

Sharing Practical Experiences on the use of technology in teaching

ARETE (www.areteproject.eu) is a Project financed by the European Union, which aims to develop a set of educational tools based on interactive augmented reality and evaluate its effectiveness. We want to identify both the possibilities offered by the use of technology in education and its limitations.

Through this survey we would like to collect your experiences with applications (augmented reality, web or others) and tell us what you think are their strengths and weaknesses. The survey is divided into three sections and will take approximately 6-10 minutes to complete.

Your participation is voluntary and completely anonymous. Your responses will be kept confidential in accordance with the General Data Protection Regulation (RGPD). The data will be processed in aggregate and cannot be individually identified. You have the right to withdraw from the survey at any time without giving any reason.

In case you have any questions about the survey, please contact the Vicomtech team (smasneri@vicomtech.org).

Thank you very much in advance for your valuable collaboration.

*Required

1. Do you give us consent to use your anonymous responses for our research? *

Mark only one oval.

☐ And

☐ No

Skip to question 2

Section 1: Use of Technology at School

2. What is the main subject you teach?

3. How many years of experience do you have?

4. What is the average number of students per class in your school?

5. What is the educational level of your classes?

Mark only one oval.

☐ infant

☐ primary

☐ Secondary school

☐ University

6. In what type of center do you teach?

Mark only one oval.

☐ public

☐ Concerted

☐ private

☐ school

☐ Other:

7. Are you a dynamizer or dynamizer in your school? *

Mark only one oval.

☐ And

☐ No Skip to question 13

Devices for using learning programs

In the following questions we are going to ask you how many devices (of each type) your school uses to use educational applications or other technological tools

8. How many smartphones?

9. How many tablets?

10. How many desktops?

11. How many laptops?

12. If other devices are available, please specify the type of device and the number

13. Have you ever used technological tools to facilitate student learning, beyond office tools or video calls? These tools can be mobile applications, web applications, 3D visualizations, simulations... *

Mark only one oval.

☐ Yes

☐ No Skip to question 17

14. What tools have you used?

For example, Moodle, Learningapps.org, Mergecube, QuiverVision...

15. What aspects would you highlight of the tools you have used?

16. Mark which of the following aspects are present in the tools you have used:

Tick all that apply.

- ☐ Possibility of using the tool on different devices and locations Multi-user (more than one person shares the same experience)
- ☐ Interaction with the student (test, menus, games...)
- ☐ Collaboration between users
- ☐ Usage record (record of information on how and how much has been used)
- ☐ Allows you to customize the environment (add content, change language...)

Other: ☐ _____

Skip to question 17

Section 2:

Use of

reality

increased

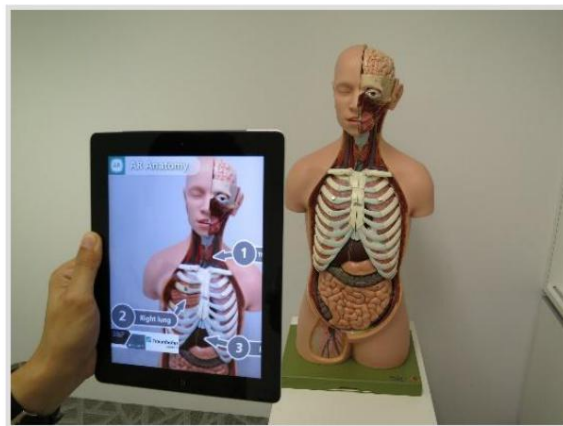
for the

knowledge

Augmented reality refers to the real-time superimposition of digital information on physical elements.

For example, the real-world image displayed on a smartphone or tablet screen is enriched by displaying virtual annotations or digital objects on it. Below are some examples of the application of this technology.

Examples of augmented reality. In the two images above the mobile application recognizes the drawing of the rocket and the cover of the book, and adds 3D animations. In the two images below the augmented reality application works by recognizing the model of the human body and the markers drawn on the T-shirt, and enriches the tablet or smartphone screen with information about human anatomy



17. Have you used augmented reality during your teaching years? *

Mark only one oval.

- ☐ Never Skip to question 18
- ☐ Yes, punctually Skip to question 19
- ☐ Yes, many times Skip to question 19
- ☐ Yes, it is part of the tools you use regularly
Skip to question 19

18. Do you think that augmented reality applications could facilitate the learning of your students?

*

Mark only one oval.

☐ Yes

☐ Yes, but I don't know how to apply it

☐ No

☐ I do not know

Skip to question 30

19. Would you like to use augmented reality more often during your classes?

Mark only one oval.

☐ Yes

☐ No

☐ I do not know

20. What do you need to use (or increase the use of) augmented reality in your teaching?

Tick all that apply.

☐ Find time

☐ Know which augmented reality applications are suitable

☐ More information about the possibilities offered by augmented reality in the education

☐ More help using augmented reality apps

☐ Have adequate infrastructure (smartphone, tablet)

Other: ☐ _____

21. If you see it necessary, explain the previous need(s):

22. What kind of devices have you used to teach with augmented reality?

Tick all that apply.

- ☐ Smartphone
☐ Tablet
☐ Desktop/laptop computer and webcam
☐ game console

Other: ☐ _____

23. How would you evaluate your level of satisfaction using augmented reality in your teaching?

Mark only one oval.

	1	2	3	4	5	
Very low	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very high

24. If you see it necessary, explain your evaluation:

25. How augmented reality apps could change for the better your satisfaction when using them in your teaching?

Tick all that apply.

- ☐ Improve user interface
- ☐ Add more content (lessons, quiz, 3D animations...)
- ☐ Add the possibility to see what the students are doing in the app
- ☐ Add the possibility of interacting with the students
- ☐ Offer the possibility to customize the application
- ☐ Simplify the use of the application

Other: ☐ _____

26. How comfortable do you feel using augmented reality in your teaching?

Mark only one oval.

	1	2	3	4	5	
Very little	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very comfortable

27. If you see it necessary, explain your evaluation:

28. Do you consider that the application of augmented reality in your teaching has learning improved?

Mark only one oval.

- ☐ Yes a lot
- ☐ Yes a bit
- ☐ No, it has not improved learning
- ☐ No, it has impaired learning
- ☐ I do not know

29. If you see it necessary, explain your evaluation:

Skip to question 30

Section 3:
requirements of a
application of
reality
increased for the
education

Our research work focuses on the definition of the essential components of an educational application based on augmented reality, and we would like your help in defining these components.

To do this, we ask you a series of questions. Any type of comment will help identify the needs of teachers when using augmented reality applications or other technological tools in education.

30. What kind of technological tool (not necessarily augmented reality) would you like to use in class? We would like to know both the type of application, as well as its content or the necessary requirements to be able to use it

Tick all that apply.

- ☐ interactive technologies
- ☐ Simulations
- ☐ Collaborative applications
- ☐ 3D content (Video 360, virtual or augmented reality)
- ☐ audiovisual content
- ☐ training games
- ☐ Communication tools
- ☐ authoring tools

Other: ☐ _____

31. How would your students use this app?

Tick all that apply.

- ☐ In class
- ☐ At school
- ☐ From home
- ☐ with a computer
- ☐ With a tablet or smartphone
- ☐ With virtual or augmented reality glasses
- ☐ With the teacher
- ☐ With their parents/guardians
- ☐ They would use it alone or alone

Other: ☐ _____

32. Do you think that augmented reality can be an added value in teaching?

Mark only one oval.

- ☐ Yes
- ☐ No
- ☐ Perhaps

33. What do you think are the advantages of augmented reality when using it in the educational environment?

Tick all that apply.

- ☐ Does not require specific tools, apart from a tablet or mobile
- ☐ Improves organization and spatial orientation
- ☐ Link knowledge to emotional intelligence
- ☐ Improves retention of concepts learned in class
- ☐ Greater ease in conveying concepts
- ☐ Improve collaboration
- ☐ Improves student motivation
- ☐ Greater interactivity
- ☐ Students can participate remotely

Other: ☐ _____

34. And what are its drawbacks?

Tick all that apply.

- ☐ Prior training is required
- ☐ Apps do not offer enough teaching material
- ☐ An internet connection is required
- ☐ It takes time for students to get used to using the tool
- ☐ It requires that part of the curricular design be modified to incorporate reality increased
- ☐ There are usability issues
- ☐ Older devices do not offer a satisfactory user experience
- ☐ Not many apps available

Other: ☐ _____

35. Do you think that technology (not necessarily augmented reality) can help teachers measure student learning and the ability to retain the subjects studied?

Mark only one oval.

☐ Yes

☐ No

36. If you see it necessary, could you explain why (or why not)?

37. What features are you most interested in in an augmented reality application?

Tick all that apply.

- ☐ Possibility of interaction with the application (sending questions and answers, modifying the 3D content...)
- ☐ Content Personalization
- ☐ Possibility that more than one person can use the app simultaneously and see the same content
- ☐ Support for collaboration between students, as well as between students and faculty
- ☐ The application should work on any type of device (smartphone or computer, both on the web and in an app...)
- ☐ Possibility of taking exams through the application
- ☐ Possibility of communication through the app
- ☐ Possibility to share the experience (see what another person is doing at that moment in the app)
- ☐ Automatic monitoring of student activity (number of clicks, time passed in each module, percentage of correct answers...)
- ☐ Ability to analyze (manually or automatically) usage patterns and draw conclusions about the motivation of the students, their interest in specific topics, etc.
- ☐ Distribution of notes through the application
- ☐ Possibility of both face-to-face and remote use
- ☐ Quality 3D content

Other: ☐ _____

38. If you see it necessary, explain your choice:

39. If you had an application to create augmented reality educational content, would you use it to create your own app? *

Mark only one oval.

☐ Yes

☐ No Skip to question 41

40. What kind of educational content would you create with that application?

Tick all that apply.

☐ immersive videos

☐ Simulations

☐ Visualizations (2D or 3D)

☐ Quiz / Test

☐ Blogs

Other: ☐ _____

41. In the European project ARETE, we are developing software that allows us to easily create collaborative augmented reality applications. How do you think you could use this technology in your work?

Tick all that apply.

☐ Creation of tests where questions can be launched and the answers observed in real time of the student body

☐ Collaborative game creation

☐ Creation of exercises where students compete to solve a problem

☐ Game development to learn programming concepts

☐ Content creation to increase students' emotional intelligence

☐ Collaborative content creation in the case of remote learning

☐ I don't think I would use this technology

Other: ☐ _____

42. If you see it necessary, add a comment:

43. In the European project ARETE we are also developing artificial intelligence applications to facilitate the work of teachers. How do you think you could use artificial intelligence in your work?

Tick all that apply.

☐ Analyze the answers of the students in a test, and adapt accordingly.
automatically the level of difficulty of the questions

☐ Analyze usage patterns to notify teachers if there are topics that are more difficult for students

☐ Early identification of students at risk of failing or dropping out of a subject

☐ I don't think I would use artificial intelligence in my work

Other: ☐ _____

44. If you see it necessary, add a comment:

45. Is there any other comment you want to share with us about the use of augmented reality in teaching?

46. If you are familiar with the use of technology in teaching, would you be willing to discuss it with us in a short video call?

Mark only one oval.

- ☐ Yes (remember to add your email in the next question)
- ☐ No

47. The results of this survey will be used for the publication of scientific articles on the use of augmented reality technologies to facilitate and improve learning. If you want us to keep you informed about the results of our analysis, leave us your email:

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