly) at home?	☐ Yes	☒ No
Are there enough devices for this case for the students?	☒ Yes	☐ No

18 *What is the minimum time for one play session?*

15-20 Minutes

How many play sessions are needed in your project? 4

How many lessons do you dedicate to the project in your timetable/schedule? As many as possible

Do you only play/show the game in class? ☒ Yes ☐ No

Project outline:

The idea and purpose of incorporating ActiveFloor in the classroom was because learning should be fun. Furthermore, I have experienced the advantages of game-based teaching in my classes regarding the students' motivation to attend school, and how it could improve their learning outcomes and help them succeed with their education. Acknowledging the benefits of game-based teaching and learning, I believed that ActiveFloor would contribute to build confidence in the classroom by improving the students' motivation, socialisation, solidarity, collaboration and thus their learning success, because of the hidden learning scenarios that occur playing games. The students learn without really knowing it, as they have to use their proficiency in a subject or their foreign language skill to be able to solve a problem or a task etc., and without realising it, they practice an area from the curriculum and some of the skills mentioned. Finally, they laugh and have a good time together.

As a part of the curriculum, in my 9th grade English language teaching class, Canada was one of the topics with following overall learning goals:

1. To Learn about Canada, the country, the people and the Canadian culture
2. To be able to use new words
3. To be able to make a summary of a text
4. To understand the main contents of text
5. To be able to ask and answer questions
6. To be able to compare the Canadian culture to the Danish culture

I decided to incorporate an ActiveFloor INTERACTIVE MEMORY GAME to the learning design to help the students achieving following learning goals:

1. Enlarging their vocabulary – They had to learn new words and afterwards, in pairs to be able to make a summary of the read text: "Canada – Great and Diverse" using only 10 different pictures in the book as key words.

2. Pronunciation: They had to read and pronounce the new words.

ACTIVITY: INTERACTIVE MEMORY GAME:

The students should play an interactive memory game consisting of 10 tricks or 20 cards – with 10 new words from the text read and an English explanation of the words. When they turn the cards, they should pronounce the words.

Introducing and presenting the topic Canada in class, I described that they were supposed to play the ActiveFloor interactive memory game, learning new words. Many of the students were already familiar with ActiveFloor and knew some of the games and templates available on the platform as they had played them earlier in class, and they looked forward to playing the new game. The students were divided into 4 teams of max. 4 participants per team and played the memory game 3 times for approximately 45 minutes.

How to embed:

Bringing ActiveFloor to your classroom, as a teacher, maybe you may have to think differently about how you define successful teaching, e.g., in regard to the loss of control – when handing control over to the students, while they are playing and you as the teacher can still be confident that they are learning something – because they do! Playing games, the students practice a number of skills e.g., they collaborate as a team, they are social and active, they plan a strategy to be capable of playing the game the best way and to win.

Use in class:

Topic Canada:

Introduction: Word Zoom activity:

As an introduction to the topic Canada, we made a word zoom. The students should write down all the words they knew with the letter C and afterwards, in pair work tell them to each other. In plenum, all the students mentioned one of their words and then in groups of 4, they should make sentences with the words and read them out loud to each other.

Introduction: Pre-reading activity:

As a pre-reading activity, in a plenum on a Padlet wall, in groups of 4, they should answer 4 opening questions to the topic Canada and afterwards, read their answers out loud to the whole class.

The next task was to read an informative text about Canada – Called “Canada – GREAT AND DIVERSE”

In plenum, we read and listened to the text. Afterwards, in groups of 4, the students should translate the text into Danish orally. We did that in plenum as well and one of the grammar areas was to focus on the use of normal and inverse word order when translating the text into Danish.

ActiveFloor: INTERACTIVE MEMORY GAME:

4 TEAMS OF MAX. 4 PARTICIPANTS PER TEAM.

ACTIVITY: INTERACTIVE MEMORY GAME:

In teams, they should play an interactive memory game consisting of 10 tricks or 20 cards – with 10 new words from the text read and an English explanation of the words. When they turn the cards, they should pronounce the words.

Afterwards, in pairs they should make a summary of the text: "Canada – Great and Diverse" using only 10 different pictures in the book as key words, practising their vocabulary and the new words learned from the Active Floor interactive memory game.

Evaluation:

The students had to reflect over the process:

- How was it to play the interactive memory game in order to learn new words and to enlarge their vocabulary?
- What was it like to make a summary of the text only by looking at the pictures in the book using the new words?

Student experience, testimonials and quotes:

Why is this an optimal learning strategy?

- They have to collaborate as a team.
- They have to be social.
- They have to be active – by jumping around.
- They have to focus in another way than they normally do by using both their feet and their brain to be able to turn cards and get tricks.
- They have to plan a strategy in order to play the game the best way possible and to win.
- They laugh and have a good time together.
- It is very motivating for the students – many of them want to be competitive and to win – and to be capable of doing that – they have to practice all the skills mentioned and enlarge their vocabulary by learning the words and remembering them.

d. Connect Four - the article game

Game facts

The game “Connect Four – the article game” is a self-developed game for people with German as a second language or with learning difficulties.

The game - a short description

The educational game was developed according to the game “Connect four” as an interactive whiteboard version.

Target:

To memorise and use articles in a correct way. Game for two teams. The first group who has a set of forms completed the correct way (vertical, horizontal or diagonal) is the winner.

Activity:

The class is divided into several teams (2 – 4 groups with 4 people). Two teams always play against each other. The other classmates listen to the game and monitor answers and the discussions.

Duration:

One play session takes about 10 minutes (without feedback and repeating the grammar). Overall duration introduction, feedback and grammar included takes about 30 – 35 minutes.

What can be learned by playing the game?

- strengthening of knowledge about articles and their right use in the German language
- communication in the group
- decision-making

Subjects:

The game can be used in German as a second language class and it can easily be adopted to other foreign language classes as well as to mathematics (e.g. multiplications, addition, subtraction, division).

Requirements (see also Checklist below)**:**

Digital – requirements:	Interactive Whiteboard	
	Internet connection	
	Interactive whiteboard pencils	
	PC or Laptop	
	iOS and/or Android App	
	Software for Whiteboard	
	Office account	
	One unit per game	
	Self-programming possible	
Analog – **requirements**:	Paper and pencil (for notes)	
	Stopwatch	

Game description

Nouns are collected from the class and written in the matrix into the 1st horizontal column.

Noun	Nominative	Genitive	Dative	Accusative
die Frau (woman)				
der Mann (man)				
das Kind (child)				
das Spiel (game)				
die Gruppe (group)				

- After the noun collection process each group takes turns and sets one article plus the
- Correct ending of the noun in one column. Start is the first row but the column (with cases) can be selected.
- The vertical columns are filled with the right article in its specific case (in German three articles and 4 cases).
- The first group that has 4 right answers in a row (vertical, horizontal or diagonal) is the winner of the game.

Vertical – correct answers:

Noun	**Nominative**	**Genitive**	**Dative**	**accusative**
die Frau (woman)	die Frau	der Frau	der Frau	die Frau
der Mann (man)				
das Kind (child)				
das Spiel (game)				
die Gruppe (group)				

Horizontal – correct answers:

Noun	**Nominative**	**Genitive**	**Dative**	**accusative**
die Frau (woman)	die Frau			
der Mann (man)	der Mann			
das Kind (child)	das Kind			
das Spiel (game)	das Spiel			
die Gruppe (group)				

Diagonal – correct answers:

Noun	**Nominative**	**Genitive**	**Dative**	**accusative**
die Frau (woman)	die Frau			
der Mann (man)		des Mannes		
das Kind (child)			dem Kind	
das Spiel (game)				das Spiel
die Gruppe (group)				

Duration: About 10 min (plus reflection time)

Material: Interactive Whiteboard, PC, internet, iOS and/or Android-App for using whiteboard, software, office account (most of the time), whiteboard pencils, paper and pencils, stopwatch

Target group & Setting

- People with German as a second language
- People with learning difficulties

The **target group at BFI Vienna** for the game “Connect four – the article game” was:

Young adults and adults from the learning workshop (15 - 21 years) with a positive compulsory school-leaving certificate and a need for selective qualification in the fields of mathematics, German, English and/or ICT. Most of the persons had compulsory school only and no further (VET) training.

About two thirds of the target group had German as a second language. All of them are registered as unemployed at the labour market service and sent to BFI Wien to further develop their competences mentioned above as well as general knowledge with the target to make them fit for the entry into the labour market.

Setting

- In classroom
- At the end of a lecture
- Two teams of 4 people play against each other

Checklist

Checklist		
Digital – requirements:	Interactive Whiteboard	
	Internet connection	
	Interactive whiteboard pencils	
	PC or Laptop	
	iOS and/or Android App	
	Software for Whiteboard	
	Office account	
	One unit per game	
	Self-programming possible	
Analog – requirements:	Paper and pencil (for notes)	
	Stopwatch	
Presentation in class:	In teams of four people	
	Gameplay shown by the teacher	
	Content (nouns) are provided by the players /students	

Duration:	Game explanation 10 minutes	
	Overall playtime 10 minutes	
	Feedback and grammar brush up 15 minutes	

Project outline

The game was used in German classes at the end of the class.

German articles (masculin, feminin, neutrum) in its four cases (nominative, genetic, dative, accusative) are a challenge for people with German as a second language, in general for non-native speakers. To practice and repeat them is very important to memorise the gender of the article and enable students to build grammatically correct sentences.

How to embed

1. Introduction to the lesson

To introduce the game it is important to:

- explain the game, game target and rules
- explain the matrix (column horizontal and vertical and rows)
- tell the time limit (20 seconds per article)
- put students into teams/groups - approximately 4 per group. Two teams play against each other.
- Tasks explanation to those who are watching the game (take notes of answers and the discussion for the feedback).

2. Let's start the game

- Collect about 10 nouns from the class.
- The teams/groups form.
- The first group starts with setting the first article in the first row.
- They have **20 seconds** to log in the article. They can discuss it in the team. There is one log in chance only. Incorrect articles disappear. Correct articles log in.
- The other playing team sets their article. And so on.

The **game ends** when the first group has set four correct articles in a row (vertical, horizontal or diagonal).

3. Reflection

- The classmates who watched and made notes are asked for findings.
- The articles and grammar rules can be repeated again.
- Main errors can be identified.

Use in class

Reason why we have chosen the game?

This game was chosen because it is a short game (about 10 mins per round) to deepen the understanding and knowledge of German articles in a relaxed atmosphere. German articles (feminin, masculin, neutrum) in its cases (nominative, genitive, dative, accusative) are a challenge for people with German as a second language, in general for non-native speakers. To practice and repeat the articles it is important to memorise them. This enables students to build grammatically correct sentences.

In general, the students like to play the game, because it is fun and it is a change from boring grammar lessons. The students realise that they learn while playing and that they start talking without having fear of saying something wrong.

Also the discussion after the game is much easier because the game makes a good and relaxed atmosphere. It is very good to identify and correct main errors. Because the game is linked to fun, the students memorise the correct article more easily.

Adaptation: The game can easily be adapted to other basic grammatical tasks and also mathematical functions to train mental calculations.

Testimonials & Quotes

The trainer's experience:

It is an excellent game to play at the end of a lesson. It is fun, the students start moving around, talk to each other and they are able to deepen their knowledge and get more confident in using articles and nouns.

- Students strengthened their knowledge of articles and the right use in the German language.
- They started to talk in a very relaxed atmosphere without having fear of using the grammar the wrong way.
- They learned new nouns.
- The students work in a team.

Student Experience

The students had fun playing the game. They said that they didn't realise that they were learning while playing the game, because it was so fast. Moreover they observed that they were talking much more than in a normal setting because of the focus upon playing.

e. Reactor Game

Game facts

The game - a short description

The Reactor game is an analogue **strategic game** played in groups of 8 – 15 persons. One team plays, the other monitors the game and gives feedback afterwards.

The goal of the game is to get the cup of water out of the playing field without damage by using devices from the playground only.

Activity:

The course group is divided into two groups (8 – 15 persons). One group is playing and the other one watches and monitors the game.

Duration:

One play session takes approximately **30 minutes** (exclusive feedback and introduction session). Overall play session, inclusive introduction, lecture on feedback and feedback session the games take about 120 – 140 minutes.

What can be learned by playing the game?

The learning goals in specific are:

- Ability to work in a team
- Communication skills - possibly conflict resolution skills
- Collaboration skills
- Problem solving ability
- Readiness for execution
- Decision-making capacity
- Results-oriented action
- Initiative
- Analytical and strategic thinking
- Openness to change
- Organisational skills
- Imagination
- "Out of the box" – thinking

Subjects:

As a strategic play in the group finding process and during professional orientation / fit for the labour market workshops to reflect on various topics / skills / competences needed at a workplace.

Requirements (see also Checklist below):

Analogue game – devices for the playground:	Big classroom	
	1 big bucket	
	1 bucket	
	1 small bucket / cup with water	
	3 chairs	
	Telescope stick for selfies	
	Various sticks (long, soft, hard, etc. sticks)	
	Scoop	
	Rope	
	Cord – 5 metres	
	Large foam cube	
	Tape	
	Feedback – monitoring sheets	
	Pencils	
	Smartphone	
	Monitoring sheets (one per person)	

Game description

The Reactor game is a strategic game for a whole course group (8 - 15 persons). In the game a reactor emergency is simulated, in which a defective reactor must be recovered quickly and in compliance with safety precautions (but without time limit). In a 4 x 4 m marked playing field, there is a barrel exactly in the middle. In this bucket is another bucket and in the bucket again a cup of water (= reactor). **The goal** of the players is to get this bucket of water out of the playing field without damage.

Rules of the game are:

Entering, encroaching on or bending over the edge of the playing field is forbidden as well as other aids that are not available. The use of your own smartphones is permitted. The ticking of a Geiger counter provides an acoustic background to the game.

Target group & Setting

Target group

All young adults and adults

Setting

- Pair groups and small groups in the feedback lecture
- Classroom has to be big enough that students can walk around
- Groups from 8 – 15 persons

Preparation classroom for the game:

The trainer needs to define a room with enough space for the game. In the middle of the room the playing field is set up. Chairs and tables are placed at the edge of the classroom, in such a way that the monitoring group is able to follow the game and see the players and that the players have enough space to walk around the field. In the playing field, the trainer sets up the game.

Checklist

Checklist		
Analogue game – devices for the playground:	Large classroom	
	1 large bucket	
	1 bucket	
	1 small bucket / cup with water	
	3 chairs	
	Telescope stick for selfies	

	Various sticks (long, soft, hard, etc. sticks)	
	Scoop	
	Rope	
	Cord – 5 metres	
	Large foam cube	
	Tape	
	Feedback – monitoring sheets	
	Pencils	
	Smartphone	
	Monitoring sheets (one per person)	
Set up – duration:	25 minutes	
Presentation of the game in class:	Introduction by the teacher (15 minutes)	
	Lesson on feedback before the play (50 minutes)	
	8 – 15 persons form two teams (1 team on the playground / 1 team monitoring team)	
Duration – play session:	30 minutes / session	
	Feedback 20 minutes	

Project outline

The interactivity in solving a real problem strengthens the group as such and trains the social skills. The participants train their ability to work in a team by developing the opinions and thoughts of others as well as by being able to engage in group processes. Facts and ideas must be clearly defined and described in the group. By applying their problem-solving skills, they identify the problem at hand, design and develop communication structures and jointly work out rules for the approach to the task at hand.

How to embed

1. Before the lesson: Workshop on Feedback

It is important to start with a comprehensive introduction to the game. As this game has a focus on soft skills and social competences, it seems to be necessary to have a short workshop on feedback and its rules. This can also be done in communication or language lessons.

In this introduction phase, it is important that the students get prepared as the persons who monitor the game. On the one hand, they should get familiar with the observation sheet, on the other hand, the students have to learn how to communicate their monitoring to the group that is playing. That means to form sentences regarding feedback rules:

- Describing and avoiding to evaluate: describe your own perception and reaction.
- Use clear and precise formulations: Feedback shall be comprehensible.
- Descriptions without moral condemnation to avoid rejections on feedback.

This can be practised first in pairs and then in small groups. During this exercise the trainer shall circulate between the pairs / groups and work intensively for some minutes on the right wording. Examples and reflections on wordings can be done in the group after the practical part.

REACTOR GAME – MONITORING SHEET

Type	Comments group general	Comments individual
Organisational skills		
Communication		
Analytical thinking		

Group building		
Initiative		
Problem solving		
Decision making		

Conflict solution		
Other comments		

2. Introduction to the lesson

- Explanation of game, goal and rules
- Put students into groups / 4 – 8 persons per group (players / monitoring persons)
- Explanation of observation sheet and rules

It is of advantage that two or three trainers accompany the game.

3. Let's start the game

- The groups form. The monitoring group takes a seat and the players start the game.
- Teachers have a monitoring role.

TIP! If this game is used in language classes, then one trainer shall focus upon language skills and take notes to be able to work on this in following language classes.

- There is no time limit.

4. Reflection on the game:

When players were able to save the little bucket with water and/or failed and/or break up the challenge, the reflection of the game starts.

First the players are asked

- How they felt
- What they guess they have learned
- What were the challenges in the group, etc.

Then the monitoring group has to give feedback to the group:

- What they have seen regarding the process of forming groups
- Communication in the group
- Strength of the group / individuals
- Who were the initiators
- Conflict solution processes
- How was the decision making process
- How were problems solved in the group
- Analytical thinking
- Organisational skills

Feedback by the trainers

After that the trainers sum up the reflections and each of the players has the possibility to ask questions, to further elaborate reflections / feedback.

TIP! If you play the game with students that are trained as teachers, various occupations in the social field, etc. you can also take a video when playing the game and watch it for further feedback in the class.

Use in class

Reason why we have chosen the game

One of the targets of the BFI learning workshop is to prepare students (age 15 - 21) for the labour market / an apprenticeship training in the dual system, as well as give them insights into the world of labour. The reactor game makes group processes / working in a group tangible. In the game's reflection process, it is possible to discuss / reflect upon communication and organisational skills, problem solving skills, collaboration, etc. As these are key skills and competences for work, we use the game to create links between the experience the students had in the game and the world of labour.

We implemented the game in the context of communication training.

Testimonials & Quotes

The trainers´ experience:

It was very easy to motivate the group to play this strategic game. Observing the game and each group participant, gave them the possibility to further work on these competences in the group. Moreover, they had the possibility to see strengths of their students, social competences, communication skills, etc.

The game strengthens the following skills and competences:

- Students got the ability to work in a team.
- They learned to communicate and to solve conflicts.
- They had to foster their capability to cooperate.
- The students had to work on their ability to solve problems and they had to make decisions.
- Some students had to take over the initiative.
- Analytical and strategic thinking as well as out-of-the box thinking was very important.
- Some used their organisational skills.

Student Experience

In general, the students loved the game. They started moving, started to communicate without fear and were able to meet each other and perceive themselves in different ways compared to regular lessons. The students liked the new challenge and they had lots of fun. During the feedback process, they realised how comprehensive the game was and what they had learned regarding communication, meeting new challenges, organisational

skills, etc. The students were really amazed by what they got out for themselves, e.g. how do I work together in a group, what is my role, am I able to find new ideas, am I the initiator or rather the person who organises the group, etc.

Students' statements:

Student 1: *"I liked the game. It was good to work together with my colleagues. Each one of us had different ideas."*

Student 2: *"I would like to play the game again, because I am sure that we can make it the next time."*

Student 3: *"We worked as a team and that was very good."*

Student 4: *"In the end, it was no problem that we were not able to save the bucket."*

f. Keep Talking and Nobody Explodes PC

Game facts and game description

The game is called “Keep Talking and Nobody Explodes” (PC version). You can either find it on HUMBLE STORE or STEAM. The game is about defusing a bomb. Your friends, the “experts”, have the manual needed to defuse it. But there’s a catch: the experts can’t see the bomb, so everyone will need to talk it out – fast! Put your puzzle-solving and communication skills to the test as you and your friends race to defuse bombs quickly before time runs out!

The game can be played by people aged from 12 to 99 years old.

Target group & Setting

The game was played in the ICT classroom of the school. There were 20 students divided in 5 groups. Each group had 1 defuser and 3 experts. Only the defuser could see the screen of the PC and the Experts had a printed version of the manual in their hands. The defuser had to describe the bomb to the experts in English (which was not their native language) and the experts had to give the instructions also in English.

Checklist

in another pdf document “GBT Checklist KTANE PC”

Project outline

The game was used in English class. The students had to communicate in English, and it was really nice to do it while they were playing. For our first session with the game, we had an introductory session. First, we watched the trailer of the game on YouTube (in English). Then we talked about the goal of the game which is to defuse a bomb by disarming all its modules before the time ends and we spent some time to read the manual end explain some difficult words. After this introductory session we had 3 more (40 min each) where the students played the game.

How to embed

Playing the game in English was a motivation for them to communicate in English. In our case, it was the perfect fit for the English class (students’ native language is Greek). The groups of 4 worked perfectly and at the last 40 min session every one of the students had the chance to play as an Expert and as a Diffuser for at least 2 times.

Use in class

Our first session was an introductory one (as described before). We had 3 more:

First session of playing:

- In groups of 4 the students chose the person, who should be the “defuser”.
- One teacher helped “The defuser” how to use the controls of the game and the other teacher helped the “helpers” with the manual.
- After the 3 times that they had help, they felt confident to play on their own.
- They played the game 2 times without help.
- As homework, the students had to learn some of the difficult words that we had discussed in the introductory lesson.

Second session of playing:

- The students (in the same teams) played the game again. We realised that the game was getting a lot more difficult, too quickly.
- As they had played the game for some time they had found their own ways to communicate and they could understand each other a lot easier than they did when they started.

Third session of playing:

- The same teams played the game but this time the players rotated their roles so everyone could play both the “helper” and the “defuser”

Student experience, testimonials and quotes

When we asked the teacher that used the game inside the class about his experience, he said that: “The students liked playing the game. They thought it was fun playing and learning at the same time. On the other hand, they didn’t like the fact that the game got a lot more difficult in such early levels and after playing the game for the third session they got a little bored of it.”

We also had a discussion with the students that played the game during the English class. Here are some testimonials:

Student 1: “I liked playing this game. I thought that it would be difficult to talk with the other students in English, but we managed. I wanted to defuse that bomb.”

Student 2: “It was nice that we could play a game during class. It was strange in the beginning, but it got a lot funnier while we played.”

Student 3: “I learned the words that our teacher told us because I wanted to use them for the game. I think it was the first time that I learned all the words that I had for homework.”

Student 4: “It would be nice if we used games in other classes too.”

g. Co-Creation of an Escape Room

Game facts and game description

It is not really a game; it is a co-creation of a game. It is a co-creation of an escape room. It is the research, the creative thinking, the implementation of all the things the learners have learned about STEAM. It may take a few days or a few months. It depends on how much the learners work and what they want to create.

Target group & Setting

The learners that co-created the escape room were adults of Platon School of Katerini Greece. The number of them that took this program is 32, 18 of which are women and 14 men. They used a regular class of the school that was transformed into an Escape Room. It was a project for the STEAM class that lasted for 2 months (2 hour per week)
Checklist: The checklist does not apply on this because it is not a game.

Project outline

First, we made some discussions in order to create the setting. The learners did some research about other escape rooms. Then they had to think of some highlights and create the story. After this, the learners were divided in groups of 4, they had to create some STEAM riddles and then they had to work together in order to create the final version of the escape room.

How to embed

The co-creation of the escape room can be applied to almost every class. It depends on the riddles that are going to be created. They may have to do with physics, maths, chemistry, history, language or even foreign language. The only thing needed is a room and lots of imagination.

Use in class

The method used for this program was the inquiry method and we tried to teach the learners some problem-solving techniques. The project was structured in two main phases. The first phase was on creating the setting. During this phase the whole class worked together. During this phase, learners were discussing and sharing ideas. They also had to do research on the internet for one week. All of the learners had to propose at least one riddle and explain how they were going to make it happen. They end-up with a long list of about 40 riddles and puzzles. A long discussion followed until students reached a consensus to a list of 10 riddles, taking into account that they have to be doable, economical and they should not be dangerous or frightening.
The second phase was focused on creating the story of the game. In this phase the learners were divided into groups of three or four. In this way they would have to collaborate in small groups. Collaborative learning is characterised by relatively unstructured processes through which participants negotiate goals, define problems,

develop procedures, and produce socially constructed knowledge in small groups. They had to design the riddles and make a list with all the components needed. Dividing learners in groups was made on the basis of different grades in STEM, different attitudes towards STEM, and gender balance. After each group had completed their task, they presented the riddle to the other groups and a new discussion started on how all these riddles should be connected in order to make the game more interesting to play but not too difficult in order to be possible for others to finally “escape the room”.

Student experience, testimonials and quotes

The teacher that worked in the co-creation of the escape room with the learners described this experience as something completely new for him. He said that it was very hard for him to let the learners “learn by themselves” without “teaching” them. Finally he realised that it was worth it because he saw the change in the motivation of the learners and the different approach that they had on STEAM after this program. As for the learners, they said that they enjoyed this different way of learning, they liked that they used their mind and hands in order to create something and that they liked working in groups and exchanging ideas with the teacher but also with the other learners.

h. ACT ESOL

Game facts

For the past two years, City Lit ESOL has been experimenting and playing with ACT ESOL, an approach introduced to the wider ESOL world in the UK by the Serpentine Galleries Edgware Road Project, in which participatory ESOL teachers and Implicated Theatre worked with English language learners to develop a more political ESOL orientation combining language learning with a focus on resistance. Inspired by the work of Augusto Boal and Paulo Freire's Theatre and Pedagogy of the Oppressed, the project integrated theatre as transformational action against oppression and injustice and "problem-posing education" that begins from the participants' lived experiences of oppression, explores solutions and acts to change the situation. It also experimented with a variety of theatre games and exercises with and without speech.

Detail of the project can be found here:
https://www.serpentinegalleries.org/whats-on/act-esol/

Game description

Within this Erasmus project, City Lit drew mainly on the Forum Theatre approach of ACT ESOL but also experimented with some of the theatre games. In Forum Theatre, developed by Boal, participants perform a situation one of them has experienced as oppressive or unjust but which was either unsatisfactorily resolved or not resolved at all. The aim of the re-creation is to show the problem but not the solution. Essential to the process is that the 'Oppressed' person wants change but does not know how to get it. The Antagonist, the 'Oppressor', can be a boss, a member of the public, even a friend – but is someone who has made something difficult and non-constructive for the oppressed. The scene may involve a number of actors but the Spectators are not passive – they are actors too. They step into the performance at certain times to explore and create alternatural endings to the story. Finally, there is the Joker, the enabler or mediator who conducts the whole process and aims to encourage playfulness, to provoke, to think outside of the box and to create a safe holding frame for complex exploration.

Our approach at City Lit was to be less explicitly political: work with students, in this case, adults learning English as a new language, on situations they themselves had experienced as difficult but focus more overtly on the transformation of these situations linguistically and practically so that learners could learn from the repetitions of the scene and develop their competencies for repetitions of similar situations. Scenes students re-enacted included problems at work with bosses, rude situations while shopping, and misunderstandings between a customer and barista.

Students initially worked in groups and decided which 'conflict' per group they were going to re-enact in front of the whole class. Then they all rehearsed. After the first performance, and a period of collective reflection, the learners re-played the scene and this time

members of the audience (other students) joined in or took the place of the original enactors to try to find a better resolution to the problem.

Within this play and the transformation of a real event into an aesthetic form, students worked on all aspects of their English while maintaining a pragmatic focus. They also had fun!

Target group & Setting

We used this approach with a variety of adult learners but mainly people who were migrant workers or refugees learning English at Entry 2-Level 1 (A2-B2). The students usually worked in cafes, shops, hotels and sometimes offices. Some were studying for exams on 17 week courses learning English for 5 hours a week. Others were on more specialist shorter courses without exams such as pronunciation and ESOL and Customer Care.

Checklist

One of the benefits of ACT ESOL is that it requires few material resources. However, the tutor should check the following:

- there is sufficient space in the classroom / learning environment for the games and play
- objects such a bags or clothes are cleared away and the space is safe
- there are some objects which can be used as props such as chairs, books etc. however imaginaturally
- there is a something to write on during the reflection periods in particular
- students are choosing situations which contain a conflict or antagonism sufficient to drive tension and create the to and fro movement required of play
- students have an appropriate space publicly or privately to discuss matters which might have emerged through the re-enactment.

Project outline

We chose this ACT ESOL approach because we were interested in focusing on the experience of play as a learning experience. Was the 'play experience' also a learning one? How was a play experience created? Did the ACT ESOL approach affect such an experience? Hence, we were interested less in creating playful attitudes on the part of the learner-player towards their learning than in creating scenarios which demanded play. In that sense, we followed the famous reflections on play by HG Gadamer in Truth and Method, which advocates the primacy of play over the consciousness of the players - that it is the 'game' and its movement which determine play not the attitude or decision of the players. Play occurs when players are drawn in and subject to a to-and-fro movement or tension whether this is an individual following the movement of a ball kicked back and forth against a wall or it is a contest between two teams engaged in a fiercely fought sports game. Such movement involves and absorbs the participants so that their decision-making and acts become tasks - both immanent and imminent - of the play or game. So, although the game itself may be taxing and exhausting, the players experience its ease, as without strain and without the burden of individual initiating - what is sometimes called 'flow'. Such absorption, even relaxation, into the game does not mean the absence of risk. Play requires the risk of continued failure as well as the possibility of averting or reversing this loss. Indeed, perhaps the more balanced these stakes are - between loss and gain, failure and success - the more the individuals are transformed into players of the game. Such stakes are features of the play itself, distinct in time and space from the rest of the world. Whatever the effect on the outside world, success or failure is measured only in terms of the game or play itself. Specific rules shape and define the movement within a separate space - whether a court, a pitch, a table, or in this case a space for acting - during a time period with a distinct beginning and end.

Throughout the project, we followed a similar pattern though not every instantiation was the same:

- initial theatre game to relax and orientate the learners
- setting up a space for Forum theatre
- students working in groups of 3-4 with each learner presenting a ‘problem’
- the choosing of one scene per group to rehearse and enact
- enacting of the scene in front of the rest of the learners
- whole-class reflection on the scene to check students’ understanding of what had happened and different interpretations of it
- a second re-enacting of the scene with members of the audience now entering the scene to help resolve the situation
- further whole-class reflection of the situation and focus on language or other learning points
- follow-on work such as writing a script, working on a grammar point etc.

How to embed

There are no rules about when or how often to use ACT ESOL. Students recognised the unusual nature of the class as soon as we moved the tables and chairs to one side of the room to create the Forum Theatre performance space. We usually started with a drama-based game to elicit trust between classmates. A full list of introductory games, with pedagogical and language explanation, can be found in the Serpentine Galleries' booklet, ACT ESOL, Language, Resistance, Theatre (www.serpentinegalleries.org/learn), but particularly popular games at City Lit were 'Follow the Sound', 'Occupy the Space' and 'Mirror'.

The approach worked well across different levels of learners. It can be used at different times in a course and can be adapted to many different learning contexts. It can be used on longer general ESOL programmes or shorter work-oriented courses. It lends itself to particular circumstances such as a work or business oriented ESOL course or even exam practice. On a 7 week, 2 hours a week ESOL Customer Care course, we used the method over two sessions with students.

The theatre games can be used fairly regularly as a warm up or filler activity, especially near the beginning of a course or with a new intake of students within an existing class., as well a means of preparing learners for the ACT ESOL part of the class. ACT ESOL can also be used as a confidence-building tool with reticent students or with a group that doesn’t seem that cohesive. It is fun and good for class bonding.

ACT ESOL can be used by learners to develop not only linguistic features but also cultural pragmatic behaviours. The approach embeds learners in a context they have already experienced as challenging. This situational element gives them the chance to revisit a difficult situation in a bounded manner and change the outcome. It promotes purposeful communication and equips participants with enhanced competence for dealing with similar future difficulties. As a result they gain confidence, fluency and reflective skills as well as focus on specific language features such as register, tone, or the language of negotiation.

Use in class

The ACT ESOL method was mainly used with ESOL learners at Entry 2 (A2) and Entry3-Level 1 (B1-B2) levels. But pronunciation classes also used some theatre games.

Examples of Theatre Games used

In *Zip, Zap Boing*, students stand in a circle and 'pass' sounds to one another. The zip sound is passed to the student (the Joker) to one side of you: you make eye contact with her, say 'zip' and clap. She then does the same with her neighbour. It goes round the circle continuously without any talking. When students are confident with this, zap can be added. Here, the Joker looks across the circle, makes eye contact, claps and says 'zap'. (This cannot be to the person next to you.) Finally, 'boing' is added. This sound is in response to the sender of a zip or zap: you make eye contact with her and say 'boing' with a hands up movement as if pushing the sound back to whoever has sent you the zip or zap. As students get the hang of the game, it can be sped up using zip, zap and boing together. In future lessons, other sounds, words or phrases can be substituted for zip, zap and boing - for example, to practise pronunciation. The students found this game good fun and very interactive. It sometimes took a few goes to get it running smoothly. It's a good idea not to spend too long on each game, to keep the students interested and enthusiastic.

https://youtu.be/Y7NI1jsqSko

In *Occupy the Space*, the students all walk around the room in one direction, focusing on the floor and keeping an even space between each other. The Joker shouts 'freeze' and the students check their position in the room and move if necessary to maintain relatively even spaces between each of them. This continues with variations e.g. you overslept and need to get to work very quickly for an important meeting. It is rush hour. GO! You went to a party last night and got back very late. You only got 4 hours' sleep. GO! The Joker shouts freeze to stop the movement and check the spaces each time. There are multiple possibilities with this game and the students enjoyed walking in different ways, depending on the instructions given.

Mirror is a simple game, but requires concentration. Students work with a partner. They face each other and conduct the game in silence. Student A moves and student B mirrors their action. The Joker shouts 'freeze' and roles are swapped. In the final round of the game, there is no leader, with students working together, mirroring each other. In the sessions at City Lit, we generally used about two games per lesson before starting the Forum Theatre activities.

Once the students were relaxed, the ACT ESOL section could begin fully. The teacher (Joker) put them into small groups of 3 or 4. The students were then encouraged to think of situations that had happened to them in their everyday or work life in which someone had been rude or difficult towards them. They then each related their story to the others in their group. The Joker went round listening to the situations and encouraged each

group to choose just one of the scenes to act out to the rest of the class. She also asked key questions about the scenario to check some form of confrontation was involved and it was conducive to Forum Theatre. The lack of an argument or a too easily resolved situation would not encourage student language production or bring about a situation of play.

Once the scene had been chosen, the protagonist related the scenario in more detail to the rest of his/her group and students decided which parts they would act. Each group then started to rehearse the different scenarios. The Joker continued to talk to each group, checking everyone had a part in the performance and encouraging students to use props as necessary. When the groups were ready, they took turns to perform in front of the audience (the rest of the class). At a point of confrontation in the scene, the Joker stopped the action by saying 'freeze' and asked key questions such as: Who had the problem? How did the different characters respond? What exactly was the problem? Why did x or y act in that way? Can you think of another way of dealing with the situation? The scene was then acted again from the beginning, but this time anyone from the 'audience' could come in at any point to swap with a character or add another character to the scene, in order to resolve the situation. This could be several times, depending on the cohort of students.

At the end of the Forum Theatre episode, the Joker (teacher) reviewed the scene with the students usually creating a visual overview of the scenario via the Interactive Whiteboard, which included possible reasons for the initial problem. In addition, this feedback section elicited possible resolutions of the situations, which could be used in real life. Depending on the length of the class, groups sometimes acted out their scenes again, with the suggested resolutions.

The students came up with a wide range of situations. For example, a scene in a clothes shop where a customer felt she was being badly treated by the staff at the till when she came to pay. The cashier seemed to have treated all the previous customers courteously, but was rude to her. She was the only non-natural speaker in the queue. This threw up various suggestions of why this should happen. Was the cashier racist? Had the student misunderstood something because of her language difficulties? Why did the cashier act in that way? Was she having a bad day? What had happened at home before she got to work? After students had watched the scene, they were able to offer suggestions for the cashier's actions and ways of resolving the situation. The offended student could explain how she felt at being treated like this and ask for an apology. She could ask for support from someone else in the queue or, if all else failed, could ask to see a senior member of staff to explain what had happened and seek some kind of resolution, suggesting that the staff member received further training in customer care.

Another example was in a coffee shop where a customer had asked for a cup of tea but was given a cappuccino. Confusion arose when the waitress asked if she wanted chocolate on the top. Why would she want chocolate on her tea? The customer became very angry and the waitress had no idea why. Again, students were able to suggest why the confusion

had arisen. Maybe the student's pronunciation of the phrase 'cup of tea' was unclear. Maybe she hadn't been listening to the waitress when she confirmed her order for the coffee. The customer could be offered a free cup of tea by way of apology, but the students also felt she shared some responsibility for the confusion by not really listening to the waitress as she was on her phone and distracted whilst giving the order.

https://youtu.be/bU4S051M02Y

A third scenario involved a scene at work, where someone had been asked to come in to do a shift only to be told that she wasn't needed. In addition, the student involved felt she had been treated unsympathetically by her boss on many previous occasions and wanted the matter resolved. Students could see what the problem was: her boss hadn't called her to say she wasn't needed after all and was very uncaring. Perhaps she had had to arrange childcare to come to work, which was an extra expense. In addition, when the superior was called to resolve the situation, the student's boss simply ignored her and spoke to the superior in their common language. This particular scenario brought up situations that were recognisable to many of the students. Again, sensible suggestions were offered to reduce the tension in the situation and bring it to a point of resolution. The worker could ask for a private meeting to discuss her issues with her boss. The superior could suggest a new way of arranging the work rota so that staff were given reasonable notice for shift changes. In future meetings the boss and her superior would talk in English so that the staff member could understand and feel included.

In another scenario a woman was in a coffee shop waiting for her husband. He was visiting her in the UK and she thought it would be a good chance for him to practise his English. She chatted to the waitress and ordered some food when her husband arrived. All went well until the waitress brought the food and started sneezing over the order. The customer was a little shocked, but also concerned and asked the waitress if she was constipated! She kept repeating this question, much to the embarrassment of the waitress. When the action was frozen the students discussed how the misunderstanding had arisen. The customer was Spanish, and in her language, the adjectives for 'constipated' and 'congested' are exactly the same. So, she was asking the waitress if she had a cold, but this was misunderstood because of the language problem. The students in the 'audience' suggested a way of resolving the situation simply and the scene was acted again. This time a second customer was already in the coffee shop and was able to overhear the conversation with the sneezing waitress. She intervened and introduced herself to the customer as a fellow Spaniard and was able to explain why the confusion had arisen. The first customer was grateful for the help and apologised to the waitress, who now understood the reason for the original question and they were all able to laugh about it, thus quickly defusing the situation.

https://youtu.be/RmR1j_pxDO8

In addition to this 'conflict resolution', these scenes also became language learning and enriching experiences. A lot of language emerged from the acting, which was elicited and focused on in the post-scenario feedback and/or followed up in subsequent lessons.

For example, in the first scenario with the rude cashier, this was a good opportunity to expand the students' vocabulary related to adjectives of personality. Students were able to build up a bank of vocabulary which they used in subsequent lessons to write descriptions of family members or friends. They were able to use a wider range of adjectives more accurately in their narratives, through the ACT ESOL experience. In all the situations, students were able to use their powers of inference to suggest reasons for the actions of the cashier/waitress/manager. At Entry 2 level, students could say 'perhaps she was tired/maybe she was angry' etc., while higher level students could use modal verbs, e.g. 'she might/could/may have been depressed/anxious/hungry/irritated' etc. These situations lent themselves to a wealth of follow-up work, be it pronunciation-based work such as a dialogue to practise intonation, gap-fill exercises to consolidate language work that emerged from the scenes (adjectives, verbs, tenses) or longer pieces of writing, e.g. an application for a job, the pros and cons of different jobs, a discussion about working conditions etc. These can be done at a range of levels, depending on the group of students involved, what emerged from the acting experience and the learners' specific interests or needs.

Student Experience

At the beginning of this project we asked ourselves whether this ACT ESOL approach created an experience of play and if so did it constitute a learning experience. The answer to both of these questions is 'yes'. Within the classroom a distinct space and time was created particularly during the re-enacting part of the process. The scene drew in the learner-participants so they became absorbed in it and also subject to its demands. They were both creative and CREATED, playing and being played. Each move of the players became contingent and conditional on another - semi-scripted and prescribed by the already created situation but still needing to be performed. The involving nature of the process was in part brought about by the 'contested' element and antagonism at the heart of each scene whether this was between the barista and customer over the mistaken cappuccino and cup of tea or the rude customer and others in the supermarket. The disputes enabled a back and forth movement to the scenarios that also led to the incorporation of more people into the attempted resolution or intensification of the problem. These learners entered the scene as players. The friction - where something was at stake - proved essential in creating the play. The scenario's being based on something that had happened to one or more the learners distinguished it from more traditional role play, while the framing of problems within a codified and distinct activity provided a freedom for the learners. It was evident from filmed footage that the participants were playing seriously as well as on occasions adopting a playful attitude to what had sometimes been an upsetting real life experience.

One of the most interesting reflections was from a learner on the ESOL and Customer Care course. She discussed how after working long hours, the play of ACT ESOL revived her. She lost herself in the recreating of the scene and had fun. And this helped her learning. Listen to more of her reflections here:

https://youtu.be/CQ9u2-DkIoM

Testimonials & Quotes

Caroline, the teacher: "It became clear fairly early on in the lessons and again in feedback from students that a substantial element of what we were hoping to achieve through this play was successful. The majority of the students forgot their inhibitions and their lack of fluency because they were involved in a situation which had meaning to them and were invested in resolving the problems they had encountered in real life. One student notably said that, although she was tired when she came to class, she forgot about her fatigue and her daily worries because she was immersed in acting out scenes with her classmates. In addition, the vast majority of students, from a range of classes, said that their confidence had increased significantly as a result of this method of language learning. They now felt far more able to deal with difficult situations and to stand up for themselves when problems arose at work or in their daily life. It was significant that some students who were generally quiet and slightly on the periphery in class, became totally involved in the situation they were acting in, thus enabling them to produce language without the reticence that they often showed in a more traditional class setting. It appeared that, because similar situations had occurred to the students in their lives, they had a great deal of meaning and relevance to them. In addition, because of the room layout and lack of formal seating etc. the students were able to relax into the acting, which in turn produced language in a way that does not always happen in class. Likewise, they seemed more open to taking risks in terms of language-production when absorbed in the acting or 'game'. The act of taking on a different persona also gave them permission to be more imaginatural with their language and less restricted by anxiety and the fear of making mistakes, which can inhibit language for some students in a more traditional ESOL class."

https://youtu.be/CQ9u2-DkIoM

i. Lateral Thinking Game

Game facts

Lateral Thinking Puzzles - Can You Say Why? (Erwin Brecher, PhD) is a book of puzzles to be solved through discussion. There are more than 90 brainteasers, each of varying length. Each puzzle presents a case scenario using a variety of past tenses and a range of vocabulary. This game is suitable for ESOL students from Upper Intermediate (B2) upwards: it draws on the learners' understanding not only of vocabulary but also complex situations that require discussion and lateral thinking to solve.

The game can also be played in the form of a card game. Here the solution is on the reverse side of the card as opposed to the back of the book.

Game description

In this game, students who are learning English as a new language work in groups to solve lateral thinking puzzles.

They read the puzzle together, discuss and follow its clues to answer its final question.

Learners can then create their own lateral thinking conundrums for other students to work out.

This game involves learners reading, speaking, listening and sometimes writing all at the same time while engaged in high-level thinking. They were often working at the limits of their language but the engagement in the problem meant they foregrounded communicativity and meaning.

After the session, they then wrote about how they felt about the game and whether it was beneficial to their learning. We played the game with two separate cohorts: one in class face-to-face and the other over Zoom during the pandemic lock-down. In both sessions, the game was played for its own sake but it was also used to enable learners to put into practice work they were doing on relative pronouns, specifically during the writing up of their experiences of playing.

Target group & Setting

This game was played with groups of adult learners on our advanced Grammar in Practice course. The students already had a good level of English and were working on deepening their understanding and practice of how grammar relates to meaning.

Due to the nature of these puzzles, learners need at least a B2 level of English to play the game without requiring more setting up and pre-game vocabulary work

Checklist

A virtue of this lateral thinking game is that it is very simple to set up and play. However, bear in mind the following points:

The concept of lateral thinking may be challenging to some people. It is recommended the teacher gives an example before playing and the student groups are chosen carefully so they support each other as they play the game. Students can select their groups, but make sure all learners are able to participate.

To encourage full learner participation, the teacher should try not to intervene at any stage. Instead, the teacher should monitor all groups for timing since some of the puzzles may take a shorter time to 'solve' than others. New puzzles can then be chosen. The tutor can also note down any language issues arising during the discussions.

This is a large scope for language learning in Lateral Thinking Puzzles as well as for positioning its use within the learning experience. Use the game inductively to elicit a specific language focus such as modals, or as a means of practising language already introduced.

Project outline

This game was chosen because its design facilitated the emergence of play,and we were testing whether play developed learning. In contrast to our other learning design (ACT ESOL) this play was affected by a more traditional type of game albeit one without obvious aspects of competition and one without complex rules. The basic rules were learners needed to (i) suspend disbelief - the stories were often quite fantastical; (ii) resist turning over the card to find the answers and (iii) attempt to follow or work out the logic at play. By following these rules, learners became involved and absorbed - caught up and immersed - in the story and the play. The play here centred around what was at stake - the ability to solve the problem by thinking up and contesting possible solutions that were both not immediately obvious but also suggested by the story. In this way, learners/players became caught up in the typical to and fro movement of play, and in particular the dialectic of creating and destroying, akin to the process of solving a detective mystery. As MIguel Sicart writes in 'Play Matters', "Play is always dangerous,

dabbling with risks, creating and destroying, and keeping a careful balance between both. Play is between the rational pleasures of order and creation and the sweeping euphoria of destruction and rebirth, between the Apollonian and the Dionysiac". Here the oscillation was between the creation of a possible solution and the almost immediate realisation that this establishing of order and resolution needed to be rejected. This swing took place both within each player and between them. Each game became a short history of proposal and rejection, of presentation-depresentation, of potential success and realisation of failure. In becoming so involved in the story-puzzle and its possibilities, the players became immersed and interested in its forth-coming, in its immanence, following and being guided by what was emerging from the story, in other words the hints of a solution that the story itself suggested. As Bourdieu writes, "the good player is the one who, as in Pascal's example, 'places' the ball better or who places himself not where the ball is but where it is about to land. In either case, the forth-coming in relation to which he positions himself is not a possibility which may happen or not happen but something which is already there in the configuration of the game and in present positions and postures of team-mates and opponents." (Pascalian Meditations p208)

In the course of being caught up in the game, learners were not only using their lateral thinking, they were also exercising their language skills. They were reading and summarising quite complex information, identifying or selecting areas of the text they deemed important to its solutions, making connections to parts inside the text but also outside and developing their interpretation skills. The nature of the debates meant they needed to keep checking and contesting their understanding and interpretation and while speaking they had to work on their pronunciation of some unusual words and phrases such as ‘malignant’. There was also a high demand on listening skills as the learners/players needed to understand as well as debate each other’s proposals. An often undervalued skill is the ability to read, speak, present, listen and think at the same time, which this game demanded.

A student, Shaz, made some interesting points about why game playing is beneficial to learning a language:
“The puzzles, which were played with by our classmates last week, are the best way to learn any language. It not only makes any person visualise his thinking power but it also gives an incentive to read it surely what it says. It makes anyone curious about what may happen in the end. Despite having difficult grammar in the text, still it helps to reveal the end of the story. Over time when reading finishes, ideas or opinions from other collaque could help to solve the mystery and help to learn more vocabulary and phrases. Learning a language not only can be achieved through a formal way, though a language could be learned through different other ways such as puzzles, or any other. In my personal opinion, learning something difficult can be achieved ... through a funny way or game.”

How to embed

This lateral thinking game can be used as a way both of developing learners' thinking, problem-solving and connection-making, particularly in a second language, and as a way of practising multiple language skills at the same time. The game's challenge is that learners are stretched in different directions, which takes them to the edge of their linguistic capacities.

The game can be played to:
develop and test the players' reading and comprehension skills - how well can they summarise and cohere complex information, make connections to information outside the text, read between the lines, make judgements based on evidence?

practise getting a point across, explaining ideas, negotiating with others, dealing with disagreement, finding compromises

work on pronunciation

expand vocabulary

develop listening skills

do all of the above at the same time

This game can also be situated within specific language work – such as the following areas of grammar: question formation, narrative tenses, conditionals 1, 2 and 3, modals of deduction, reported speech, relative clauses.

Use in class

Learners were working on relative clauses and the write up of their playing experience was intended to be a means of practising this work. So, the first hour of the class involved teacher input and student discovery and explanation of the grammar points: defining, non-defining and reduced relative clauses. The students practised transformations.

Having completed the grammar focus, the aims of the game were introduced – to see how learning a language can be enhanced through playing a game. The Lateral Thinking game was explained in brief and clarified as per needs. In the face-to-face session, the students selected their own groups of two, three or four. It was important that the students got on well since the game could lead to heated contestations! The tutor held a fan of cards face down and the students picked three to four different cards at random. They then read these and together agreed on the 'problem' they wanted to discuss and ultimately solve. In the Zoom version, students worked in breakout rooms and the puzzles were written onto a single document available via Google Classroom.

In their groups, the students discussed the problem in depth and agreed and disagreed on the solution. In the face-to-face game, the learners called the teacher, offered their different solutions and finally turned over the card to read the official answer. On Zoom, the tutor visited the different breakout rooms and then the learners all came together to share their stories and discuss the solutions. This cohort then worked in groups to create their own lateral thinking puzzles, which they then swapped and looked for solutions.

In both cohorts, the learners then wrote up their experiences of playing the game and reflected on its efficacy.
Watch our students reflecting on their discussion and learning of the solutions:

https://youtu.be/JpdHQxRzYnI

Watch our students play the Lateral Thinking Game online during the Coronavirus lockdown

https://youtu.be/BPogyAA4i8o

Watch our students creating their own Lateral Thinking Puzzles:

https://youtu.be/BPogyAA4i8o

Student Experience

However, both cohorts greatly enjoyed this Lateral Thinking game. The students discussed the problems seriously whilst at the same time not being over serious when they disagreed with each other. In short, they had fun!

During the in-person session, several of the students were taking photos of the problems and sending these to those students who were absent! There was much laughter and when the groups / pairs had finished one problem, they soon asked for another.

For homework students were given this question to write about: Some say that learning a language is easier through playing games. In the light of the puzzles that you solved in your class. How far would you say this is true? Give specific examples citing the puzzles you solved.

The response to the task was overwhelming. The testimony below bears witness that a game can be played in the classroom and achieve learning aims. The game can be seen both as its own end and as a way to stimulate language from the learner.

Testimonials & Quotes

Alicia: "An excellent way of learning a language is through playing games.
For example, when in class we played in Lateral Thinking Puzzles we had to concentrate on a short piece of text and discuss any possible outcomes to the story in it to solve the puzzle. Our card was called The Judgment, which consisted of about 500 words. When trying to solve the puzzle we had to employ many strategies, one of which included reading the text out loud. At first, we discussed the topic of the puzzle given to us, which was about finding out why the judge had reversed his decision to acquit (acquitting) the man for killing an indigenous species bird. Then we went through the meaning of each word we were not sure of. By doing this we engaged in the thinking process of every member of the teams' brain power. For instance, we figured out that a 'long eared owl' was a type of an owl that is very rare. Everyone in our team had an opportunity to work on the text on their own then share their knowledge and thoughts with others. The overall team play environment was light and stimulating. Although the answer we gave was not the correct one, we still had a feeling of satisfaction after the game. One of the reasons for this was that during the game the correct answer came up in the discussion. The other reason was that learning by playing games is more fun than being a solitary learner"

Tamara: "I totally agree that learning a language through playing different games is an extremely successful idea about a way of studying.
Firstly, playing games is an activity, which is associated with an enjoyable situation, in which you are supposed to forget about your problems, stress and anxiety, and your mind is open to access new challenges, in our example it is learning a language. Playing games, enjoying conversation creates a better situation for our brain work, remembering new words, phrases and even rules.

Secondly, playing can improve your skills, help your reading, listening and speaking. When we played the puzzle in the classroom, I started with reading the text, which was written on one side of the card, trying to understand the problem, which needed to be solved. After that my partner, who once had more than one idea, gave me her decision on the problem, which I had to listen to carefully and that was my listening test.

Finally, despite all the positive impact of joy and fun, I think if you want to learn more and have better results you are supposed to write down some of the new words or phrases and repeat them later to revise your vocabulary".

Suela, who played the game online over Zoom: "In general, I think learning a foreign language through playing games can be an enjoyable way in hard work like learning.

I do agree that learning a new language is easier when you do it through playing as it is more pleasure, no pressure and less demanding.

I would say that the puzzle that me and my classmates chose was too far for the correct answer but at least we enjoyed it.

Our puzzle was about a guy and a trip that he had to do with his donkey. We need to find out how he came back on Friday...or this is what we thought that we had to be focused on, to find out how he came back a day earlier. He left on Monday, he travelled for 2 days. He slept two days at the place that he visited and it took him two days to come back. In total 6 days he should be back on Saturday instead of Friday as the puzzle says.

The only answer that we found was that he travelled Monday Tuesday. That is two days after he stayed two nights there, so Tuesday, Wednesday and he travelled back Thursday, Friday. So our conversation was all around the weekdays.... None of us thought that it may be something different and to see it in a different way to think out of box I will say.

When our time was finished we announced the answer to our teacher [Louisa] and then she said that the answer wasn't correct. The correct answer was that Friday was the name of the donkey.... What a surprise...no one of us got so far even close to the correct answer. The author of this puzzle was very smart as he/she found the way to take the attention of the people to the wrong fact.

I think I should do more of these games to improve my English. It has double benefits, mind gaming and learning English much easier in a funny way".

Student 1: "We often regard playing games as the opposite of learning. Playing games is often associated with pleasure time while the other is associated with a more serious and concentrated time of the day. Throughout my learning experience, I often find this notion not to be true. For example, learning languages in a playful way can be more varied and enjoyable. I have come to realise that learning languages requires a persistent process of repeatedly using, trying out and practising the new learned vocabularies and phrases.

In this essence, playful learning can prove very useful, as we are more willing to repeat and practise while having fun.

Recently I have been involved in trying to solve puzzles as a part of a learning experiment during my advanced grammar course. I have found this experience to be very useful and fun at the same time, because we get to share and discuss our thoughts as a group of

players. Meaning we get to play together and challenge ourselves in a fun way while we are improving our English at the same time.

One of the recent research in this area seems to prove that things we practise during play have excellent chances of being well interconnected and long term stored in our brain".

Student 2: "We will naturally spend more time on learning a language if it makes us feel joy and excitement. I believe games help to reduce the anxiety which people, especially beginners, feel when they speak in a foreign language. Also, it's easier to remember new words and structures of grammar as a consequence of repetition in many games.

Solving puzzles in English was not an easy task as it challenged us to think outside the box. I read the puzzle several times in order to find hints, some of which helped me to get closer to the answer. The puzzle was about a the businessman who left an urgent meeting request on his colleague's answering machine, knowing that he checked it frequently. In his message he asked the man to meet him after 40 minutes as he had to pass some important documents to him. We had to figure out the reason why the colleague, who most likely had heard the message, did not arrive to take the documents as requested. One of the best things about this game was the moment when we realised how simple the answer was. This game can teach players to pay attention to details, which is a useful skill in learning languages.

Even though there is no doubt that games can be a great tool in teaching and learning a language, it may not have the same effect or be effective for everyone. I have met some people who don't like playing board games due to different reasons, so in that case traditional learning techniques may be more beneficial for them".

Student 3: "Some say that learning a language is easier through playing games. I couldn't agree more.

At least from my experience, when I started emulating my favourite singers in front of the mirror as when I was a teenager, there has always been a massive ludic component in learning English. It was also a way of creating another reality, where I dared to be and behave the way I was too shy to carry myself in real life. Of course, I was always aware of the difference. But somehow my favourite pastimes involved some kind of role play, in the same way that my classmates and I performed last week in the game with the cards.

Because in that game, just the same as in the activities I do in my spare time, most of which require a certain level of involvement and empathy, like reading a book, watching a film, following a show... from my point of view, to be ready to wear the shoes of the different characters is paramount.

That's how you try to figure out the solution of the mystery, or how the story is going to develop in the next chapter, or if the next scene is going to be one whose dialogues are going to stay with you for years...

Last week's game was not only fun, but it also surprised me that although at the beginning we felt a little paralyzed, little by little we were able to make many assumptions and one of them was more or less in the range of the solution.

And last but not least, I can't finish without mentioning my passion for quiz contests (which are basically a game) since I was very young. I love to fantasise that I am the contestant and I know all the answers.

Student 4

"Learning a new language can be stressful, daunting and overwhelming. All these overwhelming feelings, which complicate further acquiring any new skill, can be put at ease by learning through playing games. Games provide an alter natural way of learning which not only puts learners at ease, but also helps retain new words and grammar patterns.

There are a wide range of games aimed at increasing vocabulary and retention, tasks that are certainly boring to do by mere memorisation, such as scrabble, playhouse and crossword puzzles. There are also other games that offer a dynamic learning atmosphere where the players need to interact with others such as by talking, solving puzzles and practising listening skills. All these interactions put the players at ease, while they remain engaged and learning the new language.

For instance, in our grammar course last week, we played a game called "snapped" which involves reading about a puzzling scenario where the players need to find out the solution to the problem posed. The players who I played with had difficulty understanding the puzzle because she did not understand the meaning of key words. So I practised my listening and memorising skills and explained to her the meaning of those words. My playmate also helped me by constructing grammatically sound sentences to explain potential solutions to the problems posed. The game snapped in addition to facilitating learning a new language and also allowed us to practice lateral thinking -a method used to solve problems via reasoning and flexible thinking- an essential skill for anyone to learn".

Student 5

"There's not a right way to learn a language; some people prefer through books, while others go for apps, games or traditional lessons with a tutor.

As with other skills, the only way to get confidence in speaking English is to keep practising. English is a difficult language to master.

I have never been particularly good with languages. Even though I have been in English school for a dozen years and living in the UK for many years, I'm ashamed to admit that I'm still not fluent.

However, I think games can help you learn some vocabulary and are a fun way to practice English. The good thing about this method is that you don't need to motivate yourself and it offers a welcome break from the usual method of learning. But playing games is probably not the only way to learn the language. Learning the language means learning how to communicate with people. It means you need to start speaking, writing, listening, asking and answering questions. It is hard to get these skills through a game".

j. Kahoot!

Game facts and game description:

Kahoot is an online game-based learning platform.

It allows teachers and students to set up fun web-based learning. Kahoot can be used as a fun trivia activity, but Kahoot is also a digital quiz platform suitable for use in education and learning.

It's a great way to combine learning and entertainment, often referred to as infotainment.

Kahoot! | Learning games | Make learning awesome!

Target group & Setting:

Kahoot has been used as a supplement to digital education and classroom education in all kinds of courses and training in Fønix.

The main target group for use of Kahoot as a learning platform in Fønix is low skilled employees in the Norwegian SkillsPlus program.

The SkillsPlus program is the major Norwegian program designed to improve basic skills in the adult population in the areas of literacy, numeracy, oral communication, and ICT

SkillsPlus assumes a collaboration between companies and training providers in Norway. The target group is employees in companies that are at risk of falling out of the labour market.

The program offers a combination of different skill areas that are tailored to the companies' needs. Specific competence - or linked to formal competence in the form of a trade certificate (VET).

The program is basically based on traditional classroom teaching - but in recent years has to some extent opened for elements of digital education

Checklist:

Kahoot is a free online tool and only the teacher must register into an account.

You can host a Kahoot live to teach in class or remotely or assign a student-paced challenge.

When playing live in class, Kahoot is displayed on a shared screen everyone in the classroom can see. Students join in and answer using their own device with an internet connection - for example, a tablet or computer.

As a participant, you can answer from your own mobile phone (smartphone). You do not need to install any app to participate.

Participants only need to get assigned a code and create their own nickname / nickname when participating.

Kahoot is device-neutral, as it works on any internet-enabled device, including: PC, laptop, tablet, smartphone. All students must have access to a tablet, PC, or smartphone.

Especially the possibility to use Kahoot via smartphones makes it very easy to use.

This means it can work easily in any educational setting which is making use of a mixture of devices.

Another important thing is that no software or apps need to be downloaded or installed, so it can be used immediately by anyone with internet access.

This is a very cost-efficient methodology.

Project outline:

Kahoot can also be used as a quick survey, if you are standing in front of an assembly and want to air and discuss what the students think about the topic.

A Kahoot has a leader that uses a large screen to show the questions.

Participants answer on their mobile phones. What they give in response is only visible on their own device.

When everyone has given an answer, the correct answer is displayed on the big screen and an overview over the 5 best participants so far in the competition.

How to embed:

Because nicknames are used it will be possible "to hide your identity" if you do not want to make yourself known to everyone else on the big screen.

We buy ZOOM licences for each teacher. Notice that you need a professional licence or else the number of students that will be able to attach to the educational sessions will be limited.

Train the teachers in using ZOOM as a digital tool, and – if possible -built up special teaching rooms «green rooms» for the teachers.

Use in class:

Kahoot is easy to use, more individual contact with teachers and students, flexible and fun.

It is important that you have access to a big screen in the classroom to share the results from Kahoot online and directly live on the screen.

If you are doing digital education, you can easily share it on the computer screen.

Positively surprised at how well (simple) the technology works.

The use of Kahoot in education with adults is motivating and always creates a good learning atmosphere in class.

When we use Kahoot in a physical classroom, we show the live results from the Kahoot through the projector onto the whiteboard. At Zoom, we just share the screen with the Kahoot with the class. It works the same way.

Student experience, testimonials, and quotes:

Testimony from teacher:

> “The learning outcome is improved.”
>
> “More enthusiasm and motivation among the students.”
>
> “Kahoot improves classroom dynamics and creates a safer, more positive learning environment.”

Testimony from students:

> “It is exciting and very funny to use Kahoot in training. It is very good for participation in groups, and it makes it easier for me to participate when I can “hide” behind a nickname.”
>
> «It is fun to play a Kahoot to kick off a subject in class or use it as a fun way to wrap things up. »

k. The Frostrune

Game facts and game description:

The Frostrune is a game that draws inspiration from Norse mythology and history. There is no age rating on the game.

As the introductory sequence informs us, the story takes place in the summer of 965 CE off the coast of Norway. You play as Liv, a 13-year-old girl who is the sole survivor of a shipwreck. You are cast away on a deserted island, which you soon find out is plagued by an ominous presence.

Your mission is to unravel the mystery of the island and get rid of the unwanted spirits so as to deem the land habitable once again. In order to do so, you have to explore the different locales and solve puzzles with the help of ghosts.

The game itself is an uncomplicated adventure with clear intentions that shows how simplicity combined with conviction can create wonders.

Frostrune can be played on any PC, iPhone, or iPad: **iPhone:** Requires iOS 9.0 or later. **iPad:** Requires iPad IOS 9.0 or later. **PC:** Windows 10

The Frostrune - Apps on Google Play

The Frostrune på Steam (steampowered.com)

Target group & Setting:

The target group is adults (over 18) refugees and immigrants with relatively low language knowledge in Norwegian, level A1-A2 according to the European Framework for Languages.

Participants at level A1 can understand and use familiar, everyday expressions and very simple statements about themselves and close relationships. The participant can engage in routine conversations easily, if the interlocutor speaks slowly and clearly and is prepared to help.

Communication is highly contextual and is characterised by repetitions and simplifications. The teacher needs many pauses to look for phrases, pronounce unfamiliar words, and correct miscommunication.

They spend a lot of time finding words and phrases, but can produce very short and isolated utterances, mainly forms, fluently. The linguistic breadth consists of an elementary repertoire of individual words and modes of expression related to specific, specific situations.

Participants who have reached level A2 can understand a very simple daily language and can express themselves easily on topics related to their own person and family, close surroundings, and work.

The participant can cope in simple and routine conversational situations with direct exchange of information about known relationships, if the interlocutor speaks slowly and clearly, and is supportive. In unfamiliar situations, communication violations and misunderstandings often occur.

Frostrune was introduced to the market in 2017.

The game has been used by Fønix within classes of 12 – 16 students at the same time from 2020.

It was discovered by one of the teachers and introduced as a possible learning opportunity for migrant students.

The main reason we discovered it was that it was launched as a free game through the state procurement scheme for libraries in Norway.

Checklist:

Frostrune is available in multiple languages besides Norwegian.

The game is a first-person slideshow adventure with standard point-and-click gameplay. The menu and inventory are basic and there is an automatic save mode that thankfully works properly, saving every step of the way.

The points of interaction on each screen and the number of scenes in total are limited, so a playthrough will only last between 2-4 hours.

The use of Frostrune only needs access to iPads and a licence for the game. Handy, it is also that this is a mobile game of barely 500 MB. It does not take up much space and does not require expensive computers.

It is easy to use and easy to implement in an ordinary educational / classroom setting. This is also a very cost-efficient tool.

No challenges encountered between men and women in the use of Frostrune as an educational game.

Project outline:

Frostrune is used to ensure the basic main objectives in reading and listening at level A2:

- Help students understand the content of short and simple messages.
- Help students follow short and simple location directions.
- Help students to read and understand short, simple texts about familiar topics using frequent words and everyday language.
- Help students read and understand short, simple texts related to their own work situation.
- Help students read and understand instructions, recipes and guides that are easily formulated.
- Help students find and distinguish specific information in a list or a simple overview, both on paper and digitally.
- Help students read and understand simple written information such as letters, notices, brochures, and simple newspaper texts, both on paper and digitally.

The game is also used to learn about and talk about basic features of Norwegian history and the Viking Age, which are part of the goals of Social Sciences for adult immigrants:

- Get to know some of the important processes that have formed the basis for the emergence of modern Norway.
- Be able to talk about different ways of life, traditions, and views on religion, and about changes in these areas over time.

How to embed:

The game is divided into various scenes with written and oral information in Norwegian. Students must follow this information to progress in the game.

As an introduction, the class goes through the introductory text of the game, playing the first scenes together on the big screen, so that all students understand how the game works.

There is also a lot of conversation about words and phrases about the different environments we see and the time we find ourselves in. This forms a basis for further learning programs.

After a joint introduction, students are divided into groups that play together on iPad. Students should have different language backgrounds, so that they must use Norwegian as a common language in conversations and discussions about how to get ahead in the game. During the game, they collect various objects, which provide the basis for learning words and phrases. For groups with very low Norwegian levels, a recipe is drawn up for what students should do in each scene, with simple instructions in Norwegian. This allows the game to be individually adapted to different language levels in the class.

Tasks and verb lists are developed for each session, which can be used in continued language teaching.

Use in class:

Engagement from the students. Some of them found it exciting to play and learn. Some found it boring.

The students learned inventory words and how to tell the directions and some adjectives. They learned something about Norse mythology.

The advanced language in the game makes it difficult for new beginner learners in Norwegian to follow the game without coaching and guidance. The game demands a high-level skill in Norwegian language.

A target audience in B1 and up would benefit more from this game.

Student experience, testimonials, and quotes:

Testimony from teacher:

> “A lot of engagement from the students. Some of them found it exciting to play and learn. A few found it boring.”
>
> “The students learned inventory words and how to tell the directions and some adjectives.”
>
> “They learned something about Norse mythology. The advanced language in the game makes it difficult for new beginner learners in Norwegian to follow the game without coaching and guidance.”
>
> “The game demands a high-level skill in Norwegian language. A target audience in B1 and up would benefit more from this game. In a corona time point of view, I as the teacher had to be the one leading the game through zoom.”

Testimony form students:

> “I learned some words. The game had difficult vocabulary, but if I play a Norwegian game again, I maybe will remember something.”,
>
> “It was exciting, and the graphics were very good. I learned new words, but I don't think I learned anything about the history because I focused more on the target of the game.”

4. Applying Games in Teaching - Summary

The learning designs done in the project show how different the approaches can be and how dependent the use of game based learning is on the equipment at hand and the experience of the teachers and trainers. The manual itself shows the potential of game based learning, the learning designs demonstrate what seemed feasible for the partners. Even if some of the learning designs use gamified tools only or go for a self-made paper game solution, they can all be considered first steps into the world of game based learning.
We tried to demonstrate here that the potential of game based learning to thoroughly change education is immense, but the reality within the institutions often does not meet the requirements to fully embrace game based learning and its potential. As we try to show with our list of 10 steps to become a game based learning teacher, it is a journey to to start out on. The experience acquired by the teachers and the institutions within the project is going to be summarised by the partners themselves in the following.
We will give a quick overview of what the partners did within the project and then the teachers and the project leaders will revisit their learning in the project.

What have we learned from the GBT project?

VUC Storström - Denmark: Keep Talking and Nobody Explodes (VR), Active Floor

At VUC in Denmark, we try to incorporate game-based teaching and learning as a natural part of learning designs and teaching. To motivate and inspire the students attending school and to help them succeed with their education we bring both analog and digital games to teaching, e.g., Esport, VR and Active Floor.

Getting further knowledge and experience about game-based teaching and learning, it becomes increasingly obvious how important it is to incorporate games in your teaching. As a teacher, it is important to think differently about how you define successful teaching, e.g., in regard to the loss of control – when handing control over to the students, while they are playing and you as the teacher can still be confident that they are learning something.

Incorporating game-based teaching and learning as a natural part of the classroom is crucial, as it can help motivate students to attend school and improve their learning outcomes. To equip teachers accordingly, their competences need to be constantly developed, e.g., by strategically engaging with national and international projects as well as continuously developing and applying innovative learning designs to ensure varied groups of students can be supported.

City Lit - United Kingdom: ACT ESOL, Lateral Thinking Game

A game can be a learning experience.

In ESOL in the UK, we are very used to playing games. However, most typically they are used to practise a learning point and have been adapted for that purpose: verb tense use for example via grammar Snakes and Ladders. We learned in this project that a game can be played for its own sake **and** *produce* learning. The game itself is a learning experience. In the Lateral Thinking Game players were talking, listening, reading and thinking simultaneously - multi-skilling but without a specific practice-focus. The game was a form of task-based learning – competences, plus more particular structured learning moments, emerged from the play.

A similar process took place in ACT ESOL. The play itself was the purpose. *Within* the play, learning, development, practice was taking place. More structured focus, for instance of vocabulary, happened at specific moments within the play or after the play-games but in both cases pursuant on what had *emerged* from the play itself.

Platon School - Greece: Keep Talking and Nobody Explodes (PC), Co-Creation of an Escape Room

Here in Platon schools we are very happy to be a part of this project. Our students learned by playing and our teachers realised that using games in the educational procedure is not so difficult and at the same time it is so enlightening for the students.

The co-creation of the escape room was something different and new for both teachers and students. The students had to get deeper to understand how to create the riddles and at the same time the teacher had to step back and just be there when needed. The teachers said that it was very “strange” for them to have this kind of role inside the class. As said before, something new for both students and teachers.

The Keep talking and nobody explodes was different. It was a game. The students had “just” to play it “but” to communicate in English. They were happy because they were playing a game, and a competitive one because they were playing against the other teams of students, and they learned English without understanding what they do. The teachers said that they could see the students enjoying the class and they even noticed an enhancement in students’ motivation for the class.

Games are fun. Learning should be fun also. That is why we must use games inside the class and in the learning procedure in general if we want to succeed as teachers.

BFI Wien - Austria: Connect Four, The Reactor Game

At BFI Vienna, games are used in class, especially in classes with young people. Both to loosen up the lessons and to practice certain topics. Through the project, BFI learned that games can be used in different areas and that it is possible to develop a (learning) game out of a commercial game. The project enabled trainers from BFI Wien to see games in a different way and we learned to use a systematic approach.

Games are no longer simply played! Trainers set the games in relation to the curriculum and define competences, skills and abilities, now. This makes it possible that game units are evaluated together with the participants. With this evaluation, the participants also see games in a completely different way. They are excited to see what competencies they have already acquired through their favourite games and games they played as children. These resources are used in the classroom, especially for career orientation, because the goal of our courses is integration into the labour market and so we can work on the topic in a playful way.

FØNIX - Norway: Kahoot!, The Frostrune

FØNIX has learned that educational games provide good opportunities to facilitate and adapt, create active learning, and make collaboration safer. We have learned that within an educational setting, entertainment games can serve as an inclusive learning activity.

Fønix has a strategy to implement more games in the future, as we consider this to be an important tool within our two major target groups: language learning for adult migrants and as part of our basic skills training programs for adults in working life.

By using educational games, students, with different backgrounds, get to contribute their strengths to a joint work with fellow students. Games also provide a combination of written, visual, and auditory training that for many will be motivating and supportive in learning activities.

The main target- and resource base for our participation in the GBT-project has been our work with migrants under The Introduction Programme in Norway. This is also the main target group that has achieved most practical use – with multiple different programs and methodologies - like the output from the GBT project.

The transfer value of the experiences and knowledge the teachers have gained through the GBT project is extra important now since the municipality of Sandefjord has taken over the Introduction Programme from January 1st, 2022.

The teachers involved in the programme from Fønix follow over to the municipal adult education and is thus part of a much larger learning environment.

This will ensure that our teachers' competence in game-based teaching will continue to develop in a larger learning environment for the benefit of even more teachers and students in the future.

5. Teaching as a game - “Changing the Game” E-Learning Canvas Course - 10 steps to develop your teaching with games

The second output of the GBT project is a learning course for teachers accompanying the guidebook. Following our ten step, the E-learning course provides learning modules to develop your skills as a game-based learning teacher. It provides questionnaires, texts and examples to develop your expertise in game-based learning. It is available on Canvas and can be accessed here:

https://www.gbt-project.eu/changing-the-game-teacher-trainer-course/

Everyone can access the course and is invited to participate and contribute. Besides learning the ins and outs of game-based learning, it is also an opportunity to connect to other teachers doing the course and create a network of game-based learning educators. To give you a first impression, we will present the introduction to the course in the following:

“As we mentioned above, we developed a ten steps process to become a game-based learning teacher. Going through this process (together with colleagues), will create a strong foundation for the use of games in your institution and let you understand what it takes to bring this powerful ‘new’ learning method to your classroom and change your teaching profoundly with games. The ten steps are as follows:

Step 1 - Play games in your free time

Step 2 - Identify the learning goals in the games you play

Step 3 - Identify areas in your teaching where extra motivation would be useful and what game could be used there

Step 4 - Find and bring other colleagues to play games, too

Step 5 - Form a group to discuss and test games

Step 6 - Identify a game that can be used in class for a specific topic

Step 7 - Create a learning scenario around the game

Step 8 - Use the game in class and evaluate the outcome (also beyond the

skills you would like to teach)

Step 9 - Let other colleagues use the game and the scenario in class, too

Step 10 - Together with colleagues develop a library of tried and tested games and the projects they are used in

Throughout the course, you will move from a general knowledge about gaming, the requirements and the connection to knowledge and skills in education to a closer look at the specifics of games culture, the way games work and the challenges when bringing games into a learning design. You will be presented with a large number of games, learn about other literature supposed to help you on the way and also understand why you should definitely become a more experienced participant in the worlds gaming presents. Every step starts with an introductory text describing what is to expect from this part and then we explain relevant aspects of games and games culture.

Beyond the ten steps, the course will always have a similar structure for the learner to approach a new topic. You always start with a section called *Start Game*. In a questionnaire/quiz you are asked some initial questions to prepare you for the content to come in the chapter. Then, the next part called *Tutorial* will provide a text input about the knowledge you need to understand this specific aspect of gaming, games culture and game-based learning.

Next is the *Let's Play* section that presents our learning designs and experiences when bringing them to a classroom. The teachers will present their approach to game-based learning in a specific project and will talk about their experience doing so. It will also present material and videos that are of interest beyond the course and give helpful insights into game-based learning. Finally, you will be presented with a last section called *Achievement*. These are actual exercises giving you the opportunity to try out and experience first-hand what was described in the chapter before.

Ludography:

Digital games & platforms:

- ***Active Floor*** https://activefloor.com/en/interactive-learning/
- ***Assetto Corsa*** https://www.assettocorsa.it/en/
- ***Assassin's Creed*** https://store.steampowered.com/app/812140/Assassins_Creed_Odyssey/
- ***Autonauts*** https://www.denki.co.uk/portfolio/autonauts/
- ***Beholder*** https://beholder-game.com/
- ***Brothers: A Tale of Two Sons*** https://www.hazelight.se/games/brothers/
- ***Bury me, my Love*** https://burymemylove.arte.tv/
- ***Call of Duty*** https://www.callofduty.com/en/home
- ***Cities: Skylines*** https://www.paradoxplaza.com/cities-skylines/CSCS00GSK-MASTER.html
- ***Civilization*** https://civilization.com/de-DE/
- ***CS: GO*** https://store.steampowered.com/app/730/CounterStrike_Global_Offensive/
- ***Cube Escape*** http://www.cubeescape.com/
- ***Dicey Dungeons*** https://store.steampowered.com/app/861540/Dicey_Dungeons/
- ***Discovery Tour*** https://www.ubisoft.com/en-gb/game/assassins-creed/discovery-tour
- ***DotA 2*** https://www.dota2.com/home
- ***Dragonbox Series*** https://dragonbox.com/
- ***The Elder Scrolls*** https://www.elderscrollsonline.com/en-us/home
- ***Epistory: Typing Chronicles*** http://www.epistorygame.com/
- ***Euro Truck Simulator 2*** https://eurotrucksimulator2.com/
- ***Eve Online*** https://www.eveonline.com/
- ***Factorio*** https://www.factorio.com/
- ***Farming Simulator 19*** https://www.farming-simulator.com/
- ***Football Manager 2021*** https://store.steampowered.com/app/1263850/Football_Manager_2021/
- ***Fortnite*** https://www.epicgames.com/fortnite/en-US/home
- ***GeoGuessr*** https://www.geoguessr.com/
- ***Get Together*** https://store.steampowered.com/app/1505540/Get_Together_A_Coop_Adventure/
- ***Her Story*** http://www.herstorygame.com/purchase/

- ***Hidden Folks*** https://hiddenfolks.com/
- ***It Takes Two*** https://www.ea.com/de-de/games/it-takes-two
- ***Jenny LeCLue*** https://jennyleclue.squarespace.com/
- ***Kahoot!*** https://kahoot.com/
- ***Keep Talking and Nobody Explodes*** https://keeptalkinggame.com/
- ***Kerbal Space Program*** https://www.kerbalspaceprogram.com/
- ***League of Legends*** https://na.leagueoflegends.com/en-us/
- ***The Legend of Zelda: Breath of the Wild*** https://www.zelda.com/breath-of-the-wild/
- ***Lightbot*** https://lightbot.com/
- ***Longstory: A Dating Game for the Real World*** https://www.longstorygame.com/
- ***Microsoft Flight Simulator*** https://www.microsoft.com/en-us/p/microsoft-flight-simulator-standard/9nxn8gf8n9ht?activetab=pivot:overviewtab
- ***Minecraft*** https://www.minecraft.net/de-de/
- ***Minecraft Education Edition*** https://education.minecraft.net/de-de/homepage
- ***Mini Metro*** https://dinopoloclub.com/games/mini-metro/
- ***Mini Motorways*** https://dinopoloclub.com/games/mini-motorways/
- ***No Man's Sky*** https://www.nomanssky.com/
- ***Observation*** https://store.steampowered.com/app/906100/Observation/
- ***Offworld Trading Company*** https://www.offworldgame.com/
- ***Orwell*** https://www.osmoticstudios.com/de/orwell-keeping-an-eye-on-you/
- ***Papers, Please*** https://papersplea.se/
- ***Path Out*** https://www.path-out.net/
- ***Planet Coaster*** https://www.planetcoaster.com/
- ***Pokemon*** https://www.pokemon.com/us/
- ***Production Line*** https://www.positech.co.uk/productionline/
- ***Project Cars*** https://www.projectcarsgame.com/
- ***Rocket League*** https://www.rocketleague.com/
- ***Portal*** https://store.steampowered.com/app/400/Portal/
- ***RPG Maker*** https://www.rpgmakerweb.com/
- ***The Sims 4*** https://www.ea.com/de-de/games/the-sims/the-sims-4
- ***Sherlock Holmes: Crimes and Punishment*** https://frogwares.com/sherlock-holmes-crimes-punishments/
- ***Stardew Valley*** https://www.stardewvalley.net/
- ***Tacoma*** https://tacoma.game/

- ***Tetris*** https://tetris.com/play-tetris
- ***Thomas was Alone*** https://www.bithellgames.com/thomas-was-alone
- ***Tick Tock: A Tale for Two*** https://www.ticktockthegame.com/
- ***Unrailed*** https://unrailed-game.com/
- ***WAY*** http://www.gamesforchange.org/game/way/
- ***This War of Mine*** https://www.thiswarofmine.com/
- ***What remains of Edith Finch*** http://www.giantsparrow.com/games/finch/
- ***The Wiki Game*** https://www.thewikigame.com/
- ***Wilmot's Warehouse*** http://www.wilmotswarehouse.com/
- ***The Witcher*** https://thewitcher.com/en
- ***World of Warcraft*** https://worldofwarcraft.com/de-de/

Board & card games

- ***Agricola***, Lookout Games, 2007. Board game, players 1 to 5, session length 30-150 mins. Age rating/Recommended age 12
- ***Anno Domini***, ABACUSSPIELE, 1996. Card game, various sets, players 2 to 8, session length 30 mins. Age rating/Recommended age 10
- ***Carcassonne,*** Z-Man Games, 2000. Board game, players 2 to 5, session length 30-45 mins. Age rating/Recommended age 7
- ***Catan***, Kosmos, 1996. Board & Card game, players 3 to 6, session length 45-120 mins. Age rating/Recommended age 10
- ***Chess***, Public Domain, 1475. Board game, players 2, session length 20-90 mins. Age rating/Recommended age 6
- ***Codenames***, Czech Games Edition, 2015. Board game, players 4 to 8, session length 15-30 mins. Age rating/Recommended age 10
- ***Concept***, Repos Production, 2013. Board game, players 2-12, session length 40 mins. Age rating/Recommended age 10
- ***Diplomacy***, Avalon Hill Games Inc., 1959. Board game, players 2-7, session length 360 mins. Age rating/Recommended age 12+
- ***Dixit***, Asmodee, 2008. Card game, players 3-6, session length 30 mins. Age rating/Recommended age 8
- ***Evolution***, North Star Games, 2014. Board game, players 2-6, session length 60 mins. Age rating/Recommended age 12
- ***Istanbul***, Pegasus Spiele, 2014. Board Game, players 2-5, session length 40-60 mins. Age rating/Recommended age 10
- ***Love Letter***, Z-Man Games, 2012. Card game, players 2-4, session length 20 mins. Age rating/Recommended age 10
- ***Magic Fold***, Happy Baobab, 2018. Board game, players 2-4, session length 20-30 mins. Age rating/Recommended age 7
- ***Monopoly***, Parker Brothers, 1933. Board game, players 2-8, session length 90+ mins. Age rating/Recommended age 8
- ***Pandemic***, Z-Man Games, 2008. Board game, players 2-4 (cooperative), session length 45 mins. Age rating/Recommended age 8
- ***Risk***, Hasbro, 1957. Board game, players 2-6, session length 60+ mins. Age rating/Recommended age 10
- ***Scrabble***, Mattel, 1938. Board game, players 2-4, session length about 50 mins. Age rating/Recommended age 10
- ***Taboo***, Hasbro, 1989. Board game, players 2+, session length 5-15 mins. Age rating/Recommended age 13
- ***Ticket to Ride***, Days of Wonder, 2004. Board game, players 2-5, session length 30-60 mins. Age rating/Recommended age 8
- ***Trivial Pursuit***, Hasbro, 1981. Board game, players 2-6, session length 30-90 mins. Age rating/Recommended age 12
- ***Ubongo***, Kosmos, 2003. Board game, players 2-4, session length 20-30 mins. Age rating/Recommended age 8

- ***Uluru***, Kosmos, 2012. Board game, players 1-5, session length 30 mins. Age rating/Recommended age 8
- ***Village***, Pegasus Spiele, 2011. Board game, players 2-4, session length 75 mins. Age rating/Recommended age 12
- ***The Werewolves of Miller's Hollow***, Asmodee, 1986. Card game, players 8-18, session length 30 mins. Age rating/Recommended age 8
- ***Wizard***, Amigo, 1984. Card game, players 3-6, session length 45 mins. Age rating/Recommended age 10
- ***Minecraft: Builders and Biomes***, Ravensburger, 2019. Board game, players 2-4, session length 30-60 mins. Age rating/Recommended age 10
- ***Cities: Skylines - The Board Game***, Kosmos, 2019. Board game, players 1-4, session length 70 mins. Age rating/Recommended age 10
- ***Sid Meier's Civilization: A New Dawn***, Fantasy Flight Games, 2017. Board game, players 2-4, session length 60-120 mins. Age rating/Recommended age 14
- ***Stardew Valley: The Board Game***, Concerned Ape, 2021. Board game, players 1-4, session length 45-200 mins. Age rating/Recommended age 13
- ***This War of Mine: The Board Game***, Awaken Realms, 2017. Board game, players 1-6, session length 45-120 mins. Age rating/Recommended age 18
- ***Best Case Escape Room Experience*** https://www.gamesinstitute.at/
- ***Breakout Edu*** Https://www.breakoutedu.com/

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Appendix: Translations

Introduction to the guidebook

Danish

Projektet “Games in Basic Skills Teaching” er et Erasmus+ projekt, der fokuserer på brugen af analoge og digitale spil inden for undervisning i grundlæggende færdigheder. I projektet har vi anvendt spil til at undervise specifikke målgrupper inden for dette område, bl.a. fordi spil kan inddrage nye og vigtige aspekter i undervisningen. Fx påvirker spil de undervisningssituationer, som de anvendes i, ved at de åbner for indlevelse og stimulerende aktiviteter. Samtidig bringer spil en ny form for interaktion ind i læreprocesserne, som er orienteret mod kompetencer, hvor de stimulerer blødere færdigheder, som fx kommunikation og kollaboration. Derfor kan spil i særlig grad motivere studerende, som ellers kan være sværere at nå, når spillene tilføjer legende elementer til læreprocesserne. Dermed skabes nye og bedre omstændigheder for læreprocesser, hvor læringen forankres i psykologi og nyere læringsteorier, som fx Gees læringsprincipper, begrebet “Flow” eller teorien om “Zonen for nærmeste udvikling” og “Selvbestemmelsesteori”.

Da de studerendes profiler i vores målgrupper har afveget meget fra hinanden, og udstyr og situering har været forankret i meget forskellige læringsmiljøer, har vi også anvendt en bredere vifte af forskellige spil og tilgange i projektet. I projektet har vi afprøvet både analoge og digitale spil, og vi har anvendt alt fra grundlæggende rollespil over kortspil og hele vejen til VR-spil og “Augmented Reality”-applikationer med spillignende elementer.

For mange af de involverede undervisere og studerende har det været en forholdsvis ny oplevelse at bruge spil i undervisningen. Afhængigt af hvilke spil, vi har anvendt, har underviserne derfor måttet genoverveje deres undervisningstilgang og opbygning. Det har nogle gange givet behov for en masse forberedelse, hvad angår det tekniske såvel som i forhold til at udvikle læringsdesigns, og i forhold til at lære spillene bedre at kende, for i sidste ende at kunne integrere spillene bedst muligt i de forskellige situationer og læreprocesser.

Omfanget af denne forberedelse afhænger af, hvilke spil og medier som blev anvendt i undervisningen. Fx har sociale og analoge spil, såsom brætspil eller kortspil, ikke medført så megen forberedelse i forhold til teknologi og udstyr i klassen. Her var den eneste tekniske opsætning, som var nødvendig nogle gange kun den, som skulle til for at kunne dokumentere selve undervisningen med spil gennem videooptagelse og interviews sammen med studerende og undervisere før-under-efter sessionerne. Når det kommer til at bruge computerspil eller VR- og Augmented Reality-spil i klassen, bliver den tekniske opsætning selvfølgelig mere omfattende. Men hvis denne teknologi er tilgængelig, og den i forvejen bruges i klasseværelset, fx til andre aktiviteter end spil, vil den allerede være installeret og vedligeholdt af personale, der også i forvejen er dygtige til at bruge og vedligeholde denne teknologi.

En af de helt store udfordringer af undervisning med spil, ud over det teknologiske aspekt, er integrationen af spillene i læseplanen, især ved kortere lektioner af 45 til 60 minutters varighed. Spil er sjældent designet til at indgå i så korte forløb, og derfor kan det at anvende dem i sådanne situationer kræve ekstra overvejelser af, hvordan man kan opdele spillene i mindre dele, som passer bedre til sådanne tidsrammer.

Da undervisning med spil er et meget lovende tiltag, især når det kommer til undervisning i grundlæggende færdigheder, og da formidling af vores arbejde er afgørende for projektets succes, har vi i projektet også overvejet nye måder at formidle vores erfaring til så mange mennesker som muligt. Derfor har vi dokumenteret vores arbejde med video og gennemført interviews med undervisere og projektets medarbejdere med henblik på at gøre dette materiale tilgængeligt for så mange som muligt. Vi har også oprettet en YouTube-kanal, hvor man kan finde alle projektets interviews. Vi har også tilføjet videoer, som handler om, hvordan man kan anvende spil i undervisningen samt gameplay-videoer, som kan demonstrere, hvordan spillene kan anvendes i selve undervisningen. Alt vores materiale vil også blive distribueret via sociale medier, idet vi også har oprettet en Facebook og en LinkedIn-side til projektet. Det skal sikre, at alt materiale er offentligt og tilgængeligt, og at alle er i stand til at finde projektets produkter og resultater. For også at understøtte 'Open Educational Resources' er alle ressourcer gratis tilgængelige.

Udover denne guidebog vil der også være et åbent kursus på Canvas, som hedder "Changing the Game", som kan demonstrere, hvordan vi har integreret de spil, vi anvendte i vores undervisning i grundlæggende færdigheder. Her kan også findes råd om, hvordan andre kan gøre det samme, hvis man er interesseret i det. Kurset på Canvas anvender herværende guidebog som guideline og følger også vores "10 steps to develop your teaching with games". Men den kan også anvendes uafhængigt heraf.

De følgende sider vil blive brugt til at give et overblik over de otte partnere fra syv forskellige europæiske lande, som har deltaget i projektet.

VUC Storstrøm, Denmark (lead partner)

VUC Storstrøm er et voksenuddannelsescenter med cirka 200 ansatte, hvoraf 160 er undervisere. I 2019 havde VUC Storstrøm omkring 5000 fuldtids-/deltidsstuderende og en samlet omsætning på ca. 18 M€. VUC Storstrøm dækker en region med omkring 270.000 indbyggere i et landdistrikt og er repræsenteret i seks af regionens byer.

VUC Storstrøm tilbyder almen voksenuddannelse, videregående forberedelsesuddannelser, forberedende voksenuddannelse i grundkompetencer og flere specialuddannelser for elever med særlige behov samt skræddersyede kurser for virksomheder. Eksamen er obligatorisk i alle fag og på alle niveauer med formelle kompetencer. VUC Storstrøms kursister er fortrinsvis voksne mellem 18 og 25 år, afhængigt af kurset. Det er ofte kursister, som gerne vil starte forfra i forhold til uddannelse, eller kursister som vil skabe en ny karrierevej for sig selv. Derfor er aktiviteter til opkvalificering en integreret del af VUC Storstrøms DNA.

Alle seks VUC Storstrøm afdelinger fungerer som hybride og blended learning centre. De er fuldt ud digitale og kan oprette forbindelse via videokonference og samarbejdsværktøjer på tværs af lokationer. Det betyder, at vi kan tilbyde en bred vifte af uddannelsesmuligheder, uanset hvor vores studerende befinder sig. Dermed kan vi også bidrage til at sikre lige adgang til uddannelse for alle. Vores set-up betyder også, at vi kan arbejde med mange forskellige typer kursister og studiemiljøer, og vi kan også arbejde løbende med at udvikle relevante og innovative læringsdesigns, som kan sikre, at vi kan hjælpe vores meget forskellige grupper af kursister videre.

Berufsförderungsinstitut Wien, Østrig

Berufsförderungsinstitut Wien/ Erhvervsuddannelsesinstituttet Wien (BFI Wien) er et af Østrigs førende institutter for medarbejderorienteret erhvervs- og efter- og videreuddannelse. Instituttet blev oprettet af "Federal Chamber of Labour" og "The Austrian Trade Union Federation" i 1959.

BFI Wien udbyder uddannelser med det formål at styrke den faglige og sociale integration af vores målgrupper samt at sikre deres arbejdspladser og re-integrere dem på arbejdsmarkedet. BFI Wien arbejder for offentlige institutioner såsom den østrigske nationale arbejdsformidling, Wiens Beskæftigelsesfond, forskellige ministerier og europæiske organisationer samt for virksomheder i den private sektor inden for handel, service og industri. BFI Wien har datterselskaberne "Fachhochschule des BFI Wien" (University of Applied Sciences BFI Wien), "Schulen des BFI Wien" (Handelsskoler i BFI Wien).

BFI Wien tilbyder en bred vifte af uddannelser inden for erhvervsuddannelse og træning, vejledning og karriererådgivning og aktivering. Erhvervsuddannelse omfatter områder som it- og kommunikationsteknologi, turisme, sundheds- og sociale tjenester, transport og trafik, byggeri, træ, metal og elektricitet.

For at kunne inkludere personer med kort uddannelsesbaggrund, indlæringsvanskeligheder og handicaps, samt unge der forlader skolen tidligt, er grundlæggende færdighedsuddannelse centralt i mange af BFI Wiens programmer. I de fleste tilfælde er grunduddannelsen en del af en længere erhvervsuddannelse. Enten er den integreret i uddannelsen, eller også gennemføres den før den efterfølgende erhvervs- eller tekniske uddannelse.

BFI Wiens tilbud inden for grundlæggende færdighedstræning inkluderer regning og matematisk-logisk forståelse, skrivning og kommunikation, sociale færdigheder og tysk, som teknisk- eller som andetsprog. Eksempler herpå kan være "Integrative Vocational training courses", som følger den østrigske erhvervsuddannelseslovgivning, "Jugendwerkstatt (ungdomsværksted)" og "Lernwerkstatt (læringsværksted)", som er en særlig mulighed for unge fra 15 til 17 år, der skifter fra skole til lærlingeuddannelser og arbejde. I øjeblikket beskæftiger BFI Wien omkring 600 medarbejdere og arbejder sammen med 600 freelancere. BFI Wien uddanner omkring 40.000 studerende om året.

Platon Schools, Grækenland

Platon Schools Katerini, som indeholder børnehave, grundskole, videreuddannelse og livslang læringsprogrammer er en moderne uddannelsesinstitution med 570 studerende og 90 medarbejdere.

Organisationen forfølger udviklingen på uddannelsesområdet med et kreativt sind og stor interesse. Organisationen sætter konstant nye mål og indtager en foregangsposition i uddannelsessektoren.

Gennem brug af de nyeste faciliteter, en righoldig læseplan, erfarne og dygtige undervisere samt ikke mindst sammenhængende principper og respekt over for elever og forældre, har skolen kæmpet i de sidste ti år for at gennemføre uddannelser for skolens elever. Skolens udnyttelse af samfundsorienterede og deltagelsesbaserede tilgange har engageret både lokale og regionale interessenter i opgaven med at tackle de uddannelsesmæssige udfordringer.

Gennem Forsknings- og Innovationsafdelingen videreføres skolens deltagelse i internationale programmer for design, implementering og vurdering af innovative pædagogiske metoder og materialer. Platon skolens "Center for Forskning og Innovation" engagerer sig aktivt i udarbejdelsen af avancerede undervisningsmaterialer, både konventionelle og digitale.

Skolens ambition er at udnytte de nyeste teknologier i undervisningsprocesserne med henblik på at forbedre undervisning og læring. De værktøjer, skolen udvikler inden for rammerne af sine uddannelsesprogrammer, er resultatet af samarbejde og af en fælles indsats blandt skolens specialister inden for en række akademiske områder, hvor der er stort fokus på informationsteknologi, undervisningsmetoder og læringsprocesser.

Platon Skolen samarbejder med Katerini Kommune, "International Hellenic University", "District Educational Authority of Pieria", "Chamber of Commerce of Pieria", "Olympus Festival", " Volunteering team af Pieria" og områdets kulturelle og sportslige foreninger. Platon skolen leder også undervisningen på "Dlearn", som er et europæisk netværk for digital læring.

City Lit London, England

City Lit er Londons største udbyder af kortere uddannelseskurser for voksne. City Lit er grundlagt i 1919 og har dermed udbudt voksenuddannelse i det centrale London i over et århundrede år. City Lit hjælper elever fra forskellige baggrunde og sociale vilkår med at udfordre sig selv og at realisere deres potentiale. I 2020 lancerede City Lit en ny online læringsbestemmelse med henblik på at fortsætte som et knudepunkt for læring og support under COVID-19 pandemien.

City Lit har både tilpasset sig og videreudviklet sig for at imødekomme Londons skiftende behov og tilbyder nu også andet og mere end voksenuddannelser. Skolens tilbud hjælper de studerende ud af ensomhed og med at udvikle nye færdigheder og at forbedre deres beskæftigelsesegnethed og at ændre karriere. Skolen giver de studerende en oplevelse af formål, forbedrer deres selvtillid og sætter dem i stand til at overvinde mentale og sundhedsmæssige udfordringer og gør London og de omkringliggende områder til et bedre sted at være.

Skolen kører nu omkring 5.000 kurser om året med næsten 60.000 tilmeldinger, både som online og gennem fremmøde.

"Universal Skills Centre" hos City Lit

City Lit' "Universal Skills Centre" fokuserer på de kernekompetencer og færdigheder, som voksne har brug for med henblik på at deltage, udvikle sig og få en stemme i nutidens samfund.

Skolen fokuserer på de mest efterspurgte færdigheder både på og udenfor for arbejdspladsen, som fx kommunikation, beslutningstagning, prioritering, innovation og teambuilding. De studerende træner og udvikler disse kompetencer ved at arbejde med det engelske sprog, to-sprogsundervisning, matematik, digitale færdigheder og data-kendskab. Skolen afholder kurser for over 1500 hørehæmmede og døve elever på alle niveauer med og uden eksamener. Skolens pædagogiske fokus er rettet mod opgavebaseret læring og gamification af klasseværelset.

Verein Spielmacher and Games Institute Austria, Østrig

"Verein Spielmacher" er en forening i Østrig, der samler fagfolk og andre, der interesserer sig for, hvordan man kan anvende spil i nye sammenhænge, som fx uddannelse eller til faglig udvikling. Foreningen blev grundlagt i 2017, og "Games in Basic Skills Teaching" projektet er det første store projekt, som foreningen har bidraget til. I samarbejdet med "Games Institute Austria" har Verein Spielmacher opbygget en stor ekspertise inden for spil og spils anvendelsesmuligheder.

Games Institute Austria er en virksomhed, der ligger i Wien, Østrig, og som arbejder inden for spilbaseret læring og gamification. Instituttet blev grundlagt i 2015 og har siden da udviklet et ry for at være en af Europas førende virksomheder inden for dette område.

Games Institute Austria repræsenterer området gennem foredrag, artikler, seminarer, workshops og læreruddannelse og har udviklet flere tjenester og produkter, som fx Escape Rooms til uddannelse og faglig udvikling, herunder Games Institute's "Best Case Escape Room" Case. Instituttet arbejder også med færdighedsvurdering i forhold til spil med anvendelse af vurderingsværktøjet "GIST" (Game Informed Self-Evaluation Tool) og SkillEDU. SkillEDU ligner GIST, men fokuserer på studerende, som nærmer sig afslutningen af deres skolegang, eller som studerer e-sport eller "Educational Game Design". Instituttet samarbejder med andre specialiserede virksomheder inden for de respektive områder, som fx "Seppo" eller "Learn2Esport" for at formidle de bedste spilrelaterede læringsoplevelser ud til virksomheder og uddannelsesinstitutioner over hele verden.

Games Institutes medarbejdere har mere end 15 års erfaring inden for undervisning, UI/UX design, virksomhedsrådgivning og årtiers erfaring inden for spil, spilkultur og e-sport. Som en konsekvens heraf kan instituttet tilbyde autentiske og relevante spiloplevelser og oversætte og overføre de relevante aspekter af spil til instituttets kunder og til samfundet som sådant.

CFC – Conferenza della Svizzera italiana per la formazione continua degli adulti, Switzerland

Konferencen for livslang læring for voksne (CFC: www.conferenzacfc.ch) er en paraplyorganisationen for almen og faglig voksenuddannelse i Ticino-regionen, som ligger i den sydlige del af Schweiz. CFC er en non-profit organisation, som er støttet af regeringen i Ticino regionen, og CFC har et permanent sekretariat i Lugano. CFC samler mere end 80 medlemmer inden for institutioner, offentlige- og private skoler, statsligt udbudt voksenuddannelse, andre statslige organer og enkeltpersoner, der er involveret i voksenuddannelse og human ressources og omskoling.

CFC understøtter et bæredygtigt voksenuddannelsessystem, øger forståelsen for vigtigheden af voksenuddannelse og skaber samarbejde og netværk mellem voksenuddannelsesorganisationer ved at køre nationale og internationale projekter, konferencer og præsentationer.

Takket være mere end 20 års erfaring har CFC opnået omfattende viden om de fleste emner relateret til voksenuddannelse. CFC har også udviklet og deltaget på forskellige måder i mange forskellige projekter om uddannelse af dårligt stillede voksne, som mangler grundlæggende færdigheder og formelle erhvervsuddannelseskvalifikationer på regionalt såvel som internationalt plan.

Universal Learning Systems Cork, Ireland

Universal Learning Systems (ULS) er et internationalt konsulentfirma med speciale i forskning, uddannelse, træning og projektledelse. ULS gennemfører projekter for en række kunder inden for uddannelses-, udviklings- og ledelsessektoren. ULS hører hjemme i Irland og har også kontorer i Prag, Barcelona, Amsterdam, Helsinki, São Paulo og Chicago.

ULS har fokus på faglig udvikling med særlig vægt på arbejdspladsrelaterede læringsprocesser. ULS arbejder i Irland, Europa, Kina og USA med en bred vifte af kunder, som omfatter universiteter, åbne læringsinstitutioner, skoler, arbejdsgivere og samfundsorganisationer. ULS har særlig ekspertise inden for læring omkring transformativ læring, handicap og rehabilitering, e-læring, mangfoldighed, kulturmøde, indvandring, konfliktløsning og strategisk ledelse.

ULS har stor erfaring med at fremme uddannelses- og læringsinnovation. ULS arbejder tæt sammen med interessenter i lokalsamfundet, voksenuddannelser og arbejdsgivernetværk. ULS har særlig erfaring med post-graduate fjernundervisningsinitiativer inden for forandringsledelse og bæredygtig faglig udvikling. ULS er centralt involveret i arbejdspladsrelaterede læringsinitiativer som kan fremme medarbejdervækst og kompetenceudvikling. ULS fokuserer på proaktiv strategisk planlægning af innovativ læring og er aktivt involveret i en bred vifte af evalueringsprojekter.

ULS har en førende position inden for EU's fjernundervisnings- og e-læringsinnovationsnetværk. ULS har særlig erfaring med projektevaluering og kvalitetssikring. ULS har udviklet en bred vifte af e-learning kurser inden for sikkerheds- og apoteksektoren i Finland i samarbejde med partnervirksomheden ”Change Learning”. ULS har erfaring i at udvikle øget engagement hos lærere, samfund og forældre i samarbejde med skoler. ULS har udviklet uddannelse i menneskerettigheder og mangfoldighed for politi-uddannelsesinstitutioner i Irland og Europa. Dr. Alan Bruce fra ULS er medlem af New Security Forum i Berlin og af Garda National Diversity Strategy Board i Irland.

ULS baserer sit arbejde på identifikation af nye muligheder for innovativ udvikling af læringskompetencer til at tackle fremtidige samfundsmæssige udfordringer. At indfange sådanne innovative muligheder i forhold til avancerede teknologier og deres anvendelse på menneskelige læringsbehov er blevet et centralt fokus i ULS-projekter i de senere år. ULS har gennem sin ekspertise inden for handicap, migration og interkulturalisme udviklet robuste uddannelsesmetoder og retningslinjer baseret på individuelle og lokale lærings- og udviklingsbehov – især i en tid med socialøkonomiske udfordringer.

ULS har særlig ekspertise inden for forskning, projektledelse og innovative initiativer inden for migration, interkulturel træning og konflikttransformation, med en stærk historik inden for programudvikling i Kosovo, Euskadi (Baskerlandet), Bosnien, Catalonien, Rumænien, Cypern, Palæstina og Nordirland. ULS har også gennemført betydelige uddannelses- og erhvervsuddannelsesprojekter omhandlende grundlæggende rettigheder og mangfoldighedsstyring. ULS er akademisk rådgiver for ”Conflicts of Interest” programmet, som leveres af Expac i Nordirland, og ULS leverer det nye ”Future Resolutions

program", som også er udviklet af Expac og valideret af Queens University Belfast. ULS er medlem af "Foreningen for Historisk Dialog og Forskning" på Cypern.

ULS har designet og leveret uddannelse i konflikt-transformation (herunder mæglingsfærdigheder) til kundeagenturer i hele Nordirland og den irske republiks tilstødende counties. I 2014 indgik ULS en akademisk samabejdsaftale med "UOC", Det Åbne Universitet i Catalonien, som ligger i Barcelona, om fælles udvikling af konfliktløsningskurser i "Campus for Peace" og for fælles postgraduate programudvikling.

ULS's aktuelle projekter omfatter:

1. Innovative læringsinterventioner inden for migration og social inklusion
2. Forskning i arbejdsmarkedsresultater for etniske minoriteter i Finland
3. Post-war konflikttransformation og uddannelse i Nordirland
4. Professionel akkreditering af erhvervsuddannelse (USA)
5. Post-konflikt erhvervsuddannelse programmer i Kosovo, Euskadi og Bosnien
6. Udvikling af postgraduate kurser for rehabiliteringspersonale (USA/Irland)
7. Mangfoldighedsledelsesprogrammer for den private og offentlige sektor
8. Rehabiliteringsforskning og best-pratice i inkluderende skoler (Illinois)
9. Inter-etnisk uddannelse og forskning i konflikter (Cypern og Irland)
10. Sprogindlæringsinitiativer inden for videregående uddannelse i Taiwan
11. Innovative og teknologi-støttede programmer i ældreplejen i Kina
12. Kompetenceudvikling for IKT-sektoren i Grækenland og Bulgarien
13. Innovativ læring om globaliseret forandring i Ecuador
14. Forskning og uddannelse til bekæmpelse af cybermobning i skoler (Italien)
15. Avanceret IKT støttede sprogindlæring for universiteter i Palæstina.

FØNIX, Norway

FØNIX er den største virksomhed på markedet for erhvervsmæssig rehabilitering i Norge. Vores hovedkontor ligger i Sandefjord, Norge, 120 km syd for Oslo, og vi understøtter 11

regionale kontorer i Vestfold amt. FØNIX har ca. 200 medarbejdere – primært certificerede undervisere og instruktører og undervisere.

FØNIX er en NGO, og er organiseret som et aktieselskab (AS), men fungerer som en non-profit organisation gennem vores formelle godkendelse som leverandør til den norske arbejds- og velfærdstjeneste (NAV).

FØNIX er 100% ejet af Sandefjord Kommune. Sandefjord er den 8. største by i Norge med ca. 65.000 indbyggere.

FØNIXs formelle godkendelse som leverandør til NAV (Den norske arbejds- og velfærdsstyrelse) kræver, at ejerne ikke kan udtage overskud af virksomheden, og at alt overskud skal gavne virksomhedens brugerne. På denne måde spiller FØNIX en vigtig rolle for samfundet og de offentlige myndigheder, hvad angår erhvervsmæssig rehabilitering.

På ethvert tidspunkt i løbet af året omfatter vores service ca. 2.000 studerende og jobsøgende og ca. 300 migranter og sprogstuderende.

I 2019 fik mere end 1.200 personer et job gennem FØNIX.

Deutsch

PROJEKTBESCHREIBUNG - PROJEKTÜBERBLICK

Das Projekt "Games in Basic Skills Teaching" ist ein Erasmus+ Projekt, das sich auf den Einsatz von analogen und digitalen Spielen im Rahmen der Basisbildung fokussiert. Die

Projektpartnerschaft versuchte für Personen in der Basisbildung, Spiele in den Unterricht zu integrieren, da diese den Unterricht um wertvolle Aspekte erweitern können. Spiele verändern das Klassenzimmer, in dem sie eingesetzt werden. Sie können immersive Welten schaffen und herausfordernde Aufgaben anbieten, während sie gleichzeitig eine neue Form der Interaktion in den Lernprozess einfließen lassen. Sie sind kompetenzorientiert und betonen Soft Skills wie Kommunikation und Zusammenarbeit.

Spiele können SchülerInnen motivieren, die sonst schwer zu motivieren sind und sie bringen Spaß in den Unterricht. Basierend auf Aussagen der Lernpsychologie sowie neuerer Lerntheorien, wie zum Beispiel Gees Lernprinzipien, ist es möglich, durch Spiele das Flowkonzept, die Theorie der Zone der nächsten Entwicklung (ZPD = Zone of proximal development) bzw. die Selbstbestimmungstheorie einfließen zu lassen.

Da die Zielgruppen und die Profile der Lernenden, sowie die Ausstattung und das Setting in den verschiedenen Partnerorganisationen und Klassen sehr unterschiedlich waren, wurde im Projekt ein breites Spektrum an verschiedenen Spielen und spielerischen Ansätzen verwendet. Es wurden sowohl analoge als auch digitale Spiele verwendet sowie diverse methodische Ansätze beginnend von einfachen Rollenspielen und Kartenspielen bis hin zu VR-Spielen und AR-Anwendungen mit spielähnlichen Elementen eingesetzt. Die Erfahrungen der SchülerInnen sowie der Lehrkräfte waren sehr unterschiedlich. Alle waren sich einig, dass Spiele einen Mehrwert erbrachten. Für die meisten war der Einsatz von Spielen im Klassenzimmer eine relativ neue Erfahrung. Je nach den verwendeten Spielen mussten die Lehrkräfte ihren Unterricht und den Lehrprozess neu überdenken. Dies erforderte manchmal eine Menge an Vorbereitung - sowohl technisch als auch der Didaktik. Es war notwendig die Spiele gut kennenzulernen, um diese richtig in den Lehrplan bzw. den Lernprozess zu integrieren.

Der Umfang der Vorbereitung hängt davon ab, welche Spiele und welche Medien für den Unterricht verwendet werden. Soziale und analoge Spiele, wie Brett- oder Kartenspiele, benötigen nicht viel Vorbereitung, um das Spiel im Unterricht einsetzten zu können. Bei diesen Spielen wurde hin und wieder ein einziges technisches Mittel genutzt, um den Unterricht zu dokumentieren, indem Videos von Spieleinheiten und/ oder Interviews mit den SchülerInnen und LehrerInnen vor, während und nach dem Unterricht mit Spielen. Wenn es um den Einsatz von Computerspielen oder VR- und AR-Spielen im Unterricht geht, ist der Aufbau natürlich aufwändiger. Wenn diese Technologie jedoch im Klassenzimmer bzw. in der Schule verfügbar ist und regelmäßig eingesetzt wird, besteht meist schon ein Know-How über die Nutzung und Wartung der Technologie, da sie im Schulalltag immer wieder benutzt wird.

Eine der größten Herausforderungen neben dem technischen Aspekt ist die Integration der Spiele in den Lehrplan und insbesondere in die 45- bis 60-minütige Struktur (Lerneinheiten im Stundenplan). Spiele sind oft nicht dafür ausgelegt, in einer so kurzen Zeit integriert zu werden und deshalb erfordert das Spielen im Unterricht zusätzliche Überlegungen, wie man die Spieleinheiten auf einen angemessenen Zeitrahmen herunterbrechen kann.

Da das Unterrichten mit Spielen ein so vielversprechender Bereich ist, insbesondere wenn es um die Vermittlung von Grundkenntnissen geht, haben wir versucht in unserer Verbreitungsstrategie neue Wege zu gehen, um so viele Menschen als nur möglich zu erreichen. Wir haben dafür Videos gewählt, welche für alle zugänglich sind. Weiters gibt es Interviews mit LehrerInnen und den MitarbeiterInnen der Projektpartner. Dafür haben wir einen YouTube-Kanal eingerichtet, auf dem alle Interviews zu finden sind. Außerdem haben wir Videos hinzugefügt, welche die Verwendung und den Einsatz von Spielen für den Unterricht erklären. Das gesamte Material wird auch in den sozialen Medien präsentiert. Wir haben eine Facebook- und eine LinkedIn-Seite für das Projekt eingerichtet, um zu gewährleisten, dass alle Projektinhalte und Ergebnisse öffentlich zugänglich sind. Alle Ressourcen sind kostenlos verfügbar und folgen damit auch dem Open Educational Resources Ansatz.

Neben diesem Leitfaden wird auch ein freier Trainingskurs auf Adobe Canvas mit dem Titel "Changing the Game" verfügbar sein. In diesem Kurs zeigen wir Ihnen wie wir die von uns verwendeten Spiele im Unterricht integriert haben. Weiters gibt es Ratschläge, wie Sie selbst Spiele im Unterricht verwenden können. Der Trainingskurs verwendet diesen Leitfaden als grundlegende Ressource, folgt den "10 Schritten zur ExpertIn des Unterrichts mit Spielen".

Auf den folgenden Seiten wird ein Überblick über die acht Partner gegeben, die aus sieben verschiedenen europäischen Ländern an dem Projekt teilgenommen haben.

VUC Storstrøm, Dänemark (Projektleitung)

VUC Storstrøm ist ein Erwachsenenbildungsinstitut mit etwa 200 MitarbeiterInnen, davon sind 160 Lehrkräfte. Sie hatten etwa 5.000 Vollzeit-/Teilzeitstudierende im Jahr 2019 und einen Umsatz von etwa € 18 Mio. VUC Storstrøm arbeitet in einer ländlichen Region mit etwa 270.000 EinwohnerInnen und ist in sechs Städten vertreten.

VUC Storstrøm bietet allgemeine und vorbereitende Erwachsenenbildung (Grundkenntnisse bis hin zu höheren Prüfungen) und mehrere spezielle Programme für Lernende mit besonderen Bedürfnissen sowie maßgeschneiderte Kurse für Unternehmen an. Prüfungen sind in allen Fächern und auf allen Ebenen, die formale Kompetenzen vermitteln, obligatorisch.
Die SchülerInnen sind meist Erwachsene zwischen 18 und 25 Jahren bzw. Personen, welche im Programm die „zweite Chance“ sind oder eine neue berufliche Laufbahn anstreben. Daher ist die Schaffung von Weiterbildungsmöglichkeiten ein wesentlicher Bestandteil der organisatorischen DNA.
Alle sechs Abteilungen arbeiten als Blended Learning Zentren. Sie sind vollständig digital und können sich über Videokonferenzen und Tools für die Zusammenarbeit verbinden. Das bedeutet, dass VUC eine breite Palette von Bildungsmöglichkeiten anbietet, unabhängig davon, wo sich die Studierenden befinden. Dadurch kann ein gleicher Zugang zur Bildung für alle gewährleistet werden. Dies bedeutet auch, dass VUC mit vielen verschiedenen Arten von Studierenden und Studienumgebungen arbeitet und daher werden kontinuierlich relevante und innovative Lernkonzepte entwickelt, um sicherzustellen, dass die diversen Gruppen von Studierenden unterstützt werden können.

Berufsförderungsinstitut Wien, Österreich

Das Berufsförderungsinstitut Wien (BFI Wien) ist eines der führenden Institute der beruflichen Aus- und Weiterbildung in Österreich. Es wurde 1959 von der Arbeiterkammer und dem Österreichischen Gewerkschaftsbund gegründet. Das BFI Wien bietet Bildung mit

dem Ziel, die berufliche und soziale Integration zu stärken, Arbeitsplätze zu sichern sowie die (Re-)Integration in den Arbeitsmarkt. Das BFI Wien arbeitet sowohl für öffentliche Institutionen wie das Arbeitsmarktservice, den Wiener ArbeitnehmerInnenförderungsfonds, verschiedene Ministerien und europäische Organisationen als auch für privatwirtschaftliche Unternehmen aus Handel, Dienstleistung, Gewerbe und Industrie. Tochtergesellschaften des BFI Wien sind die Fachhochschule des BFI Wien und die Schulen des BFI Wien (Kaufmännische Schulen).
Das BFI Wien bietet ein breites Spektrum an Bildungsangeboten im Bereich der Berufsausbildung und -qualifizierung, Berufsberatung und -orientierung, Aktivierung und Beratung. Die Berufsausbildung umfasst Bereiche wie IT und Kommunikationstechnologien, Tourismus, Gesundheits- und Sozialwesen, Transport und Verkehr, Bau-, Holz-, Metall- und Elektroberufe.
Basisbildung ist in vielen Programmen des BFI Wien von Bedeutung, um auch Personen mit niedrigem Bildungshintergrund, mit Lernschwierigkeiten und Behinderungen sowie SchulabbrecherInnen einzubeziehen. In den meisten Fällen ist die Basisbildung Teil einer umfassenden Berufsausbildung. Entweder ist sie in die Ausbildung integriert oder sie wird vor der beruflichen oder technischen Ausbildung durchgeführt. Das BFI Wien bietet Basisbildung in den Bereichen Rechnen und mathematisch-logisches Verständnis, Schreiben und Kommunikation, soziale Kompetenzen und Deutsch als Zweit- und Fachsprache an. Beispiele sind die "Integrativen Berufsausbildungslehrgänge nach dem österreichischen Berufsausbildungsgesetz", die "Jugendwerkstatt" und die "Lernwerkstatt", ein spezielles Angebot für Jugendliche von 15 - 17 Jahren, die von der Schule in die Lehre/Berufswelt wechseln.
Derzeit beschäftigt das BFI Wien ca. 600 MitarbeiterInnen und arbeitet mit 600 freien MitarbeiterInnen zusammen. Pro Jahr werden ca. 40.000 Personen ausgebildet.

Platon Schools, Griechenland

Platon School Katerini ist eine moderne Bildungseinrichtung mit 570 Lernenden und 90 MitarbeiterInnen. Das Angebot geht vom Kindergarten, Primar- und Sekundarschule bis hin zum Lebenslangen Lernen. Die Organisation verfolgt mit großem Interesse und kreativem Geist die Entwicklungen im Bildungsbereich; sie setzt sich ständig neue Ziele und hält gleichzeitig eine herausragende Position in der Bildungsszene. Durch die Nutzung

von modernsten Einrichtungen, einem vielfältigen Lehrplan, erfahrenen und qualifizierten Lehrkräften, durch Prinzipientreue und dem Respekt gegenüber SchülerInnen und Eltern, hat sich Platon in den letzten zehn Jahren zu einer hervorragenden Ausbildungsstätte emporgearbeitet. Mit dem partizipativen Ansätzen ziehen wir relevante lokale und regionale Interessengruppen mit ein und können so Herausforderungen im Bildungsbereich meistern.
Die Abteilung Forschung und Innovation von Platon ist für die Teilnahme an internationalen Programmen zur Entwicklung, Umsetzung und Bewertung innovativer pädagogischer Methoden und Materialien verantwortlich. Das Zentrum für Forschung und Innovation beteiligt sich aktiv an der Entwicklung fortschrittlicher Bildungsmaterialien, sowohl konventioneller als auch elektronischer. Das Hauptziel ist die Nutzung modernster Technologien im Bildungsprozess, um das Lehren und Lernen zu verbessern. Die im Rahmen der Bildungsprogramme entwickelten Werkzeuge sind das Ergebnis der Zusammenarbeit und gemeinsamer Anstrengungen zwischen Fachleuten aus verschiedenen akademischen Bereichen, wobei der Schwerpunkt auf Informationstechnologie sowie Lehr- und Lernstudien gelegt ist.

Platon ist angegliedert an folgende Institutionen: Stadtverwaltung Katerini, Internationale Hellenische Universität, Bezirksschulamt, Bildungsbehörde von Pieria, Handelskammer von Pieria, Olympus Festival, Freiwilligenteam von Pieria, Kultur- und Sportvereine. Platon ist auch der Leiter der Schule Bildung bei Dlearn, einem europäischen Netzwerk für digitales Lernen.

City Lit London, England

City Lit ist der größte Anbieter von Kurzkursen für Erwachsene in London. Gegründet im Jahr 1919, bietet es seit über einem Jahrhundert Erwachsenenbildung im Zentrum Londons an. City Lit hilft Lernenden mit unterschiedlichen Hintergründen und aus verschiedenen sozialen Verhältnissen, sich selbst herauszufordern und ihr Potenzial zu entfalten. Im Jahr 2020 startete City Lit sein Online-Lernangebot, um ein Zentrum für Lernen und Unterstützung während der gesamten Pandemie zu sein.
City Lit hat sich an die veränderten Bedürfnisse Londons angepasst und bietet mehr als Erwachsenenbildungskurse. Das neue Angebot hilft Einsamkeit zu bekämpfen, neue

Fähigkeiten wie Verbesserung der Beschäftigungsfähigkeit, zur beruflichen Neuorientierung im späteren Leben, zur Vermittlung von Sinn und Erfüllung, Stärkung des Selbstvertrauens, psychische Probleme zu überwinden und London und die Umgebung zu einem besseren Ort zu machen.
Das College führt derzeit rund 5.000 Kurse online bzw. persönlich pro Jahr durch und hat fast 60.000 Einschreibungen.

Universal Skills Centre bei City Lit
Das Universal Skills Centre konzentriert sich auf die Kernkompetenzen und -fertigkeiten, die Erwachsene benötigen, um in den heutigen Demokratien teilzunehmen, voranzukommen und sich auszudrücken. Wir konzentrieren uns auf die am meisten nachgefragten Fähigkeiten innerhalb und außerhalb des Arbeitsplatzes wie Kommunikation, Entscheidungsfindung, Prioritätensetzung, Innovation und Teambildung, und die SchülerInnen lernen und entwickeln diese Fähigkeiten, indem sie an ihrem Englisch, ESOL (English for Speakers of Other Languages), Mathematik, digitale Fähigkeiten und Datenkompetenz. Wir führen Kurse für über 1.500 hörende und gehörlose Lernende, auf allen Stufen, mit und ohne Prüfungen. Unser pädagogischer Schwerpunkt ist aufgabenbasiertes Lernen und die Gamifizierung des Klassenzimmers.

Verein Spielmacher und das Games Institute Austria, Österreich

Der Verein Spielmacher ist ein eingetragener Verein in Österreich, der Fachleute und Menschen zusammenbringt, die sich für den Einsatz von Spielen in neuen Kontexten wie Bildung oder berufliche Entwicklung interessieren. Er wurde 2017 gegründet und das Projekt "Games in Basic Skills Teaching" ist sein erstes größeres Projekt, an dem er mitarbeitet. Die Expertise von Spielmacher steht in enger Verbindung zum Games Institute Austria.
Das Games Institute Austria ist ein in Wien ansässiges Unternehmen, das auf dem Gebiet des spielbasierten Lernens und der Gamification arbeitet. Es wurde 2015 gegründet und hat sich seither den Ruf erarbeitet, eines der führenden Unternehmen in Europa in diesem

Bereich zu sein. Das Games Institute erklärt den Bereich in Vorträgen und Artikeln, bildet LehrerInnen in Seminaren und Workshops aus und hat verschiedene Dienstleistungen und Produkte entwickelt, wie z.B. Escape Rooms für Bildung und berufliche Entwicklung (einschließlich des eigenen Best Case Escape Room Case), Kompetenzbewertung in Spielen mit den Bewertungstools GIST (Game Informed Self-Evaluation Tool) und SkillEDU (ähnlich wie GIST, aber fokussiert auf SchülerInnen am Ende ihrer Schullaufbahn), Esports Education und Educational Game Design. Wir arbeiten mit anderen spezialisierten Unternehmen in den jeweiligen Bereichen wie Seppo oder Learn2Esport zusammen, um Unternehmen und Bildungseinrichtungen auf der ganzen Welt die besten spielbezogenen Lernerfahrungen zu bieten.
Die MitarbeiterInnen des Games Institute vereinen mehr als 15 Jahre Erfahrung in der Lehre, im UI/UX-Design, in der Unternehmensberatung und jahrzehntelange Erfahrung im Bereich Gaming, Gaming-Kultur und Esports. Auf diese Weise können wir authentische und relevante Erfahrungen für die Spieler selbst anbieten und die relevanten Aspekte des Gamings für unsere Kunden und die Gesellschaft im Allgemeinen übersetzen und vermitteln.

CFC – Conferenza della Svizzera italiana per la formazione continua degli adulti, Schweiz

Die Konferenz für lebenslanges Lernen der Erwachsenen in der Südschweiz (CFC, www.conferenzacfc.ch) ist die Dachorganisation für die allgemeine und berufliche Erwachsenenbildung in der Region Tessin. Die CFC ist eine Non-Profit-Organisation, die von der Regierung des Kantons Tessin unterstützt wird und ein ständiges Sekretariat in Lugano hat. CFC hat mehr als 80 Mitglieder, darunter Institutionen, Schulen (öffentlich und privat), staatliche Anbieter der Erwachsenenbildung, Behörden und Einzelpersonen, die in der Erwachsenenbildung und der Umschulung von Arbeitskräften tätig sind.
CFC fördert ein nachhaltiges Erwachsenenbildungssystem, sensibilisiert für die Bedeutung des Lebenslangen Lernens und schafft Kooperationen und Netzwerke zwischen Organisationen durch die Durchführung von nationalen und internationalen Projekten, Konferenzen und Informationstreffen.

Dank seiner mehr als 20-jährigen Erfahrung hat CFC umfangreiches Wissen zu den meisten Themen der Erwachsenenbildung erworben und ist in unterschiedlicher Weise an verschiedenen Projekten (sowohl auf regionaler als auch auf nationaler und internationaler Ebene) zum Thema der Ausbildung benachteiligter Erwachsener mit geringen Grundkenntnissen und ohne formale Berufsbildungsabschlüsse beteiligt.

Universal Learning Systems, Irland

Universal Learning Systems ist ein internationales Beratungsunternehmen, das sich auf Forschung, Bildung, Ausbildung und Projektmanagement spezialisiert hat. ULS hat seinen Sitz in Irland und unterhält außerdem Büros in Prag, Barcelona, Amsterdam, Helsinki, São Paulo und Chicago.
Der Schwerpunkt von ULS liegt auf der beruflichen Entwicklung mit besonderem Augenmerk auf arbeitsbezogenem Lernen. ULS arbeitet mit einem breiten Spektrum von KundInnen zusammen. Dazu gehören Universitäten, offene Bildungseinrichtungen, Schulen, Arbeitgeber und Gemeindeverbände. ULS verfügt über besondere Fachkenntnisse in den Bereichen transformative Bildung, Behinderung und Rehabilitation, e-Learning, Vielfalt, Interkulturalität, Einwanderung, Konfliktlösung und strategisches Management.
Die ULS verfügt über umfangreiche Erfahrungen in der Förderung von Bildungs- und Lerninnovationen. Sie arbeitet eng mit Interessenvertretern der Gemeinschaft, der Erwachsenenbildung und Arbeitgebernetzen zusammen. ULS hat besondere Erfahrung mit postgradualen Fernstudieninitiativen in den Bereichen Veränderungsmanagement und

nachhaltige berufliche Entwicklung. Sie ist zentral an Initiativen zum arbeitsbezogenen Lernen beteiligt, um das Wachstum und die Kompetenz der MitarbeiterInnen zu fördern. ULS konzentriert sich auf eine proaktive strategische Planung für innovatives Lernen und ist aktiv an einer Vielzahl von Evaluierungsprojekten beteiligt.
ULS ist eine führende Einrichtung in den EU-Innovationsnetzwerken für Fernunterricht und e-Learning. ULS verfügt über besondere Erfahrung in der Projektevaluation und Qualitätssicherung. ULS hat in Finnland in Zusammenarbeit mit seinem Partnerunternehmen ChangeLearning ein umfangreiches Angebot an E-Learning-Kursen in den Bereichen Sicherheit und Pharmazie entwickelt. ULS hat Erfahrung in der Zusammenarbeit mit Schulen bei der Entwicklung eines verstärkten Engagements mit Lehrern, Gemeinden und Eltern. ULS hat Menschenrechts- und Diversitätsschulungen für Polizeiausbildungsstätten in Irland und Europa entwickelt. Dr. Bruce von ULS ist Mitglied des New Security Forum in Berlin und des Garda National Diversity Strategy Board in Irland.
ULS stützt ihre Arbeit auf die Identifizierung und Entwicklung von Möglichkeiten für innovative Lernkompetenzen zur Bewältigung künftiger Herausforderungen. Die Erfassung dieser Innovation ist in den letzten Jahren zu einem der Hauptschwerpunkte der ULS-Projekte geworden, die sich mit fortschrittlichen Technologien und deren Anwendung auf die menschlichen Lernbedürfnisse befassen. Durch ihr Fachwissen in den Bereichen Behinderung, Migration und Interkulturalität hat die ULS effektive Schulungsmethoden und -richtlinien entwickelt, die auf den individuellen und gemeinschaftlichen Lern- und Entwicklungsbedürfnissen basieren - insbesondere in Zeiten der sozioökonomischen Krise.
ULS verfügt über besonderes Fachwissen in den Bereichen Forschung, Projektmanagement und innovative Initiativen zu Migration, interkulturellem Training und Konfliktransformation - mit einer starken Erfolgsbilanz bei der Programmentwicklung im Kosovo, in Euzkadi, Bosnien, Katalonien, Rumänien, Zypern, Palästina und Nordirland. Die ULS hat auch bedeutende Bildungs- und Schulungsprojekte zu den Themen Grundrechte und Diversity Management durchgeführt. ULS ist akademischer Berater für das von Expac in Nordirland angebotene Programm zu Interessenkonflikten und bietet das neue, von Expac entwickelte und von der Queens University Belfast validierte Programm Future Resolutions an. ULS ist Mitglied der Association for Historical Dialogue and Research in Zypern.
Es hat Schulungen zur Konfliktransformation (einschließlich Mediationsfähigkeiten) für Kunden in ganz Nordirland und den Grenzbezirken der Republik entwickelt und durchgeführt. Im Jahr 2014 schloss ULS eine akademische Vereinbarung mit der UOC, der Offenen Universität von Katalonien, in Barcelona zur gemeinsamen Entwicklung von Konfliktlösungskursen auf dem Campus für Frieden und zur gemeinsamen Entwicklung von Postgraduiertenprogrammen.

Zu den aktuellen Projekten gehören:

- Innovative Lerninterventionen im Bereich Migration und soziale Eingliederung
- Forschung zu Arbeitsmarktergebnissen für ethnische Minderheiten in Finnland
- Ausbildung zur Konfliktbewältigung in Nordirland nach dem Krieg
- Akkreditierung beruflicher Rehabilitationsmaßnahmen (Vereinigte Staaten)

- Berufsbildungsprogramme nach dem Konflikt im Kosovo, in Euzkadi und Bosnien
- Entwicklung von Postgraduiertenkursen für Rehabilitationspersonal (USA/Irland)
- Diversitätsmanagementprogramme für den privaten und öffentlichen Sektor
- Rehabilitationsforschung und bewährte Verfahren in integrativen Schulen (Illinois)
- Interethnische Ausbildung und Forschung zu Konflikten (Zypern und Irland)
- Sprachlerninitiativen in der Hochschulbildung in Taiwan
- Innovative technologiegestützte Programme in der Seniorenbetreuung in China
- Kompetenzentwicklung für den IKT-Sektor in Griechenland und Bulgarien
- Innovatives Lernen über den globalisierten Wandel in Ecuador
- Forschung und Ausbildung zur Bekämpfung von Cybermobbing in Schulen (Italien)
- Fortschrittliches IKT-gestütztes Sprachenlernen für Universitäten in Palästina.

FØNIX, Norwegen

FØNIX (FONIX) ist das größte Unternehmen auf dem Markt für berufliche Rehabilitation in Norwegen. Der Hauptsitz befindet sich in Sandefjord, Norwegen, (120 km südlich von Oslo) und unterstützt 11 regionale Büros in der Provinz Vestfold. FONIX beschäftigt ca. 200 MitarbeiterInnen - größtenteils zertifizierte AusbilderInnen und InstruktorInnen/ LehrerInnen.
FONIX ist eine Nichtregierungsorganisation (NRO) und als Gesellschaft mit beschränkter Haftung organisiert, agiert aber als gemeinnützige Organisation, da sie offiziell als Kooperationspartner für den norwegischen Arbeits- und Wohlfahrtsdienst (NAV) zugelassen sind. FONIX befindet sich zu 100 % im Besitz der Gemeinde Sandefjord. Sandefjord ist die achtgrößte Stadt Norwegens mit etwa 65.000 Einwohnern.
Die formelle Zulassung für die Zusammenarbeit mit dem NAV (Norwegische Arbeits- und Wohlfahrtsbehörde) setzt voraus, dass die Eigentümer keine Dividenden ausschütten dürfen und dass alle Gewinne den NutzerInnen des Unternehmens zugutekommen. In

diesem Umfeld spielt FONIX eine wichtige Rolle für die Gemeinde und die öffentlichen Behörden im Bereich der beruflichen Rehabilitation.
Zu jeder Zeit im Jahr umfasst diese Dienstleistung etwa 2.000 Lernende / Arbeitssuchende und etwa 300 MigrantInnen / SprachschülerInnen. Im Jahr 2019 haben mehr als 1.200 Menschen durch FONIX einen Job gefunden.

Norwegian

Prosjektoversikt

Prosjektet Games in Basic Skills Teaching-prosjektet er et Erasmus+-prosjekt som fokuserer på bruk av analoge og digitale spill ved undervisning i basisferdigheter. Vi tok med spill for å undervise spesifikke målgrupper fordi spill kan gi nye verdifulle vinklinger til opplæringen. Spill kan endre klasserommet de brukes i. De kan skape oppslukende verdener og tilby utfordrende oppgaver. Samtidig bringer de en ny form for interaksjon i læringsprosessene. Spillene kan være ferdighetsorienterte og legge vekt på ferdigheter som kommunikasjon og samarbeid. Spill kan motivere elever som ellers kan være vanskelige å motivere, og de kan bidra til at læringsprosessen blir mer lystbetont. Bruk av spill i læringsprosessen er basert på psykologi og nyere læringsteorier, som Gees læringsprinsipper, konseptet Flow eller teorien om Zone of Proximal Development og selvbestemmelsesteori. Siden målgruppene og deltakerne, samt utstyret og

forutsetningene i forskjellige klasser kan være svært forskjellige ble det brukt et bredt spekter av spill og lekne tilnærminger. I prosjektet ble det brukt analoge så vel som digitale spill, alt fra tilnærminger fra rollespill og kortspill til VR-spill og AR-applikasjoner med spilllignende elementer.

Erfaringen deltakerne og lærerne som brukte spillene hadde var så mangfoldige, men vi tror det er rimelig å si at det ga merverdi for (nesten) alle. For mange av lærerne og deltakerne var det en relativt ny opplevelse å bruke spill i klasserommet. Avhengig av spillene som ble brukt, måtte lærerne justere og revurdere en del av undervisningsprosessen, og noen ganger var det nødvendig med mye forberedelse - teknisk så vel som å lage undervisningsopplegg og bli kjent med spillene - for å kunne integrere spillene på god måte i læreplanene til de forskjellige klassene.

Mengden forberedelse er avhengig av hvilke spill og hvilke medier som ble brukt til undervisningen. Sosiale og analoge spill, som brett- eller kortspill, trenger ikke mye forberedelse for kunne bli tatt i bruk i klassen. Her ble noen ganger det eneste tekniske oppsettet brukt til å dokumentere undervisningen med spill som å lage videoer av spilløktene eller gjøre intervjuer med elever og lærere før, mens og etter øktene. Når det kommer til bruk av dataspill eller VR- og AR-spill i klassen er oppsettet selvsagt mer forseggjort. Selv om denne teknologien er tilgjengelig og brukt i klasserommet, brukes den for det meste også utover spilling og er derfor allerede satt opp og vedlikeholdt av ansatte som er dyktige i bruk og vedlikehold av denne teknologien uansett.

En av de store utfordringene ved siden av det teknologiske aspektet ved undervisning med spill er integreringen av spillene i læreplanen og spesielt med et omfang av 45 til 60 minutters undervisningstimer. Spill er ofte ikke laget for å innpasses i et så stramt rammeverk tidsmessig, og på grunn av det, krever det å spille dem i klassen ekstra vurdering av hvordan man kan bryte ned spilløktene til en passende tidsramme.

Bruk av spill i undervisning er givende, spesielt når det gjelder undervisning i grunnleggende ferdigheter. Derfor var formidling av arbeidet vårt avgjørende for prosjektets suksess. Vi vurderte flere måter å formidle våre erfaringer for å treffe så mange mennesker som mulig. Vi har dokumentert arbeidet vårt på video, gjort intervjuer med lærerne og prosjektpartnerne og sørget for å gjøre dette materialet tilgjengelig. Vi har laget en YouTube-kanal der alle intervjuene er samlet. I tillegg ble det utviklet videoer for å forklare bruken av spill til undervisning, samt spillvideoer for å demonstrere hvordan spillene kunne brukes i undervisningen. Alt av materialet har også blitt presentert gjennom sosiale medier som Facebook- og en LinkedIn-side for prosjektet for å garantere at alt er offentlig tilgjengelig. Alle ressursene er gratis og følger dermed Open Educational Resources-tilnærmingen.

I tillegg til denne veiledningen vil det også være et åpent opplæringskurs tilgjengelig på Adobe Canvas kalt "Changing the Game" for å vise hvordan vi integrerte spillene vi brukte i undervisningen i grunnleggende ferdigheter og gi råd om hvordan du kan gjøre det selv, hvis du er interessert i å gjøre det. Kurset bruker denne veiledningen som en grunnleggende ressurs og følger våre siste "10 trinn for å utvikle undervisningen din med spill", men det vil også fungere selvstendig.

Her er en presentasjon av de åtte partnerne, fra syv ulike europeiske land, som deltok i prosjektet:

VUC Storstrøm, Denmark (Prosjektleder)

VUC Storstrøm er et voksenopplæringssenter med cirka 200 ansatte hvorav 160 er lærere. Vi hadde ca 5000 fulltids-/deltidsstudenter i 2019 med en omsetning på ca. 18 M€. VUC Storstrøm dekker en region med ca 270 000 innbyggere i et landlig område og er representert i seks byer.

VUC Storstrøm tilbyr generell voksenopplæring, høyere forberedende eksamen, forberedende voksenopplæring (grunnleggende ferdigheter) og flere spesialprogrammer for elever med spesielle behov, samt skreddersydde kurs for bedrifter. Eksamen er obligatorisk i alle fag og på alle nivåer som gir formell kompetanse. Våre studenter er ofte voksne - altså fra 18- eller 25-årsalderen avhengig av kurset - "andre sjanse"-studenter eller studenter som skaper en ny karrierevei for seg selv, så det å bidra til komeptanseheving er en integrert del av vårt DNA.

Alle seks avdelingene opererer som blended learning-sentre. De er helt digitale og kan kobles til via videokonferanse og samarbeidsverktøy. Dette betyr at vi kan tilby et bredt

spekter av utdanningsmuligheter uansett hvor våre studenter befinner seg, og dermed sikre lik tilgang til utdanning for alle. Dette oppsettet gjør også at vi jobber med mange ulike typer studenter og studiemiljøer og vi jobber derfor kontinuerlig med å utvikle relevante og innovative læringsforløp for å sikre at vi kan hjelpe vår varierte gruppe studenter.

Berufsförderungsinstitut Wien, Østerrike

Berufsförderungsinstitut Wien / Vocational Training Institute Vienna (BFI Wien) er et av Østerrikes ledende institutter for medarbeiderorientert yrkesutdanning og etterutdanning. Det ble etablert av Federal Chamber of Labor og det østerrikske fagforbundet i 1959. BFI Wien tilbyr utdanning med mål om å styrke den profesjonelle og sosiale integreringen av våre målgrupper, sikre deres arbeidsplasser samt reintegrere dem på arbeidsmarkedet. BFI Wien jobber for offentlige institusjoner som den østerrikske nasjonale arbeidsformidlingen, Wiens sysselsettingsfond, ulike departementer og europeiske organisasjoner samt for private selskaper innen handel, service, handel og industri. Datterselskaper av BFI Wien er Fachhochschule des BFI Wien (University of Applied Sciences BFI Wien), Schulen des BFI Wien (Commercial Schools of BFI Wien).

BFI Wien tilbyr et bredt spekter av tjenester innen fagopplæring og kvalifisering, karriererådgivning og veiledning, aktivisering og rådgivningstjenester. Fagopplæringen dekker områder som IT og kommunikasjonsteknologi, reiseliv, helse- og sosialtjenester, transport og trafikk, bygg, tre-, metall- og elektrofag.

Grunnleggende ferdighetstrening er viktig i mange av BFI Wien-programmene for å inkludere personer med lav utdanningsbakgrunn, med lærevansker og funksjonshemminger, samt drop-outs fra videregående opplæring. I de fleste tilfeller er den grunnleggende ferdighetstreningen en del av en omfattende yrkesopplæring. Enten er det integrert i opplæringen eller så implementeres det før yrkes- eller teknisk opplæring. BFI Wien gir grunnleggende ferdighetstrening i regning og matematisk-logisk forståelse, skriving og kommunikasjon, sosiale ferdigheter og tysk som andre- og fagspråk. Eksempler er "integrerende yrkesopplæringskurs i henhold til den østerrikske yrkesopplæringsloven", "Jugendwerkstatt (ungdomsverksted)" og "Lernwerkstatt (læringsverksted)" en spesiell mulighet for ungdom fra 15 – 17 år som går fra skole til læreplass/ arbeidsplasser.

For tiden sysselsetter BFI Wien rundt 600 personer og jobber sammen med 600 frilansere. Vi gir opplæring til rundt 40.000 personer per år.

Platon Schools, Greece

Platon skolene (barnehage – grunnskole – videregående – livslang læringssenter) er en moderne utdanningsinstitusjon med 570 elever og 90 ansatte. Organisasjonen følger med stor interesse og et kreativt sinn utviklingen innen utdanningsfeltet; den setter stadig nye mål, samtidig som den har en fremragende posisjon i utdanningsmiljøet. Gjennom bruk av de mest oppdaterte fasilitetene, en mangfoldig læreplan, erfarne og dyktige lærere og, viktigst av alt, gjennom konsistens i prinsipper og respekt overfor elever og foreldre, har skolen vår slitt de siste ti årene for gjennomført opplæring av våre elever. Ved å utnytte fellesskapsbaserte og deltakende tilnærminger, engasjere relevante lokale og regionale interessenter for å møte utdanningsutfordringer.

Gjennom Forsknings- og innovasjonsavdelingen forfølges Platons deltakelse i internasjonale programmer for design, implementering og vurdering av innovative pedagogiske metoder og materialer. Senter for forskning og innovasjon engasjerer seg aktivt i utformingen av avansert undervisningsmateriell, både konvensjonelt og

elektronisk. Hovedmålet er utnyttelse av «state-of-the-art»-teknologier i utdanningsprosessen for å forbedre undervisning og læring. Verktøyene som er utviklet innenfor rammen av utdanningsprogrammene er et resultat av samarbeid og felles innsats mellom spesialister fra en rekke fagfelt, med stort fokus på informasjonsteknologi, undervisning og læringsstudier.

Platon er tilknyttet: Katerini kommune, International Hellenic University, District Educational Authority of Pieria, Chamber of Commerce of Pieria, Olympus Festival, frivillighetsteamet til Pieria, kulturelle og atletiske klubber. Platon er også leder for skoleutdanning på Dlearn, et europeisk nettverk for digital læring.

City Lit London, England

City Lit er Londons største leverandør av korte kurs for voksne. Grunnlagt i 1919, og har gitt voksenopplæring i London sentrum i over et århundre. City Lit hjelper elever med ulike bakgrunner og sosiale forhold til å utfordre seg selv og frigjøre potensialet sitt. I 2020 lanserte City Lit sitt nettbaserte læringstilbud for å forbli et knutepunkt for læring og støtte gjennom hele pandemien.

City Lit har tilpasset seg og innovert for å møte Londons skiftende behov, og tilbyr mer enn bare voksenopplæringskurs – siden tilbudet bidrar til å bekjempe ensomhet; utvikle nye ferdigheter for å forbedre arbeidsevnen; omstilling og karriereendring for voksne; gi en følelse av hensikt og oppfyllelse; forbedre selvtilliten; overvinne psykiske vansker; og gjøre London og utover til et bedre sted.

Skolen kjører nå rundt 5000 kurs online og personlig per år og håndterer nesten 60 000 påmeldinger.

Universal Skills Center på City Lit

Universal Skills Center fokuserer på kjernekompetansen og ferdighetene voksne trenger for å delta, utvikle seg og uttrykke seg i dagens demokratier.

Vi fokuserer på de mest etterspurte ferdighetene innenfor og utenfor arbeidsplassen som kommunikasjon, beslutningstaking, prioritering, innovasjon og teambygging, og studentene lærer og utvikler disse gjennom å jobbe med sin engelsk, ESOL (English for Speakers of Other Languages).), matematikk, digitale ferdigheter og datakompetanse. Vi holder kurs for over 1500 hørende og døve elever, på alle nivåer, med og uten eksamen. Vårt pedagogiske fokus er på oppgavebasert læring og gamifisering av klasserommet.

Verein Spielmacher and the Games Institute Austria, Austria

Verein Spielmacher er en registrert forening i Østerrike som samler fagfolk og folk som er interessert i å bruke spill i nye sammenhenger som utdanning eller faglig utvikling. Det ble grunnlagt i 2017 og prosjektet Games in Basic Skills Teaching er det første store prosjektet å være bidragsyter til. Kompetansen i Spielmacher er i sterk tilknytning til Games Institute Austria.

Games Institute Austria er et selskap lokalisert i Wien, Østerrike, som jobber innen spillbasert læring og gamification. Det ble grunnlagt i 2015 og har siden den gang utviklet et rykte for å være et av Europas ledende selskaper på dette området. Spillinstituttet forklarer feltet i foredrag og artikler, trener lærere i seminarer og workshops og har utviklet flere tjenester og produkter som Escape Rooms for utdanning og faglig utvikling (inkludert Spillinstituttets egen Best Case Escape Room Case), ferdighetsvurdering i spill med vurderingsverktøyene våre GIST (Game Informed Self-Evaluation Tool) og SkillEDU (lik GIST, men fokusert på elever som nærmer seg slutten av skolekarrieren), Esports Education og Educational Game Design. Vi samarbeider med andre spesialistbedrifter

innen de respektive feltene som Seppo eller Learn2Esport for å bringe de beste spillrelaterte læringsopplevelsene til bedrifter og utdanningsinstitusjoner over hele verden.

Games Institute-ansatte kombinerer 15+ år innen undervisning, UI/UX-design, forretningsrådgivning og tiår med erfaring innen spill, spillkultur og e-sport. Ved dette kan vi tilby autentiske og relevante opplevelser til spillerne selv, samt oversette og overføre relevante aspekter ved spill til våre kunder og samfunnet generelt.

CFC – Conferenza della Svizzera italiana per la formazione continua degli adulti, Switzerland

Konferansen for livslang læring for voksne i det sørlige Sveits (CFC, www.conferenzacfc.ch) er paraplyorganisasjonen for generell og yrkesrettet voksenopplæring i Ticino-regionen (sørregionen i Sveits). CFC er en ideell organisasjon støttet av regjeringen i Canton Ticino og har et permanent sekretariat i Lugano. CFC har mer enn 80 medlemmer bestående av: institusjoner, skoler (offentlige og private), statlige leverandører av voksenopplæring, statlige organer og enkeltpersoner involvert i voksenopplæring og omskolering av menneskelige ressurser.

CFC fremmer et bærekraftig voksenopplæringssystem, øker bevisstheten om viktigheten av voksenopplæring og skaper samarbeid og nettverk mellom voksenopplæringsorganisasjoner ved å drive nasjonale og internasjonale prosjekter, konferanser og informative møter.

Takket være mer enn 20 års erfaring har CFC tilegnet seg omfattende kunnskap om de fleste temaer knyttet til voksenopplæring og utviklet og deltatt på ulike måter i ulike

prosjekter (på regionalt så vel som nasjonalt og internasjonalt nivå) om emnet. opplæring av vanskeligstilte voksne med lave nivåer av grunnleggende ferdigheter og ingen formelle VET-kvalifikasjoner.

Universal Learning Systems, Ireland

Universal Learning Systems er et internasjonalt konsulentfirma som spesialiserer seg på forskning, utdanning, opplæring og prosjektledelse. ULS påtar seg prosjekter for en rekke kunder innen utdanning, utvikling og ledelse. Basert i Irland, har ULS også kontorer i Praha, Barcelona, Amsterdam, Helsinki, São Paulo og Chicago.

ULS fokus er på faglig utvikling med særlig vekt på arbeidsbasert læring. ULS jobber i Irland, Europa, Kina og USA med et bredt spekter av kunder: disse inkluderer universiteter, åpne læringsinstitusjoner, skoler, arbeidsgivere og samfunnsforeninger. Den har spesiell ekspertise innen læring rundt transformativ utdanning, funksjonshemming og rehabilitering, e-læring, mangfold, interkulturalisme, immigrasjon, konfliktløsning og strategisk ledelse. ULS har lang erfaring med å fremme utdannings- og læringsinnovasjon. Det jobber tett med interessenter i samfunnet, voksenopplæring og arbeidsgivernettverk. ULS har særlig erfaring med fjernundervisningstiltak i endringsledelse og bærekraftig faglig utvikling. Den er sentralt involvert i arbeidsbaserte læringstiltak for å fremme

ansattes vekst og kompetanse. ULS fokuserer på proaktiv strategisk planlegging for innovativ læring og er aktivt involvert i et bredt spekter av evalueringsprosjekter.

ULS har en ledende profil innen EUs fjernundervisning og innovasjonsnettverk for e-læring. ULS har særlig erfaring med prosjektevaluering og kvalitetssikring. ULS har utviklet et omfattende utvalg av e-læringskurs i sikkerhets- og apoteksektoren i Finland i samarbeid med partnerselskapet ChangeLearning. ULS har erfaring med å jobbe med skoler for å utvikle økt engasjement med lærere, lokalsamfunn og foreldre. ULS har utviklet opplæring i menneskerettigheter og mangfold for politiskoler i Irland og Europa. Dr. Bruce fra ULS er medlem av New Security Forum i Berlin og av Garda National Diversity Strategy Board i Irland.

ULS baserer sitt arbeid på identifisering og utvikling av muligheter for innovativ læringskompetanse for å møte fremtidige utfordringer. Å fange denne innovasjonen har blitt et sentralt fokus for ULS-prosjekter de siste årene rundt avanserte teknologier og deres anvendelse på menneskelige læringsbehov. Gjennom sin ekspertise på funksjonshemming, migrasjon og interkulturalisme har ULS utviklet robuste opplæringsmetoder og retningslinjer basert på individuelle og fellesskaps lærings- og utviklingsbehov - spesielt i en tid med sosioøkonomisk krise.

ULS har spesiell ekspertise innen forskning, prosjektledelse og innovative initiativer på migrasjon, interkulturell trening og konflikttransformasjon - med en sterk merittliste innen programutvikling i Kosovo, Euzkadi, Bosnia, Catalonia, Romania, Kypros, Palestina og Nord-Irland. ULS har også gjennomført betydelige utdannings- og opplæringsprosjekter om grunnleggende rettigheter og mangfoldsledelse. ULS er akademisk rådgiver for programmet for interessekonflikter levert av Expac i Nord-Irland og leverer det nye Future Resolutions-programmet utviklet av Expac og validert av Queens University Belfast. ULS er medlem av Foreningen for historisk dialog og forskning på Kypros.

Den har designet og levert opplæring i konflikttransformasjon (inkludert meklingsferdigheter) til klientbyråer i hele Nord-Irland og grensefylkene i republikken. I 2014 inngikk ULS en akademisk konvensjon og avtale med UOC, Open University of Catalonia, i Barcelona for delt utvikling av konfliktløsningskurs på Campus for Peace og for felles utvikling av postgraduate program.

Pågående prosjekter inkluderer:

- Innovative læringsintervensjoner innen migrasjon og sosial inkludering
- Forskning på arbeidsmarkedsresultater for etniske minoriteter i Finland
- Konflikttransformasjonstrening etter krigen i Nord-Irland
- Yrkesrettet rehabilitering profesjonell akkreditering (USA)
- Fagopplæringsprogrammer etter konflikt i Kosovo, Euzkadi og Bosnia
- Utvikling av videreutdanningskurs for rehabiliteringspersonell (USA/Irland)

- Mangfoldsledelsesprogrammer for privat og offentlig sektor
- Rehabiliteringsforskning og beste praksis i inkluderende skoler (Illinois)
- Interetnisk opplæring og forskning på konflikt (Kypros og Irland)
- Språklæringsinitiativer i høyere utdanning i Taiwan
- Innovative teknologistøttede programmer innen eldreomsorg i Kina
- Kompetanseutvikling for IKT-sektoren i Hellas og Bulgaria
- Innovativ læring om globalisert endring i Ecuador
- Forskning og opplæring for å bekjempe nettmobbing i skoler (Italia)
- Avansert IKT-støttet språkopplæring for universiteter i Palestina.

Fønix AS – Norge

Fønix AS er den største bedriften innen yrkesrettet attføring i Norge. Hovedkontoret vårt er i Sandefjord, Norge, (120 km sør for Oslo) og har 11 regionkontorer i Vestfold fylke. Fønix har ca. 200 ansatte – jobbspesialister og instruktører/lærere.

Fønix AS er en NGO (ikke-statlig organisasjon) og organisert som et aksjeselskap (AS), men opptrer som en ideell organisasjon gjennom vår formelle godkjenning som leverandør til Arbeids- og velferdsetaten (NAV).

Fønix AS er 100 % eid av Sandefjord kommune. Sandefjord er den 8. største byen i Norge med ca. 65.000 innbyggere.

Vår formelle godkjenning som leverandør til NAV krever at eiere ikke kan ta ut utbytte, og at alt overskudd skal komme brukerne av virksomheten til gode. I denne settingen tjener

Fønix en viktig rolle for samfunnet og offentlige myndigheter når det gjelder yrkesrettet attføring.

Til enhver tid i løpet av året inkluderer denne tjenesten ca. 2.000 elever/arbeidssøkere og ca. 300 migranter/språkelever.

I 2019 fikk mer enn 1.200 personer jobb ved hjelp av Fønix AS.

Greek

α. Επισκόπηση έργου

Το έργο Games in Basic Skills Teaching είναι ένα έργο Erasmus+ που εστιάζει στη χρήση αναλογικών και ψηφιακών παιχνιδιών στο πλαίσιο διδασκαλίας βασικών δεξιοτήτων. Φέραμε παιχνίδια για να διδάξουμε αυτές τις συγκεκριμένες ομάδες, λόγω του γεγονότος ότι τα παιχνίδια προσθέτουν πολύτιμες πτυχές στην εκπαίδευση. Τα παιχνίδια αλλάζουν την τάξη στην οποία χρησιμοποιούνται. Μπορούν να δημιουργήσουν καθηλωτικούς κόσμους και να προσφέρουν απαιτητικές εργασίες. Ταυτόχρονα φέρνουν μια νέα μορφή αλληλεπίδρασης στη μαθησιακή διαδικασία. Είναι προσανατολισμένα στις δεξιότητες και δίνουν έμφαση σε ήπιες δεξιότητες όπως η επικοινωνία και η συνεργασία. Τα παιχνίδια μπορούν να παρακινήσουν μαθητές που διαφορετικά θα ήταν δύσκολο να παρακινηθούν

και κάνουν πιο διασκεδαστική τη διαδικασία της μάθησης. Προσφέρουν ιδανικές συνθήκες στη διαδικασία της μάθησης με βάση την ψυχολογία και τις πρόσφατες θεωρίες μάθησης, όπως οι αρχές μάθησης του Gee, η έννοια της ροής από τον Csikszentmihalyi, η θεωρία της ζώνης της εγγύς ανάπτυξης από τον Vygotsky και η Θεωρία Αυτοκαθορισμού των Deci και Ryan. Καθώς οι ομάδες και τα προφίλ μαθητών, όπως και ο εξοπλισμός και το περιβάλλον στις διάφορες τάξεις, διέφεραν τόσο πολύ μεταξύ τους, χρησιμοποιήθηκε επίσης ένα ευρύ φάσμα διαφορετικών παιχνιδιών και παιγνιωδών προσεγγίσεων. Το έργο χρησιμοποίησε αναλογικά καθώς και ψηφιακά παιχνίδια, εφάρμοσε προσεγγίσεις από βασικό παιχνίδι ρόλων και παιχνίδια με κάρτες μέχρι παιχνίδια VR και εφαρμογές AR με στοιχεία που μοιάζουν με παιχνίδια.

Η εμπειρία των μαθητών και των εκπαιδευτικών από την εφαρμογή των παιχνιδιών ήταν όσο πιο διαφορετική θα μπορούσε να είναι, αλλά πιστεύουμε ότι είναι δίκαιο να αναφέρουμε ότι σχεδόν όλα είχαν προστιθέμενη αξία. Για πολλούς από τους εκπαιδευτικούς και τους μαθητές, η χρήση παιχνιδιών στην τάξη ήταν μια σχετικά νέα εμπειρία. Ανάλογα με τα παιχνίδια που χρησιμοποιούσαν, οι εκπαιδευτικοί έπρεπε να επανεξετάσουν τη διδακτική τους διαδικασία και μερικές φορές χρειαζόταν πολλή προετοιμασία -τεχνικά αλλά και για τη δημιουργία μαθησιακών σχεδίων και γνωριμίας με τα παιχνίδια- για να μπορέσουν να ενσωματώσουν σωστά τα παιχνίδια στα προγράμματα σπουδών των διαφορετικών τάξεων.

Η ποσότητα της προετοιμασίας εξαρτιόταν από το ποια παιχνίδια και ποια μέσα χρησιμοποιήθηκαν για μάθηση. Τα κοινωνικά και αναλογικά παιχνίδια, όπως τα επιτραπέζια παιχνίδια ή τα παιχνίδια με κάρτες, δεν απαιτούν μεγάλη προετοιμασία όσον αφορά την τεχνολογία για τη χρήση των παιχνιδιών στην τάξη. Εδώ, μερικές φορές, η μόνη τεχνική ρύθμιση ήταν η τεκμηρίωση της διδασκαλίας με παιχνίδια όπως η δημιουργία βίντεο από τις συνεδρίες παιχνιδιού ή η λήψη συνεντεύξεων με τους μαθητές και τους δασκάλους πριν, κατά τη διάρκεια και μετά από τις συνεδρίες. Όταν πρόκειται για τη χρήση παιχνιδιών υπολογιστή ή παιχνιδιών VR και AR στην τάξη, η τεχνική προετοιμασία είναι φυσικά πιο περίπλοκη. Ωστόσο, εάν αυτά τα τεχνολογικά εργαλεία είναι διαθέσιμα και χρησιμοποιούνται στην τάξη, χρησιμοποιούνται κυρίως εκτός των παιχνιδιών και ως εκ τούτου έχουν ήδη εγκατασταθεί και συντηρηθεί από προσωπικό που είναι ούτως ή άλλως ικανό στη χρήση και τη συντήρηση αυτών των εργαλείων.

Μία από τις μεγαλύτερες προκλήσεις εκτός από την τεχνολογική πτυχή της διδασκαλίας με παιχνίδια είναι η ενσωμάτωση των παιχνιδιών στο πρόγραμμα σπουδών και ιδιαίτερα η δομή του μαθήματος των 45 έως 60 λεπτών. Τα παιχνίδια συχνά δεν έχουν σχεδιαστεί για να ενσωματωθούν σε ένα τόσο σφιχτό χρονικά πλαίσιο, και λόγω αυτού, η αναπαραγωγή τους στην τάξη απαιτεί πρόσθετη σκέψη σχετικά με τον τρόπο ανάλυσης των συνεδριών παιχνιδιού στο κατάλληλο χρονικό διάστημα.

Καθώς η διδασκαλία με παιχνίδια είναι ένα πολλά υποσχόμενο πεδίο, ειδικά όταν πρόκειται για τη διδασκαλία Βασικών Δεξιοτήτων, και η διάδοση της δουλειάς μας είναι ζωτικής σημασίας για την επιτυχία του έργου, εξετάσαμε νέα μέσα διάδοσης για να μεταφέρουμε την εμπειρία μας σε όσο το δυνατόν περισσότερους ανθρώπους. Ως εκ τούτου, καταγράψαμε την εργασία μας σε βίντεο και πραγματοποιήσαμε συνεντεύξεις με τους

εκπαιδευτικούς και το προσωπικό των συνεργατών του έργου για να το κάνουμε διαθέσιμο σε όλους. Δημιουργήσαμε ένα κανάλι στο YouTube όπου μπορείτε να βρείτε όλες τις συνεντεύξεις. Επιπλέον, προσθέσαμε βίντεο για να εξηγήσουμε τη χρήση παιχνιδιών για διδασκαλία καθώς και βίντεο παιχνιδιών για να δείξουμε πώς μπορούν να εφαρμοστούν στη διδασκαλία. Όλο το υλικό παρουσιάζεται επίσης μέσω των μέσων κοινωνικής δικτύωσης, καθώς δημιουργήσαμε επίσης μια σελίδα στο Facebook και μια σελίδα LinkedIn για το έργο για να εγγυηθούμε ότι όλα είναι δημόσια διαθέσιμα και ότι όλοι μπορούν να βρουν αυτά που πραγματοποιήσαμε στα πλαίσια του έργου. Όλοι οι πόροι είναι διαθέσιμοι δωρεάν και ακολουθούν επίσης την προσέγγιση των Ανοιχτών Εκπαιδευτικών Πόρων.

Εκτός από αυτόν τον οδηγό, υπάρχει επίσης ένα ανοιχτό εκπαιδευτικό σεμινάριο διαθέσιμο στο Adobe Canvas με το όνομα «Changing the Game» (Αλλάζοντας το παιχνίδι) για να δείξει πώς ενσωματώσαμε τα παιχνίδια που χρησιμοποιήσαμε στη διδασκαλία των Βασικών Δεξιοτήτων και να δώσει συμβουλές για το πώς μπορείτε να το κάνετε μόνοι σας. Το εκπαιδευτικό μάθημα χρησιμοποιεί αυτόν τον οδηγό ως βασικό πόρο και ακολουθεί τα «10 βήματα για να αναπτύξετε τη διδασκαλία σας με παιχνίδια», αλλά λειτουργεί και ανεξάρτητα.

Ακολουθεί μια επισκόπηση των οκτώ εταίρων που συμμετείχαν στο έργο από επτά διαφορετικές ευρωπαϊκές χώρες.

β. VUC Storstrøm, Δανία (επικεφαλής του έργου)

Το VUC Storstrøm είναι ένα κέντρο εκπαίδευσης ενηλίκων με περίπου 200 υπαλλήλους, εκ των οποίων οι 160 είναι εκπαιδευτικοί. Έχουμε περίπου 5000 φοιτητές πλήρους/μερικής φοίτησης το 2019 με κύκλο εργασιών περίπου 18 εκατ. €. Το VUC Storstrøm καλύπτει μια περιοχή με περίπου 270.000 κατοίκους σε μια αγροτική περιοχή και εκπροσωπείται σε έξι πόλεις.

Το VUC Storstrøm προσφέρει γενική εκπαίδευση ενηλίκων, ανώτερες προπαρασκευαστικές εξετάσεις, προπαρασκευαστική εκπαίδευση ενηλίκων (βασικές δεξιότητες) και πολλά ειδικά προγράμματα για μαθητές με ειδικές ανάγκες, καθώς και εξατομικευμένα μαθήματα για εταιρείες. Η εξέταση είναι υποχρεωτική σε όλα τα μαθήματα και σε όλα τα επίπεδα που

παρέχουν τυπικές ικανότητες. Οι μαθητές μας είναι συχνά ενήλικες -δηλαδή από την ηλικία των 18 ή 25 ετών ανάλογα με το μάθημα- μαθητές «δεύτερης ευκαιρίας» ή φοιτητές που δημιουργούν μια νέα επαγγελματική πορεία για τον εαυτό τους, επομένως η δημιουργία μονοπατιών αναβάθμισης δεξιοτήτων είναι αναπόσπαστο μέρος του DNA μας.

Και τα έξι τμήματα λειτουργούν ως κέντρα μικτής μάθησης. Είναι πλήρως ψηφιακά και μπορούν να συνδεθούν μέσω τηλεδιάσκεψης και εργαλείων συνεργασίας. Αυτό σημαίνει ότι μπορούμε να προσφέρουμε ένα ευρύ φάσμα εκπαιδευτικών δυνατοτήτων ανεξάρτητα από το πού βρίσκονται οι μαθητές μας, διασφαλίζοντας έτσι την ίση πρόσβαση στην εκπαίδευση για όλους. Αυτή η ρύθμιση σημαίνει επίσης ότι εργαζόμαστε με πολλούς διαφορετικούς τύπους μαθητών και περιβάλλοντα μελέτης και επομένως εργαζόμαστε συνεχώς με την ανάπτυξη σχετικών και καινοτόμων σχεδίων μάθησης για να διασφαλίσουμε ότι μπορούμε να βοηθήσουμε την ποικίλη ομάδα μαθητών μας.

γ. Ινστιτούτο Επαγγελματικής Προώθησης Βιέννης, Αυστρία

Το Berufsförderungsinstitut Wien / Ινστιτούτο Επαγγελματικής Κατάρτισης Βιέννης (BFI Wien) είναι ένα από τα κορυφαία ινστιτούτα της Αυστρίας για επαγγελματική εκπαίδευση και συνεχή κατάρτιση προσανατολισμένη στους εργαζόμενους. Ιδρύθηκε από το Ομοσπονδιακό Επιμελητήριο Εργασίας και την Αυστριακή Συνδικαλιστική Ομοσπονδία το 1959. Το BFI Wien παρέχει εκπαίδευση με στόχο την ενίσχυση της επαγγελματικής και κοινωνικής ένταξης των ομάδων-στόχων μας, την εξασφάλιση των χώρων εργασίας τους καθώς και την επανένταξή τους στην αγορά εργασίας. Η BFI Wien εργάζεται για δημόσιους οργανισμούς όπως η Αυστριακή Εθνική Υπηρεσία Απασχόλησης, το Ταμείο Απασχόλησης της Βιέννης, διάφορα υπουργεία και ευρωπαϊκούς οργανισμούς καθώς και για εταιρείες

του ιδιωτικού τομέα στο εμπόριο, τις υπηρεσίες, το εμπόριο και τη βιομηχανία. Θυγατρικές του BFI Wien είναι οι Fachhochschule des BFI Wien (Πανεπιστήμιο Εφαρμοσμένων Επιστημών BFI Wien), Schulen des BFI Wien (Εμπορικές Σχολές BFI Wien).

Η BFI Wien παρέχει ένα ευρύ φάσμα υπηρεσιών στον τομέα της επαγγελματικής κατάρτισης και προσόντων, της συμβουλευτικής σταδιοδρομίας και του προσανατολισμού, της ενεργοποίησης και των συμβουλευτικών υπηρεσιών. Η εκπαίδευση στην ΕΕΚ καλύπτει τομείς όπως οι τεχνολογίες πληροφορικής και επικοινωνίας, ο τουρισμός, οι υπηρεσίες υγείας και κοινωνικών υπηρεσιών, οι μεταφορές και η κυκλοφορία, οι κατασκευές, το εμπόριο ξύλου, μετάλλων και ηλεκτρικών ειδών.

Η εκπαίδευση βασικών δεξιοτήτων είναι σημαντική σε πολλά από τα προγράμματα του BFI Wien ώστε να περιλαμβάνει άτομα με χαμηλό μορφωτικό υπόβαθρο, με μαθησιακές δυσκολίες και αναπηρίες καθώς και με σταδιοδρομίες που εγκαταλείπουν το σχολείο. Στις περισσότερες περιπτώσεις, η εκπαίδευση βασικών δεξιοτήτων αποτελεί μέρος μιας ολοκληρωμένης επαγγελματικής κατάρτισης. Είτε ενσωματώνεται στην εκπαίδευση είτε εφαρμόζεται πριν από την επαγγελματική ή τεχνική κατάρτιση. Το BFI Wien παρέχει εκπαίδευση βασικών δεξιοτήτων στους υπολογισμούς και τη μαθηματική-λογική κατανόηση, τη γραφή και την επικοινωνία, τις κοινωνικές δεξιότητες και τα γερμανικά ως δεύτερη και τεχνική γλώσσα. Παραδείγματα είναι τα «Μαθήματα Ολοκληρωτικής Επαγγελματικής Κατάρτισης σύμφωνα με τον Αυστριακό νόμο για την Επαγγελματική Εκπαίδευση», «Jugendwerkstatt (Εργαστήριο Νέων)» και «Lernwerkstatt (εργαστήριο μάθησης)» μια ειδική ευκαιρία για νέους ηλικίας 15 – 17 ετών που μεταβαίνουν από το σχολείο στη μαθητεία/ στις θέσεις εργασίας.

Επί του παρόντος, η BFI Wien απασχολεί περίπου 600 άτομα και συνεργάζεται με 600 ελεύθερους επαγγελματίες. Εκπαιδεύουμε περίπου 40.000 άτομα ετησίως.

δ. Εκπαιδευτήρια Πλάτων, Ελλάδα

Τα Εκπαιδευτήρια Πλάτων Κατερίνης (Νηπιαγωγείο – Δημοτικό – Γυμνάσιο – Λύκειο - Κέντρο Δια Βίου Μάθησης) είναι ένα σύγχρονο εκπαιδευτικό ίδρυμα με 570 μαθητές και 90 άτομα προσωπικό. Ο οργανισμός παρακολουθεί με μεγάλο ενδιαφέρον και δημιουργικό μυαλό τις εξελίξεις στον τομέα της εκπαίδευσης. Θέτει συνεχώς νέους στόχους κατέχοντας ταυτόχρονα μια εξαιρετική θέση στην εκπαιδευτική σκηνή. Μέσω της χρήσης των πιο σύγχρονων εγκαταστάσεων, ενός ποικίλου προγράμματος σπουδών, του έμπειρου και εξειδικευμένου διδακτικού προσωπικού και, κυρίως, μέσω της συνέπειας αρχών και του σεβασμού προς τους μαθητές και τους γονείς, το σχολείο μας αγωνίζεται για την ολοκληρωμένη εκπαίδευση των μαθητών μας. Αξιοποιεί προσεγγίσεις με βάση την τοπική

κοινωνία και συμμετοχικές προσεγγίσεις, ενσωματώνοντας σχετικούς τοπικούς και περιφερειακούς φορείς για την αντιμετώπιση των εκπαιδευτικών προκλήσεων.

Μέσω του Τμήματος Έρευνας και Καινοτομίας επιδιώκεται η συμμετοχή των Εκπαιδευτηρίων Πλάτων Κατερίνης σε διεθνή προγράμματα σχεδιασμού, υλοποίησης και αξιολόγησης καινοτόμων παιδαγωγικών μεθόδων και υλικών. Το Κέντρο Έρευνας και Καινοτομίας συμμετέχει ενεργά στο σχεδιασμό προηγμένου εκπαιδευτικού υλικού, συμβατικού και ηλεκτρονικού. Κύριος στόχος είναι η αξιοποίηση τεχνολογιών αιχμής στην εκπαιδευτική διαδικασία ώστε να ενισχυθεί η διδασκαλία και η μάθηση. Τα εργαλεία που αναπτύχθηκαν στο πλαίσιο των εκπαιδευτικών προγραμμάτων είναι αποτέλεσμα συνεργασίας και κοινών προσπαθειών μεταξύ ειδικών από διάφορους ακαδημαϊκούς τομείς, εστιάζοντας στην τεχνολογία των πληροφοριών, τη διδασκαλία και τις σπουδές μάθησης.

Τα Εκπαιδευτήρια Πλάτων Κατερίνης συνεργάζονται με: Δήμο Κατερίνης, Διεθνές Πανεπιστήμιο, Εκπαιδευτική Αρχή Πιερίας, Εμπορικό Επιμελητήριο Πιερίας, Φεστιβάλ Ολύμπου, εθελοντική ομάδα Πιερίας, Πολιτιστικούς και Αθλητικούς συλλόγους. Τα Εκπαιδευτήρια Πλάτων Κατερίνης είναι επίσης επικεφαλή της σχολικής εκπαίδευσης στο Dlearn, ένα ευρωπαϊκό δίκτυο για την ψηφιακή μάθηση.

ε. City Lit Λονδίνο, Αγγλία

Το City Lit είναι ο μεγαλύτερος πάροχος σύντομων μαθημάτων για ενήλικες στο Λονδίνο. Ιδρύθηκε το 1919 και παρέχει εκπαίδευση ενηλίκων στο κεντρικό Λονδίνο για περισσότερο από έναν αιώνα. Το City Lit βοηθά μαθητές από ποικίλα υπόβαθρα και κοινωνικές συνθήκες να αμφισβητήσουν τον εαυτό τους και να ξεκλειδώσουν τις δυνατότητές τους. Το 2020, η City Lit κυκλοφόρησε την παροχή διαδικτυακής μάθησης για να παραμείνει ένας κόμβος μάθησης και υποστήριξης καθ' όλη τη διάρκεια της πανδημίας.

Το City Lit έχει προσαρμοστεί και καινοτομήσει για να ανταποκριθεί στις μεταβαλλόμενες ανάγκες του Λονδίνου, παρέχοντας περισσότερα από μαθήματα εκπαίδευσης ενηλίκων. Η

προσφορά του βοηθά τους ανθρώπους να καταπολεμήσουν τη μοναξιά, να αναπτύξουν νέες δεξιότητες για να βελτιώσουν την απασχολησιμότητα και να αλλάξουν καριέρα. Δίνει στους ανθρώπους μια αίσθηση σκοπού και εκπλήρωσης, βελτιώνει την αυτοπεποίθησή τους, τους δίνει τη δυνατότητα να ξεπεράσουν τις δυσκολίες ψυχικής υγείας και κάνει το Λονδίνο, και όχι μόνο, ένα καλύτερο μέρος.

Το κολέγιο τρέχει τώρα περίπου 5.000 μαθήματα διαδικτυακά και με φυσική παρουσία ετησίως και διεκπεραιώνει σχεδόν 60.000 εγγραφές.

Universal Skills Center στο City Lit

Το Universal Skills Center εστιάζει στις βασικές ικανότητες και δεξιότητες που χρειάζονται οι ενήλικες για να συμμετέχουν, να προοδεύουν και να εκφράζονται στις σημερινές δημοκρατίες.

Εστιάζουμε στις δεξιότητες που απαιτούνται περισσότερο εντός και εκτός του χώρου εργασίας, όπως η επικοινωνία, η λήψη αποφάσεων, η ιεράρχηση προτεραιοτήτων, η καινοτομία και η συγκρότηση ομάδας. Οι μαθητές μαθαίνουν και αναπτύσσουν αυτές τις ικανότητες μέσω της εργασίας τους στα Αγγλικά, στο ESOL (Αγγλικά για Ομιλητές Άλλων Γλωσσών), στα μαθηματικά, στις ψηφιακές δεξιότητες και στον εγγραμματισμό δεδομένων. Διοργανώνουμε μαθήματα για περισσότερους από 1500 για μαθητές που ακούνε αλλά και Κωφούς μαθητές, σε όλα τα επίπεδα, με και χωρίς εξετάσεις. Η παιδαγωγική μας εστίαση είναι στη μάθηση βάσει εργασιών και στην παιχνιδοποίηση της τάξης.

ζ. Verein Spielmacher and Games Institute Austria, Αυστρία

Η Verein Spielmacher είναι μια εγγεγραμμένη ένωση στην Αυστρία που συγκεντρώνει επαγγελματίες και άτομα που ενδιαφέρονται να χρησιμοποιούν παιχνίδια σε νέα πλαίσια όπως η εκπαίδευση ή η επαγγελματική ανάπτυξη. Ιδρύθηκε το 2017 και το έργο Games in Basic Skills Teaching είναι το πρώτο μεγάλο έργο στο οποίο έχει συνεισφέρει. Η τεχνογνωσία στο Spielmacher έχει ισχυρή σύνδεση με το Games Institute Austria.

Το Games Institute Austria είναι μια εταιρεία με έδρα τη Βιέννη της Αυστρίας, η οποία δραστηριοποιείται στον τομέα της μάθησης που βασίζεται σε παιχνίδια. Ιδρύθηκε το 2015 και έκτοτε έχει αποκτήσει τη φήμη ως μία από τις κορυφαίες εταιρείες της Ευρώπης στον

τομέα αυτό. Το Games Institute εξηγεί το πεδίο σε ομιλίες και άρθρα, εκπαιδεύει δασκάλους σε σεμινάρια και εργαστήρια και έχει αναπτύξει διάφορες υπηρεσίες και προϊόντα όπως τα Escape Rooms για εκπαίδευση και επαγγελματική ανάπτυξη (συμπεριλαμβανομένης της Best Case Escape Room Case του Ινστιτούτου Παιχνιδιών), αξιολόγηση δεξιοτήτων σε παιχνίδια με τα εργαλεία αξιολόγησής μας GIST (Εργαλείο αυτοαξιολόγησης με πληροφόρηση παιχνιδιού) και SkillEDU (παρόμοιο με το GIST, αλλά επικεντρώνονται σε μαθητές που πλησιάζουν στο τέλος της σχολικής τους σταδιοδρομίας), Εκπαίδευση Esports και Σχεδιασμός Εκπαιδευτικών Παιχνιδιών. Συνεργαζόμαστε με άλλες εξειδικευμένες εταιρείες στους αντίστοιχους τομείς, όπως η Seppo ή η Learn2Esport, για να προσφέρουμε τις καλύτερες εμπειρίες εκμάθησης που σχετίζονται με τα παιχνίδια σε εταιρείες και εκπαιδευτικά ιδρύματα σε όλο τον κόσμο.

Το προσωπικό του Games Institute συνδυάζει 15+ χρόνια στη διδασκαλία, τη σχεδίαση UI/UX, τη συμβουλευτική επιχειρήσεων και την εμπειρία δεκαετιών στο gaming, την κουλτούρα του gaming και τα esports. Στη συνέχεια, μπορούμε να προσφέρουμε αυθεντικές και σχετικές εμπειρίες στους ίδιους τους παίκτες, καθώς και να μεταφράσουμε και να μεταφέρουμε τις σχετικές πτυχές του παιχνιδιού στους πελάτες μας και στην κοινωνία γενικότερα.

η. CFC - Συνέδριο της Ιταλικής Ελβετίας για τη συνεχή εκπαίδευση ενηλίκων, Ελβετία

Το Συνέδριο για τη διά βίου μάθηση ενηλίκων στη νότια Ελβετία (CFC, www.conferenzacfc.ch) είναι ο οργανισμός-ομπρέλα για τη γενική και επαγγελματική εκπαίδευση ενηλίκων στην περιοχή Ticino (νότια περιοχή της Ελβετίας). Το CFC είναι ένας μη κερδοσκοπικός οργανισμός που υποστηρίζεται από την κυβέρνηση του Καντόνου Τιτσίνο και έχει μόνιμη γραμματεία στο Λουγκάνο. Ομάδες CFC με περισσότερα από 80 μέλη, περιλαμβάνουν: ιδρύματα, σχολεία (δημόσια και ιδιωτικά), κρατικούς παρόχους εκπαίδευσης ενηλίκων, κυβερνητικούς φορείς και άτομα που εμπλέκονται στην εκπαίδευση ενηλίκων και στην επανεκπαίδευση του ανθρώπινου δυναμικού.

Το CFC προωθεί ένα βιώσιμο σύστημα εκπαίδευσης ενηλίκων, αυξάνει την ευαισθητοποίηση σχετικά με τη σημασία της εκπαίδευσης ενηλίκων και δημιουργεί συνεργασία και δίκτυα μεταξύ οργανισμών εκπαίδευσης ενηλίκων μέσω της εκτέλεσης εθνικών και διεθνών έργων, συνεδρίων και ενημερωτικών συναντήσεων.

Χάρη σε περισσότερα από 20 χρόνια εμπειρίας, το CFC έχει αποκτήσει εκτεταμένη γνώση για τα περισσότερα θέματα που σχετίζονται με την εκπαίδευση ενηλίκων και έχει αναπτύξει και συμμετάσχει, με διαφορετικούς τρόπους, σε διάφορα έργα (σε περιφερειακό, καθώς και σε εθνικό και διεθνές επίπεδο), με θέμα: εκπαίδευση μειονεκτούντων ενηλίκων με χαμηλά επίπεδα βασικών δεξιοτήτων και χωρίς επίσημα προσόντα ΕΕΚ.

θ. Καθολικά Συστήματα Μάθησης, Ιρλανδία

Η Universal Learning Systems είναι μια διεθνής εταιρεία συμβούλων που ειδικεύεται στην έρευνα, την εκπαίδευση, την κατάρτιση και τη διαχείριση έργων. Η ULS αναλαμβάνει έργα για έναν αριθμό πελατών στους τομείς της εκπαίδευσης, της ανάπτυξης και της διαχείρισης. Με έδρα την Ιρλανδία, η ULS διαθέτει επίσης γραφεία στην Πράγα, τη Βαρκελώνη, το Άμστερνταμ, το Ελσίνκι, το Σάο Πάολο και το Σικάγο.

Η ULS επικεντρώνεται στην επαγγελματική ανάπτυξη με ιδιαίτερη έμφαση στη μάθηση με βάση την εργασία. Η ULS εργάζεται στην Ιρλανδία, την Ευρώπη, την Κίνα και τις Ηνωμένες

Πολιτείες με ένα ευρύ φάσμα πελατών: σε αυτούς περιλαμβάνονται πανεπιστήμια, ιδρύματα ανοικτής μάθησης, σχολεία, εργοδότες και κοινοτικές ενώσεις. Διαθέτει ιδιαίτερη εξειδίκευση στη μάθηση γύρω από τη μετασχηματιστική εκπαίδευση, την αναπηρία και την αποκατάσταση, την ηλεκτρονική μάθηση, τη διαφορετικότητα, τη διαπολιτισμικότητα, τη μετανάστευση, την επίλυση συγκρούσεων και τη στρατηγική διαχείριση. Η ULS έχει εκτενή εμπειρία στην προώθηση της εκπαιδευτικής και μαθησιακής καινοτομίας. Συνεργάζεται στενά με τα ενδιαφερόμενα μέρη της κοινότητας, την εκπαίδευση ενηλίκων και τα δίκτυα εργοδοτών. Η ULS έχει ιδιαίτερη εμπειρία με πρωτοβουλίες μεταπτυχιακής εξ αποστάσεως εκπαίδευσης στη διαχείριση της αλλαγής και τη βιώσιμη επαγγελματική ανάπτυξη. Συμμετέχει κεντρικά σε πρωτοβουλίες μάθησης που βασίζονται στην εργασία για την προώθηση της ανάπτυξης και της ικανότητας των εργαζομένων. Το ULS εστιάζει στον προληπτικό στρατηγικό σχεδιασμό για καινοτόμο μάθηση και συμμετέχει ενεργά σε ένα ευρύ φάσμα έργων αξιολόγησης.

Η ULS έχει ηγετικό προφίλ στα δίκτυα καινοτομίας εξ αποστάσεως εκπαίδευσης και ηλεκτρονικής μάθησης της ΕΕ. Η ULS έχει ιδιαίτερη εμπειρία στην αξιολόγηση έργων και τη διασφάλιση ποιότητας. Η ULS έχει αναπτύξει μια εκτεταμένη σειρά μαθημάτων ηλεκτρονικής μάθησης στους τομείς της ασφάλειας και της φαρμακευτικής στη Φινλανδία σε συνεργασία με την εταιρεία συνεργάτη της, ChangeLearning. Η ULS έχει εμπειρία στη συνεργασία με σχολεία για την ανάπτυξη ενισχυμένης δέσμευσης με εκπαιδευτικούς, κοινότητες και γονείς. Η ULS έχει αναπτύξει εκπαίδευση για τα ανθρώπινα δικαιώματα και τη διαφορετικότητα για κολέγια εκπαίδευσης αστυνομικών στην Ιρλανδία και την Ευρώπη. Ο Δρ. Bruce της ULS είναι μέλος του New Security Forum στο Βερολίνο και του National Diversity Strategy Strategy Board της Garda στην Ιρλανδία.

Η ULS βασίζει το έργο της στον εντοπισμό και την ανάπτυξη ευκαιριών για καινοτόμες μαθησιακές ικανότητες για την αντιμετώπιση μελλοντικών προκλήσεων. Η αποτύπωση αυτής της καινοτομίας έχει γίνει βασικός στόχος για έργα ULS τα τελευταία χρόνια σχετικά με τις προηγμένες τεχνολογίες και την εφαρμογή τους στις ανθρώπινες μαθησιακές ανάγκες. Μέσω της εξειδίκευσής της σε θέματα αναπηρίας, μετανάστευσης και διαπολιτισμικότητας, η ULS έχει αναπτύξει ισχυρές εκπαιδευτικές μεθόδους και κατευθυντήριες γραμμές που βασίζονται στις ατομικές και κοινοτικές ανάγκες μάθησης και ανάπτυξης – ιδιαίτερα σε μια περίοδο κοινωνικοοικονομικής κρίσης.

Η ULS έχει ιδιαίτερη εξειδίκευση στην έρευνα, τη διαχείριση έργων και τις καινοτόμες πρωτοβουλίες για τη μετανάστευση, τη διαπολιτισμική εκπαίδευση και τον μετασχηματισμό των συγκρούσεων – με ισχυρό ιστορικό ανάπτυξης προγραμμάτων στο Κοσσυφοπέδιο, το Euzkadi, τη Βοσνία, την Καταλονία, τη Ρουμανία, την Κύπρο, την Παλαιστίνη και τη Βόρεια Ιρλανδία. Η ULS έχει επίσης αναλάβει σημαντικά έργα εκπαίδευσης και κατάρτισης σχετικά με τα θεμελιώδη δικαιώματα και τη διαχείριση της διαφορετικότητας. Η ULS είναι Ακαδημαϊκός Σύμβουλος στο πρόγραμμα Conflicts of Interest που παρέχεται από την Expac στη Βόρεια Ιρλανδία και παρέχει το νέο πρόγραμμα Future Resolutions που αναπτύχθηκε από την Expac και επικυρώθηκε από το Queens University Belfast. Η ULS είναι μέλος του Συνδέσμου Ιστορικού Διαλόγου και Έρευνας στην Κύπρο.

Έχει σχεδιάσει και παραδώσει εκπαίδευση μετασχηματισμού συγκρούσεων (συμπεριλαμβανομένων των δεξιοτήτων διαμεσολάβησης) σε υπηρεσίες πελατών σε όλη τη Βόρεια Ιρλανδία και τις συνοριακές κομητείες της Δημοκρατίας. Το 2014 η ULS σύναψε μια ακαδημαϊκή σύμβαση και συμφωνία με το UOC, το Ανοικτό Πανεπιστήμιο της Καταλονίας, στη Βαρκελώνη για την κοινή ανάπτυξη μαθημάτων επίλυσης συγκρούσεων στο Campus for Peace και για την ανάπτυξη κοινού μεταπτυχιακού προγράμματος.

Τα τρέχοντα έργα περιλαμβάνουν:

· Καινοτόμες μαθησιακές παρεμβάσεις στη μετανάστευση και την κοινωνική ένταξη

· Έρευνα σχετικά με τα αποτελέσματα της αγοράς εργασίας για τις εθνοτικές μειονότητες στη Φινλανδία

· Εκπαίδευση μεταπολεμικής σύγκρουσης στη Βόρεια Ιρλανδία

· Επαγγελματική διαπίστευση επαγγελματικής αποκατάστασης (Ηνωμένες Πολιτείες)

· Μεταπολεμικά προγράμματα ΕΕΚ στο Κοσσυφοπέδιο, το Euzkadi και τη Βοσνία

· Ανάπτυξη μεταπτυχιακών μαθημάτων για το προσωπικό αποκατάστασης (ΗΠΑ/Ιρλανδία)

· Προγράμματα διαχείρισης διαφορετικότητας για ιδιωτικό και δημόσιο τομέα

· Έρευνα αποκατάστασης και βέλτιστες πρακτικές σε σχολεία χωρίς αποκλεισμούς (Ιλινόις)

· Διεθνοτική εκπαίδευση και έρευνα για τις συγκρούσεις (Κύπρος και Ιρλανδία)

· Πρωτοβουλίες εκμάθησης γλωσσών στην τριτοβάθμια εκπαίδευση στην Ταϊβάν

· Προγράμματα που υποστηρίζονται από καινοτόμο τεχνολογία στη φροντίδα ηλικιωμένων στην Κίνα

· Ανάπτυξη ικανοτήτων για τον τομέα των ΤΠΕ στην Ελλάδα και τη Βουλγαρία

· Καινοτόμος μάθηση για την παγκοσμιοποιημένη αλλαγή στον Ισημερινό

· Έρευνα και εκπαίδευση για την καταπολέμηση του διαδικτυακού εκφοβισμού στα σχολεία (Ιταλία)

· Η εκμάθηση γλωσσών με υποστήριξη προηγμένων ΤΠΕ για πανεπιστήμια στην Παλαιστίνη.

ι. FØNIX, Νορβηγία

Η FØNIX (FONIX) είναι η μεγαλύτερη εταιρεία στην αγορά επαγγελματικής αποκατάστασης στη Νορβηγία. Το κεντρικό μας γραφείο βρίσκεται στο Sandefjord της Νορβηγίας, (120 χλμ νότια του Όσλο) υποστηρίζοντας 11 περιφερειακά γραφεία στην κομητεία Vestfold. Το FONIX έχει περίπου 200 εργαζομένους – κυρίως πιστοποιημένους εκπαιδευτές και εκπαιδευτικούς.

Η FONIX είναι ΜΚΟ και οργανώνεται ως εταιρεία περιορισμένης ευθύνης, αλλά ενεργεί ως μη κερδοσκοπικός οργανισμός μέσω της επίσημης έγκρισής μας ως προμηθευτής της Νορβηγικής Υπηρεσίας Εργασίας και Πρόνοιας (NAV).

Η FONIX ανήκει κατά 100% στον δήμο Sandefjord. Το Sandefjord είναι η 8η μεγαλύτερη πόλη της Νορβηγίας με περίπου 65.000 κατοίκους.

Η επίσημη έγκρισή μας ως προμηθευτής της NAV (Η Νορβηγική Διοίκηση Εργασίας και Πρόνοιας) απαιτεί οι ιδιοκτήτες να μην μπορούν να λαμβάνουν μερίσματα και ότι όλα τα κέρδη θα ωφελήσουν τους χρήστες της επιχείρησης. Σε αυτό το πλαίσιο, η FONIX διαδραματίζει σημαντικό ρόλο για την κοινότητα και τις δημόσιες αρχές όσον αφορά την επαγγελματική αποκατάσταση.

Οποιαδήποτε στιγμή κατά τη διάρκεια του έτους, αυτή η υπηρεσία περιλαμβάνει περίπου 2.000 μαθητές / άτομα που αναζητούν εργασία και περίπου 300 μετανάστες / μαθητές ξένων γλωσσών.

Το 2019 περισσότερα από 1.200 άτομα έπιασαν δουλειά μέσω της FONIX.

10 Steps to become a game based learning teacher

Danish

Trin 1 - Spil spil i din fritid

Trin 2 - Identificer læringsmålene i de spil, du spiller

Trin 3 - Identificer områder i din undervisning, hvor ekstra motivation ville være nyttig

Trin 4 – Motiver kolleger til også at spille

Trin 5 – Start en gruppe med kollegaer for at diskutere og teste spil

Trin 6 - Identificer et spil, der kan bruges i undervisning om et bestemt emne

Trin 7 - Opret et læringsmiljø og scenarie rundt om spillet

Trin 8 - Brug spillet i klassen og evaluer resultatet - også ud over de specifikke

færdigheder, du gerne vil undervise i

Trin 9 - Lad også andre kolleger bruge dit spil og dine scenarier i klassen

Trin 10 – Lav et bibliotek med dine gennemprøvede spil og de projekter, de kan anvendes i, sammen med dine kolleger

Deutsch

10 Schritte zur Expertin / zum Experten für den Einsatz von Spielen im Unterricht

1. Spielen Sie in Ihrer Freizeit Spiele.

2. Definieren Sie die Lernziele in den Spielen, die Sie spielen (Zweck, Ziel und Kompetenzen).

3. Ermitteln Sie Bereiche in Ihrem Unterricht, in denen eine zusätzliche Motivation durch Spiele sinnvoll wäre.

4. Finden Sie andere KollegInnen oder bringen Sie andere KollegInnen dazu, ebenfalls Spiele zu spielen.

5. Bilden Sie mit Ihren KollegInnen eine Gruppe, um Spiele zu diskutieren und zu testen.

6. Finden Sie weitere Spiele, die zu einem Thema in Ihrem Unterricht passen und eingesetzt werden können.

7. Erstellen Sie ein Lernszenario rund um das Spiel (bitte verwenden Sie dazu die Checkliste für Spiele weiter hinten im Dokument).

8. Setzen Sie das Spiel im Unterricht ein und bewerten Sie das Ergebnis.

9. Lassen Sie andere KollegInnen das Spiel ebenfalls im Unterricht verwenden.

10. Entwickeln Sie gemeinsam mit KollegInnen eine Bibliothek mit bewährten Spielen und den Unterricht / Projekt, in denen sie eingesetzt werden.

Norwegian

Trinn 1 – Spill spill på fritiden

Trinn 2 – Identifiser læringsmålene I spillene du spiller

Trinn 3 – Identifiser områder i undervisningen hvor ekstra motivasjon er nødvendig

Trinn 4 – Få med deg kollegaene dine på spillene

Trinn 5 – Dann ei gruppe for diskusjon og testing av spill

Trinn 6 – Finn spill som kan bli brukt for et spesifikt emne.

Trinn 7 – Lag et læringsrom rundt spillet

Trinn 8 – Bruk spillet i klassen – og evaluer resultatene (gjerne også utilsiktede ferdigheter som kommer med)

Trinn 9 – La andre kollegaer prøve ut opplegget, spille og læringsrommet du har skapt

Trinn 10 – Lag et bibliotek av utprøvde spill sammen med dine kollegaer.

Greek

Βήμα 1 - Παίξτε παιχνίδια στον ελεύθερο χρόνο σας

Βήμα 2: Προσδιορίστε τους μαθησιακούς στόχους στα παιχνίδια που παίζετε

Βήμα 3 - Προσδιορίστε τομείς στη διδασκαλία σας όπου επιπλέον κινητοποίηση θα ήταν χρήσιμη και βρείτε ένα παιχνίδι για να το καταφέρετε

Βήμα 4 - Βρείτε και φέρτε συναδέλφους να παίξουν, και αυτοί, παιχνίδια

Βήμα 5: Σχηματίστε μια ομάδα για να δοκιμάσετε και να συζητήσετε για τα παιχνίδια

Βήμα 6 - Προσδιορίστε ένα παιχνίδι που μπορεί να χρησιμοποιηθεί στην τάξη για ένα συγκεκριμένο θέμα

Βήμα 7 - Δημιουργήστε ένα σενάριο εκμάθησης γύρω από το παιχνίδι

Βήμα 8 - Χρησιμοποιήστε το παιχνίδι στην τάξη και αξιολογήστε το αποτέλεσμα (και πέρα από τις δεξιότητες που θα θέλατε να διδάξετε)

Βήμα 9 - Αφήστε άλλους συναδέλφους να χρησιμοποιήσουν το παιχνίδι και το σενάριο που δημιουργήσατε στην τάξη τους

Βήμα 10 - Δημιουργήστε μαζί με συναδέλφους μια βιβλιοθήκη δοκιμασμένων παιχνιδιών και των σεναρίων που χρησιμοποιήθηκαν