Serious Gaming for Climate Adaptation—Assessing the Potential and Challenges of a Digital Serious Game for Urban Climate Adaptation

# Details

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## Topics

* Learning
* Social mediation
* Internet usage, practices and engagement
* Digital and socio-cultural environment

## Sample

Five gaming events held during 2019 with a total of 195 surveys collected from Swedish high-school students aged 15 to 19.

## Implications For Educators About

* School innovation
* Professional development
* Other

## Implications For Policy Makers About

Other

## Other PolicyMaker Implication

Digital tools/games as vehicle for understanding complex global problems; incorporation of gaming into curricula

## Implications For Stakeholders About

# Abstract

Serious gaming has gained increasing prominence in climate change communication, and provides opportunity to engage new audiences and new platforms for knowledge co-creation and dialogues. This paper presents the design and evaluation of a serious game on climate adaptation, primarily targeted towards high school students, practitioners and politicians. The game aims to provide an experience of the impact of climate adaptation measures, and illustrates links with selected Agenda 2030 goals, which the player has to consider, while limiting impacts of hazardous climate events. The game design builds on the key goals in Education for Sustainable Development combining comprehensive views, action competence, learner engagement and pluralism. This study draws on game sessions and surveys with high school students in Sweden, and aims to assess to what extent different aspects of the game can support an increased understanding of the needs and benefits of adaptation actions. The results of this study indicate that the game can engage players to reflect upon challenges related to climate adaptation decision making, but also point towards the challenge of including a high degree of complexity which can make it difficult to grasp consequences of individual measures, as well as to link these to the natural variability of the occurrence of extreme climatic events.

# Outcome

"While this study demonstrated a positive result on the engagement and interest for climate adaptation for the participating high school students, it also raises question regarding the level of terminology, and to what extent the aspects of the gameplay, in terms of single-player or roleplay mode, as well as the complexity of the feedback system, influenced the game experience." (Authors, in "Discussion and Conclusions")