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<p><b>Title:</b> Use of digital augmented reality to improve learning experiences – Caselet on the history of international climate change policy</p>		
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<p><b>Summary:</b> This caselet, makes use of augmented reality applications, motivating students to move around one established area, in order to learn the gradual evolution of global climate change policy.</p>		
<p><b>Output:</b> Enhanced learning experiences of key facts over the history of international climate change policy by the use and understanding of innovative augmented reality smartphone apps.</p>		
<p><b>Educational context in which the caselet was developed:</b> This caselet was developed for a environmental policy lecture. The audience can be either bachelor or master students of environmental/climate policies.</p> <p>Climate change mitigation policies were heavily debated and evolved considerably over the past 30 years. The reaction from the international society to tackle this major global issue began in 1979, at the first World Climate Conference. Since then, the global awareness and related policy discussions gradually progressed, with key decision making taking place in historical climate change conferences all over the globe. The policy evolution timeframe can be divided into five periods: pre-1990; the period leading up to the adoption of the Climate Change Convention (1991-1996); the period of the Kyoto Protocol until US withdrawal (1996-2001); the period subsequent focusing on the implementation of the Kyoto Protocol (2002-2007), and the post-2008 period (financial crisis). In order to successfully understand the global policies in place at the moment, it's crucial to understand key players, agreements and conferences held over this period. This caselet, therefore, makes use of augmented reality applications, motivating students to move around one established area, in order to teach the gradual evolution of global climate change policy. Although the caselet is focused on climate change policy history, it could easily be replicated into other knowledge areas.</p>		
<p><b>Digital competence learning outcomes:</b></p> <p>Participants know how to</p> <ul style="list-style-type: none"> <li>• Find physically hidden information with the use of augmented reality apps</li> <li>• Save and share uncovered data</li> <li>• Interact with technology and other user in order to find the content needed to complete the caselet</li> </ul>	<p><b>Context related learning outcomes:</b></p> <p>Participants:</p> <ul style="list-style-type: none"> <li>• Are able to identify key conferences, players and agreements held in the five periods described</li> <li>• Describe the elements and trends charectirising each period</li> </ul>	
<p><b>Required digital tools:</b></p> <ul style="list-style-type: none"> <li>• Free augmented reality apps (i.e. WallaMe)</li> </ul>	<p><b>Required technical equipment:</b></p> <ul style="list-style-type: none"> <li>• Smartphone</li> <li>• Projector</li> </ul>	
<p><b>DESCRIPTION OF METHOD</b></p>		

**Max. no. of participants per group: 5**

**Time required: 1h**

**A. Preparation:** Creation of a digital map with hidden information. The teacher/trainer goes around a specific area (classroom, university building, lecture hall...) using an augmented reality app (i.e. WallaMe) to leave online information that can only be accessed by other users of the app. WallaMe allows the user to leave hidden messages in various locations (walls, for instance). When using the app, the user can take pictures of a location, and then use the in-app drawing and writing tools to create your own special messages. Pictures can also be attached. The augmented reality really comes into play when other users come to the in same location that has a hidden message, but it can only be found by using WallaMe and their device's camera. In this caselet, the "messages" hid by the teacher/trainer are information about global cities (Rio de Janeiro, Johannesburg, Kyoto, Paris...), in which key conferences where held and major treaty, agreements were signed in the past 30 years. On the chosen location, a small description of the city is provided and questions on major policies discussed, date and outcomes are made available.

**B. Main session:**

For the main sessions, students are divided into groups of five and asked to move around the area with the augmented reality app to find the hidden information and questions. Each group is asked to start with a different location. While the groups are out looking for the questions, the teacher/trainer adds the respective answer on the black board area, but also as WallaMe hidden messages.

**C. Presentation:**

After the main session, the students are asked to come back to the main lecture/classroom. Each group is asked to present one city, the questions about this city and to answer them orally. If the answers are insufficient, the other groups in the audience are free to contribute to the presentation. If still the right answer cannot be found, the student is asked to connect his/her smartphone to the projector and go through the content hid on the blackboard with WallaMe in order to find the correct answer. As this time the smartphone is connected to the projector, the entire room is able to see the messages and find together the right answer. After all the answers for each city are found, the group is asked to take their seats, while another one takes the floor to present a new city.

**Web resources:**

- <http://onlinelibrary.wiley.com/doi/10.1002/wcc.67/abstract>
- <http://walla.me>
- [https://www.jstor.org/stable/jeductechsoci.17.4.133?seq=1#page\\_scan\\_tab\\_contents](https://www.jstor.org/stable/jeductechsoci.17.4.133?seq=1#page_scan_tab_contents)

**Please save paper and print this caselet in double-sided mode!**



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*Or contact the Digi4Adults Project Coordinator, Ms Henna-Riikka Ahvenjärvi (Henna-Riikka.Ahvenjarvi@takk.fi)*