GAME DESIGN FOR INCLUSION

Game On Educational Manual

GAME ON

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

TABLE OF CONTENT

Introduction and description of Game On project 3

The power of games in education (By Associazione Interculturale NUR) 4
- What makes a game a game? 4
- How to use games in education (formal and non-formal)? 5

Introduction to game design (By Nexes Interculturals) 7
- Steps of game design process 7

Game design in education (By BalkanIDEA) 10

Game design for inclusion and critical thinking (By Nectarus) 14
- How do we understand inclusion and critical thinking in the Framework of GameOn 14
- Situations in each partner country 15
  - Spain 15
  - Italy 16
  - Lithuania 17
  - Serbia 18
- Competences for facilitating the inclusive game design process 20

Training modules for educational game design 22
- Background of the process – how did we design the modules 22
- Experience of partners 25
  - Nexes Interculturals, Spain 25
  - Nectarus, Lithuania 28
  - BalkanIDEA (BINS), Serbia 30
  - Associazione Interculturale NUR, Italy 33

Conclusion:

The power of educational game design for fostering inclusion of young people 36

References for further reading and exploring 39

INTRODUCTION AND DESCRIPTION OF GAME ON PROJECT

Game design is a powerful tool to empower people to unlock their creative and innovative potential through a seemingly playful process. Regardless of their previous experiences, competences, or level of confidence, everyone can get involved in the creative processes.

The partners in four Cities of Learning – Barcelona, Cagliari Metropolitan, Novi Sad and Vilnius – join our forces to promote and scale inclusive game design practices that benefit young people, educators and youth workers in our communities. All partners have experience involving young people in developing educational games and have observed significant learning impact on their personal, social, career and civic development.

Partner consortium. Nexes (ES) – the lead partner, Idealúdica (ES), Universitat de Barcelona (ES), BalkanIdea Novi Sad (SR), Nectarus (LT), Associazione Interculturale NUR (IT).

THE POWER OF GAMES IN EDUCATION

(prepared by Associazione Interculturale NUR)

WHAT MAKES A GAME A GAME?

Games are very important in non-formal education and are closely related to the possibility of having direct experience (individual or collective) of a process which then, with the contribution of a moment of debriefing, helps to connect the experience with a learning process.

Playing a game is an intentional process that involves a person in a holistic way and that allows an experiment that in reality could be difficult or impossible. Games create “as if" reality; allows for hypotheses; the construction of safe spaces for the experimentation with players’ own competences and building relationships. This safe space for experimentation allows the comparison between individuals and/or groups, which also includes emotional dimension.

Playing games opens up spaces for experimentation that allows mistakes without necessarily being sanctioned. Play is therefore a process which is structured and which has certain characteristics which distinguish it from a toy or from play. A game is a type of play where participants follow defined rules. (Houghton et al., 2013) Games can support tool development of competences which include following rules, adaptation, problem solving, interaction, critical thinking skills, creativity, teamwork, etc.

In defining a game, we can say that the components of each game are the hardware and the rules are the software. Both can exist independently from each other and they define and create different kind of game with their specificities.

Components and rules can be combined:

- ✔ a set of components may be used with different rules.
- ✔ a set of rules can be used with different components.

Game should also have a clear goal that is leading the gamers to the final mission to be accomplished. The goal of the game must be something measurable, relatively simple to measure. This allows the gamers to define their strategy within the rules and to reach their target in a competitive or collaborative way.

Everything that is in the rules is part of the game. Everything that is not in the rules does not belong in the game. The rules are the borders and the heart of the game. They only refer to the game and never exist outside of the game.

Games are fun engaging activities usually used purely for entertainment, but they may also allow people- to gain exposure to a particular set of tools, motions, or ideas. All games are played in a synthetic (or virtual) world structured by specific rules, feedback mechanisms, and requisite tools to support them – although these are not as defined as in simulations (https://www.nfer.ac.uk/media/1823/futl60.pdf)

HOW TO USE GAMES IN EDUCATION (FORMAL AND NON-FORMAL)?

The game plays a fundamental role in non-formal education and can be used for different purposes and therefore with different methodologies.

Games are important tools to support and empower formal and non formal methods to improve the learning experience of young people while also developing further other competences such as following rules, adaptation, problem solving, interaction, critical thinking skills, creativity and teamwork.

Games enhance youth to learn new things overcoming standardised barriers and while they are developing new skills, they build an emotional connection to learning. Creating emotional connections during learning is fundamental as it makes the experience concrete and transformative of attitudes.

In many games, players encounter scenarios that involve making in-the-moment decisions that let them see the impact of their choices quite soon and in a low-risk setting and then try (and try again) if they falter—competences that are valuable as they go through life. Teachers, for example in the context of formal education, can use games in the classroom to help students inhabit different perspectives and understand them as part of larger, holistic systems of thought. This system of thinking can become a good entry point for youth to experience the sense of their own agency as they weigh possibilities and consider alternate plans of action.

Because games are interactive and engaging, they may also encourage students to explore new topics and approaches to learning that otherwise they would not consider.

The **feature of receiving feedback** almost immediately after each move during a game gives insight on how to improve the performance in a positive way.

Games can be used in different settings in non-formal education: as a structural part of long-term activity, as team building, as a specific educational activity or for encouraging group dynamics.

Games are an integral part of the learning experience of youth: help the transition from theory to practice, from the Ideas to the planning. Games, following different and specific aims can be used for fostering cooperation in the groups of peers or in a classroom; can be a tool for making internal dynamics in the groups visible.

Moreover, games can serve educational purposes in the formal educational framework in a more direct way: introducing specific topics, encouraging critical thinking, and raising themes and subjects of the curricula.

Games in education can be used within structured or unstructured contexts, but one must always pay attention to the purpose for which they are used, to the context (which is appropriate to the age group, to the target, to the different intercultural dynamics, etc) and that it is accessible to all participants. The game both in the context of formal and non-formal education is an experience of inclusion and growth: it is necessary to ensure that these elements are always guaranteed for the group or individual.

Interesting links:

https://www.nfer.ac.uk/media/1823/futl60.pdf

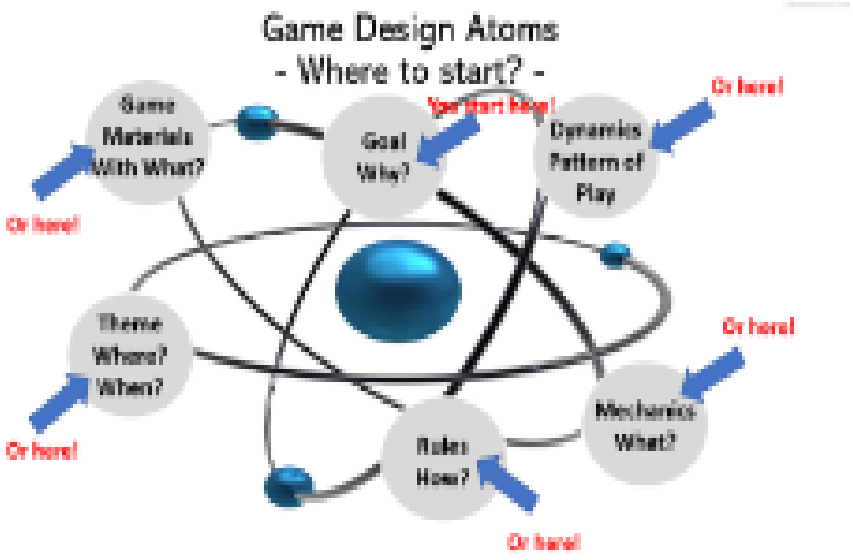
INTRODUCTION TO GAME DESIGN

(By Nexes Interculturals)

STEPS OF GAME DESIGN PROCESS

The process of designing a game is not a sequential process with a set of predefined steps to be followed in a certain order. Experience tells us that there are many “entry points” to start designing a game, leading to an infinite amount of possible step sequences.

Instead of picturing a group game design process as a list of steps to be completed in an established order, a conceptualization that better explains the process is an image of a set of interconnected bubbles containing the elements that have to be defined along the process. We refer to it as "the atom model”.



There are some elements that are more commonly used as “entry points” to start designing a game:

- Theme: the subject the game is built around, which would affect aesthetics of the game.

- Mechanics: rules that govern and guide the player's actions, as well as the game's response to them.
- Dynamics: patterns of how the game and the players will evolve over some timeand which leads to winning.
- Narrative: the game's story, including plot and characters, among others.
- Victory condition: how to win the game.
- Components: pieces and materials of the game.

Therefore, the initial spark of a game idea can be very varied: from wanting to create a game that uses dice as a key component, or aiming to come up with a game that promotes cooperation (as a dynamic) among the players, or wanting to design a game that is about cooking a certain dish and therefore the victory condition is to get all the required ingredients, to give a few examples.

There are couple of conditionals that are good to set at the start of the game design process, as they restrict possible options:

1. Number and age of players for whom we create this game.
2. Duration (maximum or minimum) of a game play.
3. Purpose of the game.

A second group of elements that need to be defined in the game design process, are the following:

- Point system: a system for distributing resources or for ranking players' actions on the basis of points allocated or accumulated
- Rules: statements and directions that must be followed in order for the game to be played correctly.
- Levels / Missions: closed off section of the game in which players can explore while trying to complete a certain objective.
- Playing surface in which components and actions are played.

When having defined those different game elements, even if some are still not fully clear, the next step is to describe the step-by-step functioning of the

minimum game unit (e.g. a move, a turn, a round); the game is played repeating that minimum game unit, with all the possible actions and restrictions it allows.

In order to support groups in their quest to design a game, in this project we compiled the elements previously mentioned in a Game Design Canvas. This document served as a guide to many groups when designing a game. We found it's essential to take it not as a rigid structure; instead, our invitation is to take it as an inspiration that supports creativity to root down.

Even though many groups expect that, after defining all those elements, they have an almost-finalized game, the truth is that in most (if not all) the cases, the resulting game runs differently from what they had in mind. For this reason, managing expectations and taking the first game play not as a failure but as a part of the game design process is essential.

Game testing is part of the game design process. The games need to go through the loop of testing it, refining, and testing again, many times in order to have a satisfactory game, meaning a product that satisfies the game designers as well as the game players.

We call this after-testing game a "prototype" because it is playable, though visually it is still very raw. Further work on the graphic design of the game is needed to address the game aesthetics: the desirable emotional responses evoked in the players, when they interact with the game system.

In this process of designing a game, a couple of tips that support the groups in their process is a) to schedule breaks, and b) to not get too attached to a certain idea they have: instead, be ready to "kill your darlings" and let go ideas that may be great but don't make much sense in how the game develops.

Designing a game with a group may be a smooth process or a very frustrating one. In any case, reflecting upon individual actions and decisions, as well as group dynamics, will support participants in this experience to extract meaningful learnings beyond the game design process.

GAME DESIGN IN EDUCATION

(By BalkanIDEA Novi Sad)

This chapter of the Manual highlights the context and the purpose of facilitating game design with young people in the GameON project, which is **education**.

Game design is often associated with commercial games or small manufacturers producing games, mainly for informal moments and for socialising with others. At the same time, games themselves are quite often used as methods of learning and education (particularly in non-formal educational context). However, GameON wants to highlight the potential that **game design** has in education and not just focus on utilising existing games for learning purposes.

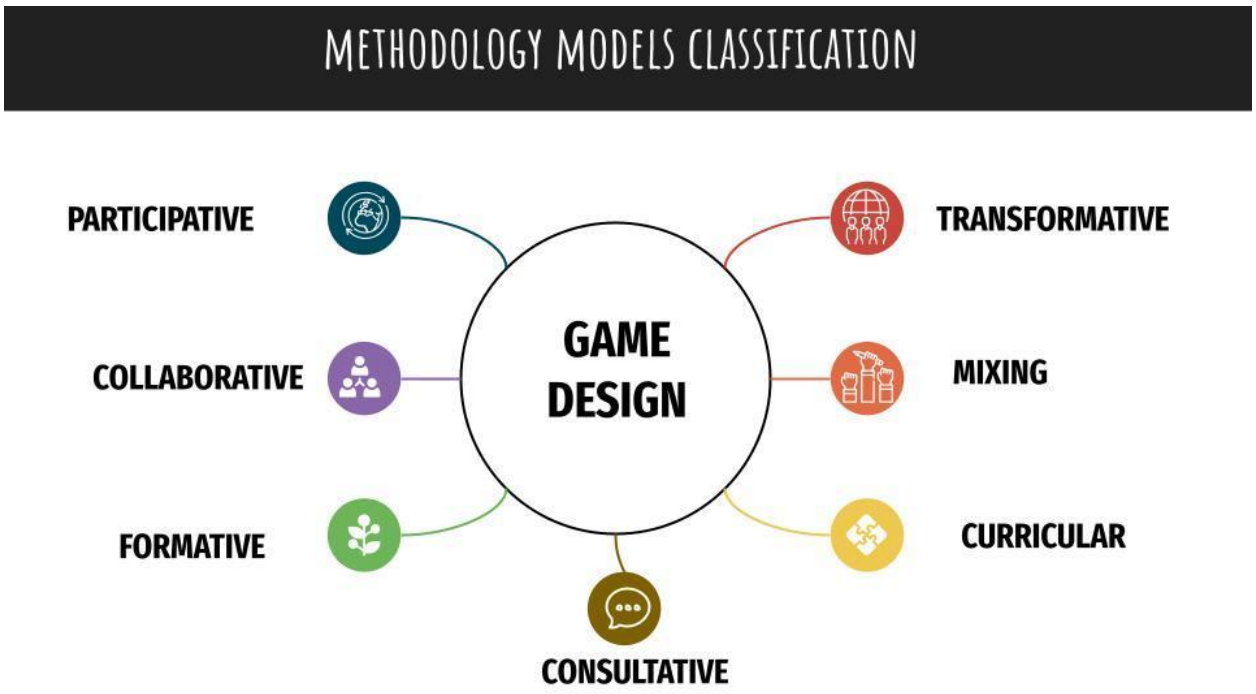
This need and desire comes from the consortium's extensive experience in implementing game design in educational contexts, which revealed that it has a powerful potential to **empower** both those implementing the process and those participating in it. And **empowering participants/learners is one of the essentials of education**. At least, inclusive and transformative education.

To explore how game design fits in education, GameON focused on **non-formal education processes**, while extending the context to encompass different educational environments and realities (schools, youth clubs, international learning mobility projects, etc.). Besides being the core expertise of the consortium members, through the project, it became clear that **game design itself seems to be highly compatible with non-formal education principles**. Some of the core aspects of game design: playfulness, freedom of choice, learning with and from the group, adapting the process to different needs and competences, self-reflection, etc. are in fact core principles of non-formal education. Those and others can be found described in T-kit 6 “Training essentials”. **In fact, the basic premise of the GameON process is that the game design (including games and playing) is inherently non-formal in its nature and the learning that takes place in it as well.**

To support this premise, game design is also an authentic example of the **experiential learning cycle** (reference), making game design process the central experience, which afterwards is processed in order to extract the learning, as well as the insights about oneself, others and the world. This learning is later used for further development and insights gained to guide experimentation in similar situations in the future.

That said, the experience of the consortium was that the identified principles and process (of game design and non-formal education alike) **could be designed and implemented in different educational contexts**, where the learning of young people takes place. And in order to explore those different contexts, it was understood that a research needs to be made into exploring what are some of the examples of implementing game design in educational contexts, how it is embedded into them, which competencies are being developed, etc.

The first step in this process were the **interviews**, which were later turned into podcasts, with different facilitators of game design, who implemented their process in different contexts: Escape Racism; Nature in Hands of Youth; Mission Z; Manipulator; Like you; Go Deep; Games that change the world; Exploreve; Escape games; EduGaming. Besides being a great source of learning, the experiences that were captured in the interviews served as the ground on which MeMos were developed: **Methodological Methods to structure the game design process** (in educational settings) with young people to promote social inclusion and transformation.



Three key pillars/ specific dimensions of the MeMos are as follows:

- Setting of the development of the project
- Phases of the projects where the young people are involved
- Final purpose of the project

When it comes to the **setting**, all models fit either in a formal or non-formal setting (context). However, they are further layered out, depending on their duration of the process, local/national/international dimension, etc. It is important to highlight that across different contexts, it was still possible to find common elements of game design and those principles of non-formal learning processes.

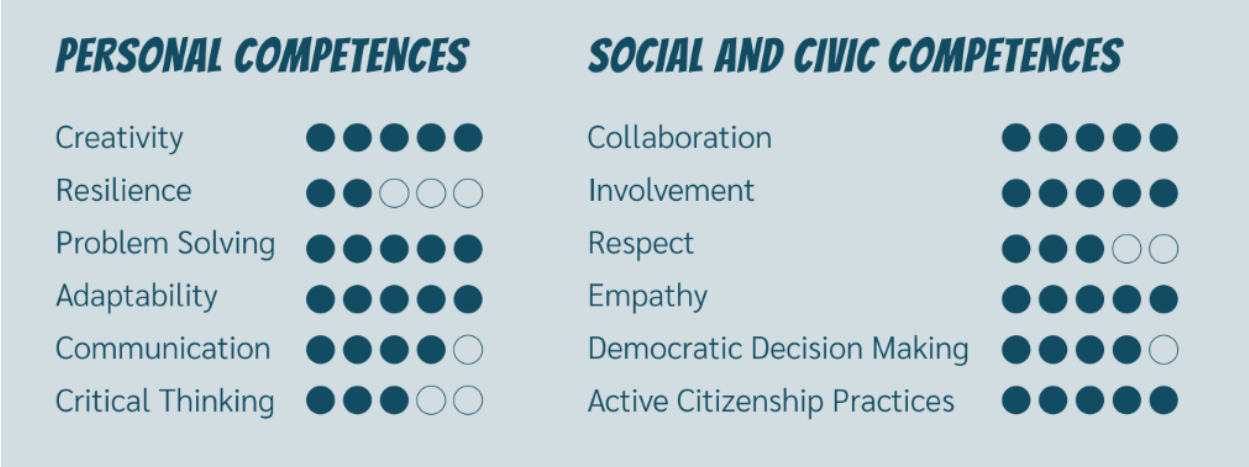
The phases are linked directly to **participation of young people**, which is one of the key principles of non-formal learning. In other words, to what extent are young people involved in the process of game design, whether they initiate the process themselves or they are consulted, etc. Good news is that, for those used to facilitating processes with young people in a participative way, it would be very easy to adapt this dimension to their own game design reality.

The final purpose of the game design process is the third essential element, as like in any other process of education, it fits the **objectives of the process, intertwined with the learning needs**.

What is important to highlight is that throughout the GameON project, it has become clear that **the game** has to have an important place in the process and game design is arguably less powerful if there is no concrete outcome. The creation of a game can be very empowering and the game often acts like a glue to keep the engagement and inclusion.

Connected to the purpose (as well as learning needs), game design process is grounded in the **competence-based approach**. In other words, which concrete

competences should a game design process develop were essential when thinking how to plan and facilitate it. The chosen competences were focused on supporting inclusion of young people and (in the MeMos) clustered into two groups:



This list is not exhaustive, but it is a good start when thinking which of the particular competences should be in the core of designing and facilitating game design process. Because, once again, depending on the context and depending on the purpose and the level of young peoples' involvement, the competences that are being developed will differ as well.

GAME DESIGN FOR INCLUSION AND CRITICAL THINKING

(By Nectarus)

HOW DO WE UNDERSTAND INCLUSION AND CRITICAL THINKING IN THE FRAMEWORK OF GAMEON

Educators and youth workers nowadays are still facing challenges to gain or upscale competencies with regard to inclusive education approaches adapted to attract and involve vulnerable youth and promote inclusiveness. Game design process could be one of the approaches used. Within the framework of GameOn project, we believe that the game design process can and should be used as an inclusion tool. According to our experience, it certainly helps to engage diverse target groups at the local or/and international level and promote critical thinking. Members of the diverse groups usually incorporate their own backgrounds, experiences, ability, heritage, and culture into their game development process. At the same time, inclusion of diverse target groups and team work during the development process grows the sense of empathy.

Below you can see how we in GameOn understand inclusion, social inclusion and critical thinking.

Inclusion:

Inclusion is understood as the promotion of the participation of all people involved in a learning process, removing participation barriers for individuals and groups with lesser opportunities, and taking diversity among them as an asset.

Social Inclusion:

Social inclusion is the process of improving the terms on which individuals and groups take part in society: improving the ability, opportunity, and dignity of those diverse or disadvantaged on the basis of their identity or condition.

We can talk of social inclusion in Game On when the inclusion, applied and promoted among the beneficiaries of the project activities, is creating the conditions for a wider inclusion impact on other individuals and groups (through actions of dissemination and cascade multiplication of learning processes) that are fostering and improving their capacity to take part in society in the future.

Critical thinking:

For the promoters of this project, critical thinking means to widen the perspective of individuals' realities, questioning one's beliefs, ways of acting and given realities.

To promote critical thinking, we assume the central role of empathy, we recognize the importance of questioning oneself and the others, and we consider diversity as a value to be managed by providing a safe space for sharing and exchanging.

SITUATIONS IN EACH PARTNER COUNTRY

To understand better the context and challenges related to inclusion and lack of critical thinking in each partner country of GameOn project we prepared country analyses ''*Inclusion papers*. Each partner also conducted small-scale research with the Training module groups that helped us to identify: 1) the main inclusion challenges and discrimination issues at the national/regional level; 2) the development and lack of the critical thinking in the country; 3) identify the practices used by educators, youth workers while working with their target groups to address those challenges.

Below you can find a summary of the situation in each GameOn partner country:

Spain

(Barcelona area)

Barcelona City Hall has an Inclusion and social inequalities' reduction strategy that considers the main challenges for youth inclusion to be: having the basic needs covered, quality employment, access to housing, eliminating stigmatisation and social segregation, and reducing inequalities.

During the local training module testing, we worked mainly with two targets: teachers and youth workers.

According to the 15 high school teachers participating in the local training courses in Barcelona, the main challenge related to youth inclusion consists of the removal of obstacles and barriers that block the participation of young people. Those teachers consider that young people face difficulties in more basic needs, such as economic difficulties, low rate of employment, low salaries that make it difficult to emancipate, high rents. All these barriers have the effect that young people need to address them before they have the time and energy to participate more (politically, culturally, socially). Apart from that, teachers also identified a lack of "culture of participation" in the majority of young people, only having a small minority that are socially participative. Another challenge to address is diversity seen as an obstacle and not as an asset.

The more heterogeneous group of participants in the second local training course in Barcelona (5 people who work on different areas of non-formal education), identify the main challenge for youth inclusion to be the diversity management. The differences in cultural background, origin and socioeconomic context are considered to be the main pitfalls related to youth inclusion in the work environments of those youth workers.

Italy

(Sardegna/Piemonte)

Young people are continually confronted by the severe conditions of the labour market, conditions that have led to unprecedented youth unemployment rates and consequent brain drain, as well as a more general decrease in expectations regarding the full realisation of their ambitions. Following an interesting study of Elisa Lello that applies well to the outcome of the two surveys young Italians of today risk falling into disillusionment. The tendency is to downsize the scope of their dreams and aspirations even before verifying if they could withstand the impact of reality, just to avoid the risk of disappointment.

In this respect, it is argued that within this generalised loss of trust towards the future, the educational style has deeply changed so that the exhortations to the young – to make them study and commit themselves – are increasingly based on threats rather than on the promise of what they can conquer in their future (Benasayag and Schmit, 2004).

The future has been presented to younger people as a land of hardship and danger, rather than as one of hope and desire.

In the survey, the groups have been clearly identified as challenges for inclusion of youth in the areas:

1. The difficulty to mainstream their dreams and identify their references.
2. Being able to motivate young people in concrete actions that could lead to a change.
3. promote cooperation and discussion
4. Working environment
5. Lack of opportunities for upscale their competencies and skills
6. The related not easy access to the resources

Young people are a scarce resource in terms of their numbers, yet their position in the labour market is highly precarious, and the quality of work they generally receive is uncertain. The structure of the opportunities offered to youths render their transition into adulthood even more difficult, when compared to previous generations. In general, young people are disadvantaged by difficult school-to-work transitions.

Lithuania

(Vilnius area)

The most recent and comprehensive account of main challenges related to youth inclusion in Vilnius city can be found in the Vilnius city "Families' and childrens' welfare development action plan for 2021-2025". It refers to several essential problems backed up with research and testimonies of education, social care and youth work professionals.

In Vilnius city, the most challenging situation is with "unmotivated" young people, especially in the age group from 25 years old. Unmotivated youth are considered to have fewer opportunities, do not work or study, are more likely to commit crimes, **experience social exclusion**, do not have safe spaces to develop, do not actively participate, live in families at social risk that experience social, cultural, economic and educational crises.

The percentage of young people involved in committing crimes rises with age especially in the age group between 19-23 years. The transition from obligatory formal education to a new life stage is a critical moment for taking decisions about further life choices.

Families at risk, including young people need to have access to social skills development services, training on problem solving and overcoming conflict situations.

Young people, including those with fewer opportunities, have to have opportunities to participate in group activities to discover themselves and develop skills. Group activities need to create a safe environment that will contribute to confidence building, self-esteem and emotional resilience.

There are two major challenges that young people of 16-18 age face: lack of activities that address their needs and interests and difficulties to find income generating activities. Those working with young people have particular difficulties reaching out and engaging with 16+ young people who are not involved in education or in employment.

Some young people in the age group of 18-24 study, but do not take part in civic life. This group often lacks information about opportunities to get involved in interesting and meaningful activities for them.

Others in this age group do not even study or work. They are most difficult to reach for those providing education, youth work, and social services to young

people.

There is a great lack of data about young people in the age group of 24-29. They often lack meaningful engagement activities, legal advice on employment and social security, financial literacy, health system information, family relations, non-formal activities, volunteering, entrepreneurship. Young people lacking access to such opportunities and services often tend to disengage in not only work-related activities, but also social and civic life.

Serbia

There is a noticeable change in relation to the inclusion of young people with less opportunities in terms of the emergence of young leaders from different vulnerable groups, who are actively working on self-advocacy and reducing barriers to inclusion of young people from vulnerable groups, but these are still individual examples that do not represent systemic solutions. These examples are important because they build a new image and perception of young people from vulnerable groups as active citizens who make an important contribution to the development of our society and at the same time represent a good model for peers by showing that different social processes and topics are a space where their contribution is important, as well. At the same time, a large number of young people from vulnerable groups still do not receive adequate support and there is not enough systematic work to remove barriers to their active participation.

When we talk about educational inclusion as one of the preconditions for later inclusion in society and social processes, and where the process of educational transformation began more than 10 years ago, a large number of young people are still outside of the education system for various reasons.

For example, on the topic of education of young people with disabilities, the First Alternative Report on Youth issued by the Belgrade Centre for Human Rights in 2020 states that the application of educational laws and inclusive practices is very underdeveloped, and there is still a tendency to exclude students from the education system, especially when it comes to children and young people in social care institutions. The same report on inclusive education of Roma youth mentions that the percentage of children from Roma settlements attending secondary school is only 21.6%, and only 14.9% of girls and 28% of boys. When it comes to young people at risk of poverty, the data are as follows - among the poorest, only 74% of children attend high school (68.2% of boys and 83.3% of girls). The percentage of

young people in Serbia aged 19 to 24 with higher education is 39%, but the fact that the rate of completion of higher education is low is worrying.

Therefore, the data from the Alternative Report in 2021 is also important, where as many as 53% of young people were ready to leave the Republic of Serbia for economic reasons. In relation to that, young people from socially vulnerable groups often have no way to leave the country, but try to survive despite not exercising their rights. Their invisibility within society due to reduced opportunities makes it impossible for them to reach even those measures designed to improve the position of young people.

Although youth organizations are the main organizers of inclusive activities and bearers of an inclusive approach, similar obstacles from the formal education system exist in non-formal education. Youth organizations have significantly less resources for work. Also, the cooperation of institutions and civil society organizations on the topic of inclusion is still not sufficiently developed and there is no partnership for the benefit of young people from vulnerable groups. According to a survey from 2017, which examined the needs and capacities of youth organizations and for young people to improve work with socially sensitive groups of young people, only 28.57% of organizations have social inclusion as one of their priorities, and at the same time almost every fourth organization (24.24 %) answered that it does not deal with vulnerable groups of young people. Another important insight is that youth organizations in their documents or descriptions often state that they are open to the inclusion of different young people, but without a systematic approach to reach young people from socially vulnerable groups. Also, there are no provided resources to equalize inclusion and competencies of those who work with young people to really reach out and adapt their work to youth from socially vulnerable groups. The described circumstances are further aggravated by the outbreak of the Covid-19 pandemic, which significantly jeopardises the funding of civil society organisations.

Youth participation in Serbia is generally low, and young people state that the most common reasons are that they do not have enough information about opportunities for participation (34.5%). Up to now, the participation of young people with disabilities is recognized exclusively by addressing topics directly related to the socially vulnerable group to which they belong to, without a broader awareness of youth organisations, formal education system and society as a whole, that active participation of young people from vulnerable groups can make an important contribution to all topics related to social development and the sustainable future of the community.

COMPETENCES FOR FACILITATING THE INCLUSIVE GAME DESIGN PROCESS

(By Nectarus)

There are several areas of competence that game design requires. There are also plenty of opportunities to develop competencies by being involved in the game design process.

What are the competencies that someone requires to be able to facilitate game design processes that aim at inclusion, participation, and critical thinking development? At first, we suggest following The competence model for youth workers, its attitudes, knowledge, skills, and behaviours while working with the youth groups. Please keep in mind that this Model is not meant to be seen as a 'must-have' list of competences.

In the framework of the GameOn project during International training for youth workers, teachers, and educators we did small-scale research that helped us identify a set of 10 skills, knowledge, attitudes, and behaviours that are needed to facilitate the inclusive game design process.

- Knowledge of the game design methods

In order to facilitate the inclusive game design process, you should have knowledge of game design methods and practices. For example, you can follow the '5 stages' method explained in the booklet ''Road book for the playitects''. Also, to get more familiar with a game design you can complete Learning Playlists prepared by our project team.

- **Flexibility and adaptability**

Ability to modify the behavior with a positive vision and adapt to different situations and people quickly, appropriately, and without fears.

- **Creativity**

Ability to generate new ideas and concepts from associations between known ideas and concepts. Creativity allows providing new solutions to the challenges, problems, and situations to be faced.

- **Communication**

Ability to interact efficiently and assertively with other people or groups to exchange information. This capacity also includes active listening and promotes positive relations.

- **Management skills**

It is a set of skills that are required to plan, organize and implement the inclusive game design process. Also, it includes the ability to manage the group you are working with according to the needs it has during the game design process.

- **Empathy**

Ability to understand someone else's feelings or experiences without judgment.

- **Respect**

Capacity to accept oneself and others, to identify and recognize individual differences without discrimination and act under the premise that all people have the same rights. This competence includes the capacity to build trusting relationships based on honest behavior.

- **Patience**

Ability to remain calm when dealing with a difficult or annoying situation, task, or person.

- **Critical thinking**

Ability to think clearly and rationally, understanding the logical connection between ideas or/and actions.

- **Problem solving**

Capacity to accurately analyze a situation, assess its possibilities and identify a positive solution.

TRAINING MODULES FOR EDUCATIONAL GAME DESIGN

BACKGROUND OF THE PROCESS - HOW DID WE DESIGN THE MODULES

The process of creating the structure of training modules for educational game design started at the beginning of the GameON project – with researching examples of practices at local, national and also European level. This process is explained in more detail in the chapter Game design in education (link).

The examples of game design processes, and the Methodology Models developed from them, served as inspiration and starting point for creating educational modules for game design.

After the first phase of the project, the actual process of designing educational modules followed 6 steps:

- Defining the flow of the module – list of topics that participants need to go through and their order;
- Defining learning objectives for each topic – what do we think is important for participants to learn during the module;
- Defining approach and structure of the module for each partner;
- Defining methods to use in order to cover each learning objective;
- Testing the modules with different target groups;
- Learning from results of the testing and conceptualising experiences in this manual.

The first two steps were done jointly by all partners, while defining approach and methods, as well as testing, was done by each partner separately. This way we've got results from trying out different possible ways to educate youth workers, trainers and teachers in inclusive game design.

The flow of the modules was very similar for each of the partners, while it diverged in several points, depending on the target group. Here is the list of topics with learning objectives for each of them:

Name of the topic	**Learning objectives**
Introduction	Getting to know the group and each other; Getting familiar with the idea of the project and training course.
Group building	Fostering stronger relationship and cohesiveness in team; Improving team communication effectiveness.
What makes “game” a game	Discussing the differences between different types of game experiences (game/play/gamification) Learning about the basic components of a game (rules, winning condition, points...) Analysing existing games from different design angles (see Game Design Atoms)
Dissecting existing games	Discovering some of the most common game mechanics that exist behind tabletop games (introducing a few incorporated in Escape Rooms and videogames) Reflecting upon the different game-play experiences that different game mechanics and themes bring
Game as an experience (for youth workers)	Discovering the four steps of Experiential Learning Cycle Experiencing the steps of ELC through an existing game Applying the ELC model to game experiences
Game as an experience and basics of non-formal education (for teachers)	Providing the basics of NFE; To introduce the Experiential Learning Cycle Reflecting and provide educational framework about NFE as gamification of learning
Games and game design in education (for youth workers and trainers)	Designing a process in which participants create an educational game experience Finding (through examples) common "speed bumps" in facilitating a game design process
Games and game design in education (for teachers)	Reflecting about the role of games in the educational processes in the daily work; Providing teachers with examples and practices
Essentials of game design process	Exploring the essentials of the game design process Getting familiar with the main steps and process of the game design
Experiencing the game design process	Experiencing the game design process in the group Reflecting and understand upon the different approaches of the game design process
Participation and/or inclusion in	Defining actions and strategies to manage diversity in a

learning	group process and overcome participation barriers Understanding the benefits and drawbacks of promoting participation in a group process
Inclusion through game design	Reflecting upon the concept of Inclusion, discovering similarities and differences upon participants understandings and approaches Defining strategies to make more inclusive the group process of designing a game
Competences for inclusive game design	Identifying the needed competences to design games and to facilitate game design
Understanding the game design process in education (for youth workers and trainers)	Creating a game experience outline following Kolb's Experiential Learning Cycle Exploring ways in which game experiences can be facilitated to include reflection, generalisation and implementation
Understanding the game design process in education (for teachers)	Getting familiar with Kolb's Experiential Learning Cycle Exploring ways in which game design experiences can be based on the principals of Kolb's cycle
Introduction to Methodology Models	Getting to know the 7 Methodology Models of Game Design in Group Classifying group processes participants know into the MeMos Identifying the more convenient MeMo to apply with their group of (young) people
Evaluation and follow up	Planning how to use gained competences in practice. -Receive a feedback from participants about the content of the course (programme) Giving opportunity to reflect on gained experiences and knowledge. Checking if participants meet their expectations and learning objectives.

In the following part of this Manual each partner presents its approach to implementing training modules for educational game design, giving information about the target group and the results of their testing. Each partner's experience also includes conclusions on lessons learnt during the testing of the modules.

EXPERIENCE OF PARTNERS

NEXES INTERCULTURALS, SPAIN

Target group

The first training implemented by Nexes was organised in collaboration with an Educational Resource Centre (CRP-Les Corts). This centre gives support to a number of educational centres in its area providing training and materials for primary and high schools.

The 15 participants came mainly from those schools and the 90% of them were teachers, most of them in high schools.

The second training was done in collaboration with Escoltes Catalanes (a scout organisation) and the groups we targeted were youth workers and non-formal educators.

Participants got the information through the scout movement and we registered a higher degree of diversity of backgrounds in this small group of 5 participants: we had 1 primary school teacher, 1 after-school educator, 1 language teacher in an academy, 1 adult educator, and 1 social worker.

Context and format of the module

Both trainings took 5 (full or half) days, in presence but not residential.

How was inclusion considered throughout the module implementation?

A session specifically designed to address the concept of inclusion, both from a theoretical and a more practical perspective, was introduced on the first day of each training.

During the game design process, in the breaks the groups reflected and self-evaluated their process taking into account certain competences, some of them related to inclusion and critical thinking.

On the last day, after the game design and testing, the process was reviewed analysing it from an inclusion perspective. Participants had time to define strategies on how to promote inclusion when they replicate this process with their groups of young people, and they shared it with the whole group to exchange ideas and inspire each other.

Even having taken the aforementioned actions to address inclusion, in the evaluation of both local trainings, a significant number of participants expressed

that the inclusion perspective was perceived not as a core element of the training but more like an external layer.

Special features of training modules

The two 5-days Training were gamified, meaning there was a gamified process running at the back of all the sessions, from the first moment of the training until the evaluation.

The gamification was designed specifically for these training sessions in Barcelona, mixing contents of the module with a game structure (theme, mechanics, point system…) based on the game "Down Force" by Rob Daviau. The gamification process included:

- Speed cards that were given to participants for completing tasks during the training.
- The board (track) in which the gamified process was displayed. It was a car race, the different teams bid to get cards, they moved them in the track using speed cards, and bet on the winning car. The teams were the same as the groups that later on designed the games. Two or three times a day there was time allocated for playing the speed cards and moving the cars in the track
- Score sheets to keep track of the betting.
- Car posters relating car features with competences related to game design.
- Special cards relating competences with special extra skills to be used in the track when moving the cars.

Main conclusions after testing and feedback

- Participants considered that the process of designing a game was positive and will make it easier to facilitate a similar process later on.
- Inclusion part felt like being not such a core element but more like an external layer in both training sessions.
- Gamification inspired in the Down Force game was assessed positively by participants.
- Resources shared and exchanged during the training were taken as a big plus.
- Dividing the game design process into 1h timeslots supported participants in their group processes.

- Participants in the first training missed a space the last day of the training to ask further questions.
- Game Design Methodology Models in the first training were introduced as "museum setting" before the game design process, and they remained very shallow and did not bring relevant reflections. In the second training they were introduced after the game design process, which was better because they served to conceptualise elements from the game design process.
- Learning playlists in the Cities of Learning platform were introduced in the first training as optional activities to expand the training contents out of the training sessions, and they were not used by participants. In the second training, they were introduced inside the sessions, offering time for participants to explore the platform. It worked better and all participants completed an activity and received a badge.
- In the second training, there were external game testers, which was assessed as positive by participants.

NECTARUS, LITHUANIA

Target group

The target group of the Nectarus training modules were youth workers and teachers. The majority of the participants in both trainings were teachers or educators, mostly coming from secondary schools, although we also had some participants from NGOs.

In the first training we had 8 participants, 80 % from formal education institutions, in the second - 13 participants, 95 % from formal education institutions. Almost all of the participants were familiar with non-formal education, and more than half in both trainings had a little experience and knowledge of game design.

Context and format of the module

1st training: 5 days of residential
2nd training: 2 days, a week break (virtual consultations sessions), 2 days.

How was inclusion considered throughout the module implementation?

In both trainings, the inclusion concept was addressed through theoretical and practical perspectives.

The 2nd training practical workshop that helped participants to identify the vulnerable groups they work with daily and discuss how game design could be used as a tool for the better inclusion of the groups was implemented. At the same time, participants of the training had a possibility to get more familiar with this topic using the Learning Playlist„GameOn - Social Inclusion''.

Overall the biggest challenge for participants was to understand the clear linkage - between the game design process and the inclusion aspect. During the evaluation phase a number of them mentioned that the concept of inclusion in the game design process seems like another layer and is not always considered by the facilitators of the process and not fully addressed by the participants (young people) either.

Special features of each training module

- Introducing Learning Playlists as an educational tool to support the learning experience during the training. We saw that Learning Playlists can be used as

a perfect tool during and even after the training. It is very important to dedicate a time slot (preferable a separate session) in the training and acknowledge participants to experience the playlist. It also brings a wider perspective to the participants while developing their own game prototypes.

- Experiencing complex educational board games. In both trainings, participants had an opportunity to experience 2 educational board games: Mission Z and The 4 Headed Monkey. The most important part of this experience was the evaluation and analysis of the elements, dynamics, and game mechanics that exist in those board games. Analysis was done using the Game Design Canvas.

Main conclusions after testing and feedback

- The prototypes of the games were mostly developed on individual bases.
- It is possible to implement such a type of training in different ways: 5 days residential, with some break in between, supporting participants via individual consultations while they are developing their game prototypes.
- In the 2nd training, participants had an opportunity to test different types of the board games using the main elements of the game development canvas, which helped them a lot with the development of their own game prototype.
- City of Learning Platform was introduced in both trainings, but in the 2nd one, we had a practical session that helped participants to get familiar with the Learning Playlists, complete some of them, and get a badge. In the evaluation, participants pointed out that Learning Playlists are very useful materials.
- It is very important to plan the game prototype development time carefully, to check up on the participants, and have moments of 'coming back' to the whole group to see the improvements in the game development and get feedback from the rest of the group.

BINS, SERBIA

Target group

The intended target group for BINS' training modules were youth workers and trainers in non-formal education. As many of the people in the youth field in Serbia fit to both categories, we've decided not to make separate modules for these two target groups, also considering that most of them should have similar level of knowledge about non-formal education, experiential learning and inclusion. However, some of the candidates who applied for the modules were also coming from the formal education system. Still, most of them had some experience in non-formal education and youth work, at least as volunteers, so we've accepted their applications.

At the end we had two diverse groups of participants on each of the modules. They had different levels of experience in youth work and non-formal education, but also in playing and designing games.

Context and format

Both test modules were residential training courses, 5 working days each (30 working hours). Participants from the three groups (youth workers, trainers and teachers) took part in the training courses together. Where approaches differ for specific beneficiaries (students, youth attending a training or participating in a short/long term program), the group was split or worked individually/in groups on approaches for their specific context.

How inclusion was considered throughout the module implementation

The topic of inclusion was first tackled by allowing participants to experience situations in which some of them were deprived of some possibilities or had different ways to fulfil their needs from others. It was done through the safe space of a board game, which proved fruitful and yielded rich discussion. This approach turned out to be powerful also for participants who had more experience in youth work and non-formal education, as well as those who are already working on topics of inclusion or have experience with diverse groups.

This session was organised before participants were put through their own experience of designing a game, giving basis for further reflection that was planned after the play testing of the developed games. In this phase, participants were asked to reflect on their experience of creating the games and especially focus on how included they felt.

Last days of the module were dedicated to generalising the experience of game design, with sessions about inclusion and participation which focused on participants' practice in working with young people, exploring the possibilities of introducing game design process in their programs and discussing the power it has in fostering inclusion. Participants were invited to reflect on how they can facilitate a more inclusive game design process with young people. However, in practice it's more accurate to say that they focused on the specific topic of participation rather than on the whole concept of inclusion. As there were many "firsts" during the training (most designing a game for the first time) it makes sense that participants would first focus on participation before advancing to the topic of inclusion. It is also the reflection of many participants' limited experience in working with diverse groups of young people. For those who didn't have previous experience in inclusive programs it was difficult to imagine and plan for an inclusive game design process.

In conclusion, both training courses ended up focusing more on participation and engagement. While participants were quite able to reflect on their own experience of being included during activities (both in the first game about inclusion, as well as during the game design process), when it came to generalisation and planning for their own practice in working with youth, it seems that thinking about inclusion as a holistic concept was a step too far. This is why at times the topic of inclusion seemed out of place, perhaps too advanced for the participants, being forced in rather than a natural part of the program flow.

Special features of BINS approach

BINS' training modules were structured following the principles of experiential education.

The first part of the modules was designed to prepare participants for the experience of designing their own game, followed by a day of group work on creating a game, which was accompanied by playtesting and feedback session.

Reflection on experience of designing a game was done together with processing the testing and feedbacks received from participants and trainers.

Conceptualisation and experimentation were done in the last two days, through sessions about the educational power of game design, participation and inclusion, as well as through identifying competences needed for facilitating the process of game design and the introduction of the methodology models. In the last part of the modules, participants were thinking about how they can introduce game design in their work with young people and what could be its potential for inclusion.

Another unique aspect of our approach is the usage of games as tools for covering workshop topics. It ensured that even participants with not much experience in playing games would have an opportunity to try as many games as possible in the

short time we had together. We used easy-to-learn games and game experiences such as:

- Room Escape (custom scenario) for group building session;
- Forbidden Island for introducing players to new game mechanics and game elements (“game atoms”) by providing an “unconventional” game (other than Monopoly, Risk, Uno etc) as a basis for understanding game design and showing participants the power of the process within a game experience;
- Hellapagos was used to provide the experience of handling diversity in a group (a custom expansion deck of character cards was used);
- Tabletop games of different complexity levels were introduced in order to give participants opportunity to better understand different game elements;
- Other short games were presented to the participants during breaktime so that they could delve into new interesting game mechanics and start thinking out of the box.

Main conclusions after testing and feedback

In a practical sense what the module managed to do well was to take the participants through the game design process, open up the possibilities that it offers and 'infect' participants with the game design “bug”. This boosted their engagement and kept them involved throughout the process. One of the greatest powers of the game design process is in producing the game (regardless of how 'advanced' it is). It gives participants a motive, a way forward and it really boosts their engagement! This still doesn’t guarantee inclusion and we’re not sure how inclusive the process would’ve been had the participants not been as motivated intrinsically or if they had other barriers to taking part in the training.

ASSOCIAZIONE INTERCULTURALE NUR, ITALY

Target group

The target group for NUR training modules were youth workers, trainers in non-formal education and teachers. We decided not to make separate modules for each of these target groups: the level of knowledge about non-formal education, experiential learning, participation and inclusion were quite similar even if they had different backgrounds. Even if their backgrounds were different, the interests and the intentions of using the game design for educational purposes were the same. This diversity of backgrounds was very interesting because it allowed many exchanges, even if sometimes trainers needed to give some clarification about basic concepts of non-formal learning.

At the end we had two diverse groups of participants on each of the modules: in the first training we had a mix of youth workers and volunteers involved in several local and national projects and in the second one we had mostly teachers with cultural operators and youth workers.

Context and format of the module

The two trainings had a common kick-off online that had the aim to present the program; to introduce the basic concepts of game, game design and game design in education.

The module in Elba Island (first pilot) was residential with participants coming from the island, but also from other regions. The residential offer was prepared with the intention to have a wider group in terms of territories and to reply to the national network of organisations that were interested in the programme.

The modules in Cagliari were not residential except for one participant and would be important to mention that 2 participants connected online from home, where they were forced to stay because of Covid. Given the topic of our courses, NUR chose to let them participate anyway and tasked the rest of the group with **including them** as much as possible throughout the days, which we used as an additional exercise about inclusion and topic for reflection. The experiment went very well, according to our observation and the participants' feedback.

Both trainings continued online in two more sessions that explored the final part of the modules and the transfer.

One common session was delivered at the very end for sharing the development of the prototypes and also final evaluation.

How was inclusion considered throughout the module implementation

The topic of inclusion was first tackled by sharing the understanding of inclusion of participants and based on this define what was inclusion for that group. This approach was very useful because it allowed participants with more experience to share and bring their point of view. The input for the discussion was the outcome of the online questionnaire that allowed us to visualise the different situations and how these could be interpreted in different ways. The exercise makes it clear that inclusion is not a "simple concept" to be defined and it is interconnected with the local context.

The two groups had different experiences regarding inclusion: different contexts (formal or non-formal education); roles of responsibility in groups; possibility to concretely experience an educational experience of inclusion. The activity, therefore, beyond the dynamics of emergence, required a moment of consolidation of the definition of inclusion (albeit articulated) and of examples in which game design can be useful as an activator of inclusion processes.

Special features of each training module

The first activity saw a group of experienced youth workers, most of whom already engaged in educational projects and with extensive experience in non-formal education. In this training, game design was used as a concrete tool for planning an existing intervention.

In the second group (which was for the most part teachers) the focus was on non-formal education within the formal courses, but also on the concrete intention of developing game models to be tested in the various field**s.**

In both we tried as much as possible to introduce Learning Playlists as an educational tool to support the learning experience during the training: the Learning Playlists can be used as a perfect tool during and even after the training. We tried to dedicate a time slot in the training to experience the playlist.

Main conclusions after testing and feedback

The activities made it possible to experience the concrete interest on the part of the world of formal, but also non-formal education on the theme of game design. Furthermore, the two activities highlighted the flexibility of the training courses that are adapted to both different targets and specific application contexts. The modules are very clear, the tools developed simple and are supported by the different playlists that are an important basis for the development of the modules in terms of content and background.

CONCLUSION: THE POWER OF EDUCATIONAL GAME DESIGN FOR FOSTERING INCLUSION OF YOUNG PEOPLE

The consortium of this project already loved games and believed in their transformative power of both playing games and the process of game design, which is why we undertook this endeavour in the first place. Still, the process of analysing good practices and creating educational modules gave us further insights into how game design can be used in education, especially to foster inclusion of young people. So here are some of our conclusions:

There are different ways young people can be actively involved in the game design process and different phases of the process they can participate in. More about it is summarised in Methodology Models, which show that you, as a youth worker, teacher, educator, can introduce game design as a tool for inclusion and adapt it to your needs and context of your work.

Another important insight for us is that the process of game design to a great extent, reflects non-formal education in practice. As such, it supports learning from experience, it can be tailored to different backgrounds and realities (thus, even further contributes to the process of inclusion) and, if facilitated well (i.e. taking participants needs' into consideration, providing structure, but also leaving enough flexibility for adaptation, designing opportunities for participants to use their diverse competences, as well as to develop them further, designing interventions that assess group participation level and ensure everyone's participation, etc.) it leads to both personal and professional development of those involved in it.

In every format we as partners chose for our test modules, we put the experiential learning cycle in the core of our methodology. We've regarded playing the game as a central experience around which the cycle happens, but then expanding the cycle to the experience of inclusive game design. In each of the modules, participants went through that experience themselves, which allowed for more powerful learning.

Connected to that, we understood that the process of game design generates a great amount of learning along the way, which can be expressed to competences acquired (e.g., creativity, resilience, critical thinning, empathy). This

goes for both ‘participants’ in the process and those facilitating it. More can be seen under the Methodological Models.

The training for youth workers, educators, teachers to use game design for inclusion in their practice could be done in many different formats. Different realities of our partners and needs of their target groups allowed us to experiment with residential courses, local courses, blended and hybrid learning, etc. Those formats allowed us to gain different perspectives and share our insights among ourselves, and with the wider community through this manual.

Throughout the modules we’ve introduced many games, even gamified the whole learning process. This immersion in playing games allowed even the less experienced participants (both in terms of game design and in their general experiences in playing games) to better understand mechanics, dynamics and different other features of a game. Invitation to play as many games as they can during the first few days of the modules helped participants immensely in the process of creating their own games.

As mentioned several times in different chapters of this manual, the fact that, in the game design process implemented during the training modules, participants had a clear task to create a working prototype of a game, rather than just go through the game design process regardless of the results, was crucial. Initially partners were concerned with putting so much pressure on participants to create playable game prototypes in such a short time-frame, but this pressure, when facilitated and supported, yielded fantastic results. Not just that the participants were satisfied with the prototypes that were created, but were able to better understand all phases of the game design process and especially the emotional aspect of it. Now they’ll be better prepared to facilitate a similar process with young people they work with.

One reason for it is that the game design process, where the final outcome should be a specific outcome/result (such as a game prototype, for example), is more often than not very exciting and engaging and simply drags participants into its whirlpool. As such, it creates connection and challenge that are the basis for participation and inclusion! At the same time, the process can also create quite some frustration (e.g. when the outcome does not meet the expectations or when the workload is too much) , which is a great source of learning, but can also be a reason for some participants to walk away from the process. Especially if their tolerance to frustration is fairly low. Hence, if there would be one important message that we would like to pass onto other facilitators of the game design process is to prepare themselves for those moments and pay close attention to

when they emerge in order to be able to support participants to transform them into learning instead of a demotivating defeat.

Through the pilot modules, the partners once again understood how the process of game design enables for different abilities and experiences to find its place and to contribute as a whole. A key to support this even further is to understand the needs and abilities of individual participants and to provide opportunities in the game design process for them to find their place. This insight is nothing new, as it is in the core of any participative project or process development, but we felt that we could never be reminded too much!

REFERENCES FOR FURTHER READING AND EXPLORING

https://www.nifplay.org/about-us/about-nifp/

Eric Zimmerman and Katie Katie Salen Tekinbas (2003) “Rules of Play: Fundamentals of Game Design”

Csikszentmihalyi, Mihaly (1990). “*Flow: The Psychology of Optimal Experience*”.

Game On Educational Manual

GAME DESIGN FOR INCLUSION

GAME ON EDUCATIONAL MANUAL: GAME DESIGN FOR INCLUSION was created by **NEXES INTERCULTURALS**, in collaboration with **ASSONUR**, **NECTARUS**, **BALKANIDEA NOVI SAD**, **UNIVERSITAT DE BARCELONA** and **IDEALÚDICA. CONOCIMIENTO EN JUEGO**.

GAME ON

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