

SCience outreach: The example of BIObanks in Europe

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*Developing tools for education
in biobanking: the SCIBIOEU
ERASMUS+ project*



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of the European Union





What is SCIBIOEU

- “SCience outreach: The example of BIObanks in Europe”
- Erasmus+ KA2 funded project
- Cooperation partnerships in Higher Education

3 Research Institutes



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4 Universities



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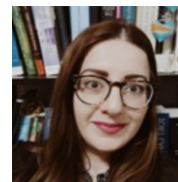


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Current State & Needs

- Public involvement is essential in biobanking for medical research
- Biobanks with the aid of researchers and students need better community engagement strategies
- Clear out cases of mistrust in science and scientific misinformation

Aims

- Identify **communication gaps** between the **general public** and **science**
- **Support students** and **young scientists** to be well-equipped in using effective science outreach strategies and to enrich their communication skills
- Support teaching methods of Higher Education Institutions (HEI) and other institutions by offering **a new course**
- Develop an **e-learning platform** including the course that can be easily integrated in HEIs' platforms
- **Support citizens** to better understand the aims of science and usefulness in their lives through an online **Serious Game**

Target Groups

SCIBIOEU
Serious Game

SCIBIOEU e-
learning course

- Professors of HEIs
- Young Scientists
- Students
- Health care professionals
- General public, patients and their families

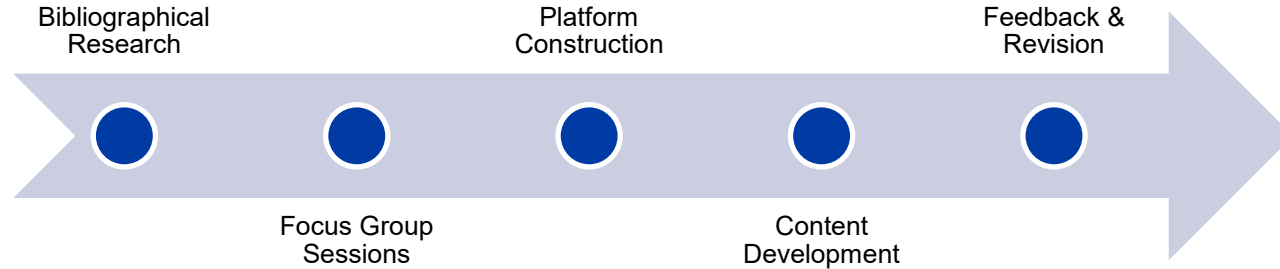


Methods

Online Research &
Existing course
adaptation

Programming and
online platform
development

Internal and
External evaluation
and feedback



Course FG: Young Scientists
and BB professionals
SG FG: + Game Developers
and General Public

Lessons and SG script

 SCIBIOEU



Platform & Game Content Development

Biobanking courses & adaptation of existing
Medical University of Graz courses



E-Course Focus Group
Participants:

- Biobank professionals
- BSc/MSc/PhD Students
- Early Career Scientists

Existing Serious Games on Biobanking



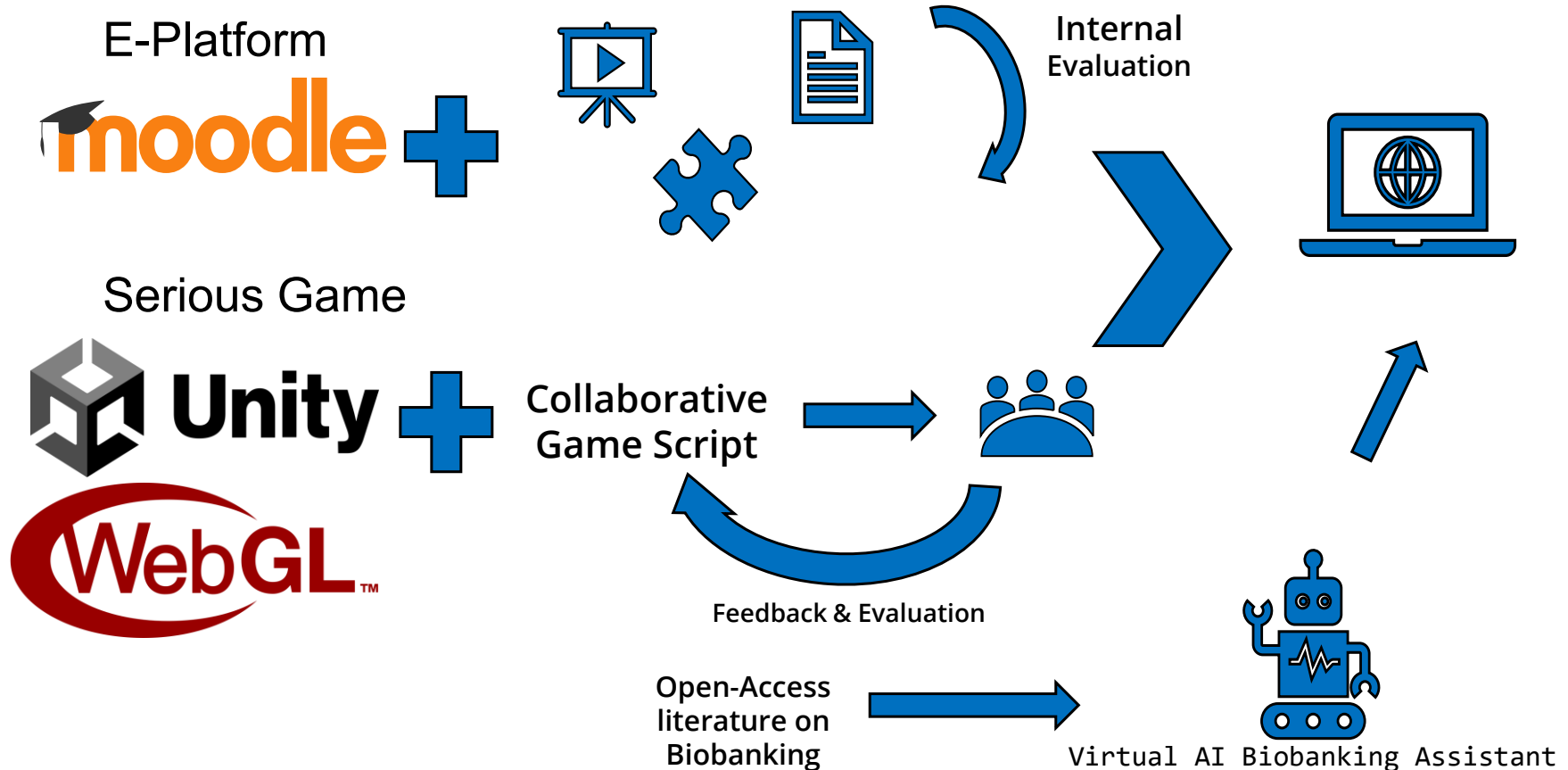
Serious Game Focus Group
Participants:

- Biobank professionals
- Game Developers
- General Public
- University Students
- Early Career Scientists

Evaluation & Measuring of
Satisfaction



Methods - E-Platform & Serious Game



Results – Focus Groups

Online Course – Important Points:

- Knowledge about BBs is necessary above all - Clear Definitions
- Impact of BBs, Ethical Implications
- Metaphors for BBs - (Library, Goldmine, Organic: Tree)
- Format: Interactive, Audio-Visual, External Bibliography

Serious Game – Important Points:

- Simplicity/Intuitive design – Short Duration
- Showcase success stories – Focus on social & personal benefits of BBs
- Feedback & Reinforced learning, Decision-based scenarios
- Focus on:
 1. Building general public trust in BB
 2. Showcase a BB basic workflow
 3. Legal framework

SCIBIOEU Course on Biobanking & Science Outreach

- A total of 7 lessons – Aimed at University Students, Young Scientists, Workers in Health
- Introduction to Biobanks – Sample & Data Storage – ELSI Issues – Communication Strategies & Public Engagement
- Detailed Handouts – Voiced-Presentations – Quizzes – Evaluation Questionnaires
- Implementation of Biobank-trained AI-assistant service
- Free to access and take part – Registration necessary for progress & certificate



How Samples and Data 'Get' Into a Biobank



Contributors:

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Image: modified ChatGPT



Introducing biobank communication



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Image: modified ChatGPT



Consent and Biobanking



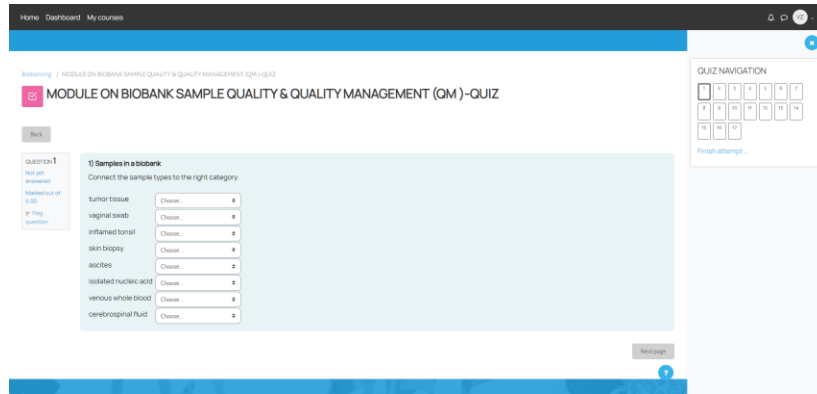
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Image: modified ChatGPT



SCIBIOEU Course on Biobanking & Science Outreach



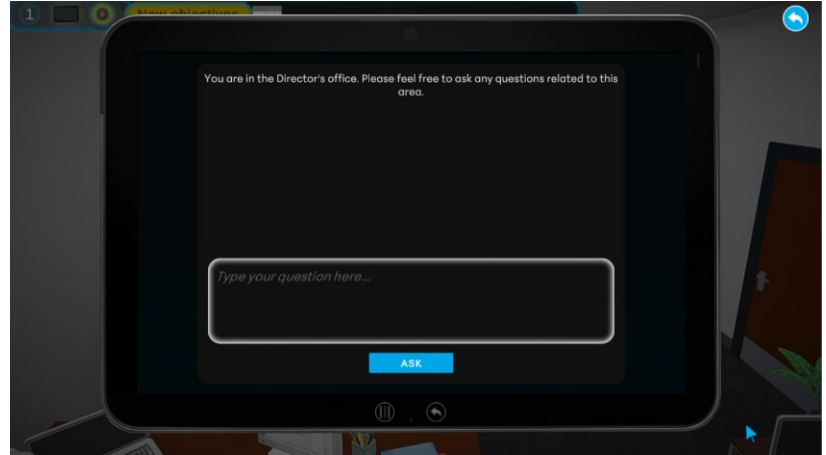
Screenshots from the course e-platform

- 1) Demonstration of a self-evaluation quiz
- 2) Lesson recorded Presentation

SCIBIOEU Serious (but fun) Game

- An online 3-D adventure game aimed at the General Public
- Raise awareness for Biobanking – Privacy Concerns & Data Breach Risks – Encourage Participants in Biobanks
- 5 Stages: Introduction – Informed Consent – Sample and Data collection and processing – Sample and Data Storage – Evaluation
- Short duration and scale
- Biobank AI-bot in-game assistance service
- Rewards exploration and self-learning

SCIBIOEU Serious (but fun) Game



Beta Version Available @ <https://scibioeu.eu>

Serious Game Testing Sessions

Live Demonstration – University of West Attica

- Showcase of the SG with Last-Year students of the 'Digital Learning' Lesson of the IT Engineering Department
- On-site Focus Group Session

“What aspects of the Serious Game did you like the most?”

- Hidden Notes & Easter Eggs
- Exploration & Learning potential
- Graphics and User Interface



Conclusions

- SCIBIOEU deliverables aim at 2 target groups
 1. Equipping scientists with knowledge and tools to be able to perform outreach about BBs themselves
 2. Raising the awareness of the general public about BBs
- Focus Groups offered precious insights for the course and game content, format, as well as important feedback
 - General public is interested about ethical issues and scientific misconceptions
- Online course can clarify the proper scientific background of BBs
- Serious game is a valuable asset to teach the general public about BBs, coupled with a fun experience

Future Plans

- Digital Handbook on Science Outreach including ELSI topics
 - Simplifies the SCIBIOEU course of action
- Continuous Dissemination Efforts
- Availability of all materials for at least 5 years
- Expansion of SCIBIOEU to different target groups:
 1. Elementary school
 2. (Junior) High school
- Implementation of SCIBIOEU methods -> other than human biobanks

Acknowledgments

**All SCIBIOEU Partners -
Collaborators**

Conference Committee

Project Manager

**National Scholarship
Foundation – ERASMUS+**

**All Focus Group
Participants – Feedback**



Erasmus+
Ανοίγει δρόμους, αλλάζει ζωές.

Thanks

Visit our website

www.scibioeu.eu

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