

# Chapter 12

## Guidelines for Teachers on the Use of Digital Games on SDG–Relevant Topics in Geography Classes

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### **ABSTRACT**

*The chapter is concerned with the use of digital games in educating about societal challenges connected to the Sustainable Development Goals (SDG) in geography classes. The first part of the chapter summarizes the potentials of the medium and answers the question of why bringing games into the classroom is worth the effort. Subsequently, the chapter offers guidelines to aid teachers in making this step, including guidance on how to choose the right game for the given purpose, how to integrate the game into the lesson, and most importantly, how to reflect on the playing experience with the students.*

### **INTRODUCTION**

The 17 Sustainable Development Goals (SDG)<sup>1</sup> formulated by the United Nations aim to achieve a systemic change of the global society in order to face current societal challenges and to create an ecologically and socially healthy, just world. Addressing the relevant societal issues and challenges in education is essential to raise empowered individuals who will implement the SDGs in the future. The issues and challenges, such as global food security, climate change, sustainable consumption, and production, are highly complex, and the contexts are often abstract.

As interactive media, digital games have unique potential for teaching complex SDG-relevant content in the classroom, such as the opportunity for explorative learning in complex contexts (Geithner & Menzel, 2016; Van Eck, 2006), practicing problem-solving (Gaber, 2007), and being introduced to other perspectives (Fromme et al., 2008). Many digital entertainment games already represent SDG-relevant topics and current societal issues such as climate change or resource conflicts, which are also addressed

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in geography lessons. To benefit from games' potentials, digital games should be included in formal learning contexts (Medienberatung NRW, 2020, p. 21), as adolescents are considered to be influenced by how the societal issues are presented, particularly as they are often in regular contact with this medium in their free time (MPFS, 2020, p. 54). As such, it is the responsibility of school teachers to build competence in dealing with this kind of medium, and in turn the games give them the opportunity to create more compelling and possibly more effective lessons on complex societal challenges.

The following guidelines aim to aid teachers to achieve the above. As our re-analysis of teacher interviews on political education in geography lessons has shown that digital games are not yet considered by teachers when planning and delivering education about SDG-relevant topics, guidelines such as ours may aid those educators who are open to teaching with this interactive, powerful, yet complex medium to make their first steps.

The guidelines are based on our research within the project DiSpielGeo. Within the project we, researchers from the Institute for Geography Education of the University of Cologne and from the Cologne Game Lab of TH Köln, conducted a range of studies on the potentials and limits of digital entertainment games for geography education on complex social and socio-ecological topics (Czauderna & Budke, 2020, 2021; Lux & Budke, 2020a, 2020b; Lux et al., in preparation). This research has been consultative and engaged with scientists working in the field of geography education and media education, game designers and game players. These studies focused mainly on strategy and simulation games, such as *SimCity*, *Cities: Skylines*, *Tropico 6*, and similar, which cover at least one of the societal topics of climate change, (sustainable) resource use, urban development and migration. Our studies consisted of analyses of their complexity, content, decision-making design and significance for political education, as well as of interviews with game designers and players. On the basis of these studies we derived practical guidelines for all involved use of geography-relevant games in the classroom. In our studies, we have worked out the advantages of digital games, as well as the possible disadvantages and challenges. This was a starting point for the guidelines, which aim to help teachers recognise the advantages and sensitise them to the challenges that should be taken into account when planning lessons with digital games. In addition, the game analysis revealed that the games differ in many characteristics. This has led to the formulation of guidelines to help take these differences into account when selecting games and using them in the classroom.

This chapter summarizes our research insights and gives an overview of the recommendations we derived. A detailed version is accessible online at [www.dispielgeo.de](http://www.dispielgeo.de). We do not claim these guidelines to be complete, but they can be used to get an initial overview of how to create geography classes with games. They include insights we could gain from our ground research on entertainment games that cover SDG-relevant, complex topics, but we are always keen on expanding them. Anyone is welcome to add to them with their experience and should not hesitate to contact us via our project website.

## **BACKGROUND: WHY USE DIGITAL GAMES IN CLASS TO TEACH ON SDG-RELEVANT TOPICS?**

The approach of “game-based learning” has been developed and implemented in the classroom for many years. Games are used to encourage learning. The players interact with the systems according to certain rules and solve tasks in order to succeed in the game. New spaces for action and experience are created in which players can act and learn individually. With regard to digital games, it has long been known

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