



WP3: 3.2 Immersive experiences

SUMMARY OF THE FOCUS GROUP DISCUSSIONS IN THE CZECH REPUBLIC

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1. INTRODUCTION

This report presents the findings of a focus group discussion conducted as part of a broader study aimed at gathering feedback on the topics developed by project partners. The discussion centered around three key themes: immersive technology, outdoor learning, and cross-cutting competences. These themes represent critical areas of innovation and development in education, and the feedback obtained will inform the refinement and application of these topics within the project framework.

The focus group comprised a diverse mix of participants, including three students, three teachers, and four stakeholders (parents and experts). This composition was deliberately chosen to ensure a range of perspectives, reflecting the multifaceted nature of educational ecosystems. Each participant brought unique insights based on their experiences, roles, and expertise, enriching the discussion and broadening the scope of feedback.

The primary objective of the focus group was to evaluate the relevance, applicability, and potential impact of the proposed topics under each theme. Participants were encouraged to share their opinions openly, highlight strengths, and identify areas for improvement. Their contributions provided valuable qualitative data that will shape the ongoing development of the project.

This report summarizes the key findings and themes that emerged during the discussion, offering a comprehensive overview of the participants' perspectives. It aims to serve as a foundation for further deliberation and action, ensuring that the project aligns with the needs and expectations of its stakeholders.

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2. METHODOLOGY

The focus group survey was conducted by Caio s. r. o. in Prague on 4 December 2024.

The meeting was led by one moderator and one supporting moderator (in case of any technical issues, for making notes, etc.). The atmosphere was very friendly in order to make the participants as comfortable as possible to share their ideas without hesitation and inhibitions. The feedback was anonymous to make the participants even more at ease about sharing their ideas and opinions. The environment was noise-free without any distractions.

The focus groups were organized as follows:

- Welcome, introduction of the project and organization of the meeting
- General discussion by topic (immersive technologies, outdoor learning, soft skills)

- Focus group for specific stakeholders (teachers, students, stakeholders)
- Summarizing, final discussion
- Final remarks, thanking the participants for participating and expressing their opinions

3. PARTICIPANTS

The participants of the focus group were the following:

- 3 students
- 3 teachers
- 4 stakeholders (3 parents and 1 teaching methodologist)

The participants were volunteers interested in the project topics, especially the use of innovative educational paths and use of modern technology in education.

4. GENERAL DISCUSSION BY TOPIC

4. 1 Immersive technologies

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Immersive technologies topic of discussion consisted of the following questions:

- How do you perceive the effectiveness of AR and VR in learning compared to traditional methods?
- What benefits do you see in the use of immersive technologies to delve into complex or abstract topics?
- How do you rate the quality of interaction between students and technology? Are they easily involved or are there obstacles?
- How do AR and VR support the development of soft skills (e.g. critical thinking)?

To sum up the discussion on this topic, all of the participants manifested a positive attitude towards using these technologies in education and their usefulness. They also expressed the desire for these technologies (for example AR and VR) to be more accessible in schools, etc. Here are some sample answers from the participants that support this claim:

Student 1: *AR and VR are very effective compared to traditional learning methods because they make lessons more interesting and interactive. These technologies are great for helping us understand difficult or abstract topics by showing them in a clear and hands-on way. It's usually*

easy to work with these tools, and they grab our attention, although sometimes there can be small issues like glitches or needing to learn how to use them. AR and VR also help us build important skills like critical thinking by letting us practice solving problems in realistic situations. Overall, they make learning more fun and useful.

Student 2: *I think AR and VR make learning more exciting and different from traditional methods. They're great for exploring complex topics because they let you see things up close and interact with them, which makes it easier to understand. Most of the time, it's easy to get involved with the technology because it's so engaging, but sometimes it can be tricky if the equipment doesn't work or if it's hard to figure out how to use it. I also think AR and VR help with skills like problem-solving and critical thinking because they make you think in new ways while working through challenges. It's a fun and modern way to learn.*

4. 2 Outdoor learning

The following questions were introduced regarding outdoor learning and the integration of modern technologies:

- How can immersive technologies be integrated into outdoor learning activities? What benefits do they bring?
- What challenges or limitations do you see in using technology in non-traditional environments, such as outdoors?
- Do you think technologies help to better connect students to nature or their surroundings? How so?

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The teachers and students showed positive attitude towards integrating technologies into outdoor learning but also expressed some concerns regarding the challenges:

Teacher 1: *I believe immersive technologies like AR and VR can be effectively integrated into outdoor learning by enhancing exploration and providing interactive experiences. For example, AR apps can overlay information about plants, animals, or historical landmarks during field trips, making learning more engaging and informative. The benefits include deeper engagement, personalized learning, and the ability to explore topics in ways that wouldn't be possible otherwise. However, there are challenges, such as ensuring reliable internet or device functionality outdoors, managing distractions, and balancing screen time with direct interaction with nature. While these technologies can help students connect better to their surroundings by offering new perspectives*

and insights, it's important to use them as a complement to, not a replacement for, hands-on experiences with nature.

Student 3: *I think immersive technologies like AR and VR can make outdoor learning more fun and interesting by showing us things we might not notice otherwise. For example, AR could help identify plants or animals during a hike or show what a place looked like in the past. This makes learning feel more exciting and real. Some challenges could be that the devices might not work well outside, like if there's no internet or if it's too sunny to see the screen. I also think these technologies can help us feel more connected to nature by showing us cool details or facts about what we're seeing, but they shouldn't take away from actually being outside and experiencing things for ourselves.*

4.3 Soft skills

The objective of the following questions was to evaluate how the proposed technologies support the development of skills such as critical thinking, collaboration and creativity:

- How do immersive technologies (AR, VR) facilitate the development of critical thinking and creativity among students?
- If you use them, have you noticed an improvement in collaboration between students thanks to the use of these technologies? In what activities or contexts?
- Do the technologies used offer opportunities for the development of soft skills? What suggestions do you have to improve these aspects?

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The results are well summarized by these particular answers:

Teacher 2: *Immersive technologies like AR and VR are excellent tools for fostering critical thinking and creativity among students. They encourage problem-solving by immersing students in scenarios where they need to analyze situations, make decisions, and think outside the box. For example, using VR for virtual experiments or AR for designing projects sparks creativity by allowing students to explore ideas in an interactive way. I've also noticed improvements in collaboration when these technologies are used. Activities like group-based VR simulations or AR scavenger hunts encourage teamwork, as students need to communicate and coordinate to succeed. These technologies naturally create opportunities for the development of soft skills like collaboration, communication, and adaptability.*

Teacher 1: *To enhance these aspects further, I would suggest incorporating more collaborative features into the technologies, such as shared AR experiences or multi-user VR environments.*



Additionally, providing structured activities and training for both students and teachers on how to use these tools effectively in group settings could make their integration even more impactful.

5. FOCUS GROUP FOR SPECIFIC STAKEHOLDERS

5.1 Teachers

The objective was to evaluate the effectiveness and practicality of the proposed technologies from the point of view of educators.

Questions:

- What are the main difficulties in integrating technologies (AR, VR, online platforms) into the existing curriculum?
- Do you think immersive technologies are easy to use in the educational context? What could improve its use?
- What challenges did you encounter in implementing these technologies in the classroom?
- Do you feel you need additional training to use these technologies effectively? In which areas?

To summarize the teachers' answers, the main difficulties are found in the lack of resources, such as devices or reliable internet access, and the time required to learn how to use these tools effectively. Additionally, aligning these technologies with the curriculum objectives can be challenging, as it often requires adapting lesson plans and finding ways to ensure the technology supports the learning goals.

Immersive technologies can be easy to use in the educational context, but there are still some hurdles. For example, ensuring that students are comfortable using them and that the technology works smoothly can be tricky. To improve their use, it would be helpful to have more user-friendly platforms and better technical support in the classroom.

In implementing these technologies, the encountered challenges could be technical issues, the need for more preparation time, and sometimes a lack of familiarity with how to use the tools to their full potential.

The teachers agreed that additional training would be beneficial, especially in areas like troubleshooting common problems, integrating the technologies more seamlessly into lesson plans, and finding ways to assess students' learning effectively when using immersive tools.

5.2 Students

The objective was to collect feedback on the user experience and perceived effectiveness of technologies in learning.

Questions:

- How motivated do you feel when using immersive technologies like AR and VR? How do these technologies affect your engagement?
- Which technologies do you find easiest to use (between AR, VR and online platforms)? What difficulties did you encounter?
- Do you prefer to use these technologies over traditional learning methods? Because?
- Do you feel that these technologies are safe? What would improve your perception of online security?

The students agreed that AR and VR contribute to their motivation. They make learning “more exciting and fun”. They let them experience things in a way that feels real.

They find online platforms the easiest to use because they are more familiar and usually don't require special equipment. AR and VR can be a bit tricky to use at first, especially if the devices aren't working properly or if the students don't know how to navigate the apps.

The students prefer using these technologies over traditional learning methods because they make the content more interactive and hands-on. They understand things better when they can see them in action, like exploring a virtual world or interacting with objects through AR.

They think these technologies are generally safe, but they'd feel more secure if there were clearer guidelines on how their data is being used and more control over privacy settings. If there were better protections in place, like stronger security measures and clearer explanations about how their information is handled, it would definitely improve their perception of online security.

5.3 Stakeholders

The objective was to understand parents' perceptions and concerns regarding the use of new technologies in education.

Questions:

- What are your main concerns about online safety when using immersive technologies such as AR and VR?



- How do you perceive the balance between the use of technology and traditional methods in education? Which do you think is more effective?
- How can technologies support learning at home? What improvements would you suggest?

Summary of their answers:

Main concerns of the parents about online safety are related to the potential for their child's personal information to be collected or misused. They are also concerned about the possibility of the children encountering inappropriate content or being exposed to online interactions that aren't safe. It is important for them to know that there are strong privacy protections in place and that these technologies are being used in a controlled and secure environment.

The parents generally believe there should be a balance between using technology and traditional methods in education. Technology can be a great tool for engaging students and making learning more interactive, but traditional methods are still important for building essential skills.

The parents suggested that technologies can support learning at home by offering educational apps, virtual lessons, and access to online resources that help reinforce what students are learning in school. However, improvements could be made in ensuring that these technologies are easy to use and accessible for all students, regardless of their access to devices or internet. They would also appreciate more guidance on how to help their children use these tools effectively for homework and independent study.