

## Chapter 29

# As You Like It: What Media Psychology Can Tell Us About Educational Game Design

**Stephanie B. Linek**

*German National Library of Economics (ZBW), Germany*

### **ABSTRACT**

*Game-based learning is based on the idea of using the motivational potential of video games within the educational context. Thus, when designing an educational game, not only the fun and game play but also the instructional efficiency of the educational game is of pivotal importance. This chapter provides an overview on media psychological approaches and findings that could be helpful for understanding and creating an educational game. Thereby, a special focus lies on the benefit of an interdisciplinary approach that allows for the integration of an appropriate scientific base from psychology with best-practice game design.*

### **INTRODUCTION AND GENERAL OVERVIEW**

There are many general remarks in literature regarding instructional design as well as game design. However, most of them are very general assumptions and lack scientific-empirical proof.

Concrete design recommendations with respect to educational games are rather sparse.

This chapter points out, how psychological meaningful recommendations could be derived from theories and empirical findings from the research field of media psychology.

Media psychology is a subfield of psychology. The American Psychological Association defines Media Psychology (Division 46) as follows: “Media Psychology focuses on the role psychologists

DOI: 10.4018/978-1-60960-495-0.ch029

play in various aspects of the media, including, but not limited to, radio, television, film, video, newsprint, magazines, and newer technologies. It seeks to promote research into the impact of media on human behavior; to facilitate interaction between psychology and media representatives; to enrich the teaching, training and practice of media psychology; and to prepare psychologists to interpret psychological research to the lay public and to other professions” (<http://www.apa.org/divisions/div46/>)

Shortly spoken, Media Psychology applies psychological theories, methods and findings to investigate the intra- and inter-individual psychological processes underlying the perception and behavior of humans in the context of media. (The definition also implies that every *psychological* research on games and game-based learning can be classified as media psychological research.)

From a media psychological perspective the educational game design should be appropriate for the cognitive as well as the affective and motivational demands of the user. Especially the close interconnection and interdependencies between cognition, emotion and motivation should be considered when designing an educational game.

An educational game can be defined as “applications using characteristics of video and computer games to create engaging and immersive learning experiences for delivering specified learning goals, outcomes and experiences” (De Freitas, 2006). From a design perspective, there are three main core elements which are closely interconnected: Multimedia design of the game (including sound and graphics), the design of the narratives of the game (including dialogues, socio-motivational appeal) and the design of the characters within the game (NPCs and avatars). These elements are not exclusively used in (educational) games, but also aspects of other media (e.g., television or conventional e-learning environments). Consequently, not only (media) psychological findings on games and game-based learning but also related media psychological research could

be helpful for providing psychologically founded recommendations on concrete design questions, namely findings on multimedia design, insights on the cognitive and socio-motivational impact of media in general as well as research on media characters in a broader sense (e. g. in television or learning environments).

The following chapter aims to provide scientific-based answers on important design questions one is confronted with when designing a game, namely the multimedia design as well as the socio-motivational appeal of narratives and game characters.

After a short introduction the chapter starts with a description of the most popular and well founded cognitive theories on instructional design. Thereby, also findings are reported that suggests severe shortcomings of such a pure cognitive view. Subsequently, a socio-motivational enhanced view of human-computer interaction is outlined that provides the appropriate psychological-theoretical base for the design of educational games. Thereby, it will be pointed out, how the findings could be used for concrete game design decisions. In a next step games in general and educational games in specific are disputed and the joy of gaming is explored from a media psychological point of view. The chapter finishes with a framework for designing educational games and a short summary of the reported research and its applicability.

## **COGNITIVE EDUCATIONAL APPROACHES AND INSTRUCTIONAL DESIGN**

When designing an educational game, one is confronted with a lot of *multimedia design decisions* that are related to the explanatory parts and the learning elements. Mayer (2003) states “multimedia learning occurs when students build mental representations from words and pictures that are presented to them” (p. 125). Following this definition, also game based-learning can be

25 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:

[www.igi-global.com/chapter/you-like-media-psychology-can/52515](http://www.igi-global.com/chapter/you-like-media-psychology-can/52515)

## Related Content

---

### Schemas of Disrepute: Digital Damage to the Code

Ellen L. Bloxsome and Nigel K. Li. Pope (2009). *Digital Sport for Performance Enhancement and Competitive Evolution: Intelligent Gaming Technologies* (pp. 320-335).

[www.irma-international.org/chapter/schemas-disrepute-digital-damage-code/8550](http://www.irma-international.org/chapter/schemas-disrepute-digital-damage-code/8550)

### Ludic Learning: Exploration of TLE TeachLivE™ and Effective Teacher Training

Aleshia T. Hayes, Carrie L. Straub, Lisa A. Dieker, Charlie E. Hughes and Michael C. Hynes (2013). *International Journal of Gaming and Computer-Mediated Simulations* (pp. 20-33).

[www.irma-international.org/article/ludic-learning/79934](http://www.irma-international.org/article/ludic-learning/79934)

### Virtual Environments, Online Racial Discrimination, and Adjustment among a Diverse, School-Based Sample of Adolescents

Brendesha M. Tynes, Chad A. Rose, Sophia Hiss, Adriana J. Umaña-Taylor, Kimberly Mitchell and David Williams (2014). *International Journal of Gaming and Computer-Mediated Simulations* (pp. 1-16).

[www.irma-international.org/article/virtual-environments-online-racial-discrimination-and-adjustment-among-a-diverse-school-based-sample-of-adolescents/123194](http://www.irma-international.org/article/virtual-environments-online-racial-discrimination-and-adjustment-among-a-diverse-school-based-sample-of-adolescents/123194)

### An Improved Face Mask Detection Simulation Algorithm Based on YOLOv5 Model

Yue Qi, Yiqin Wang and Yunyun Dong (2024). *International Journal of Gaming and Computer-Mediated Simulations* (pp. 1-16).

[www.irma-international.org/article/an-improved-face-mask-detection-simulation-algorithm-based-on-yolov5-model/343517](http://www.irma-international.org/article/an-improved-face-mask-detection-simulation-algorithm-based-on-yolov5-model/343517)

### A Proposed Framework for Studying Educational Virtual Worlds

Ricardo Javier Rademacher Mena (2010). *Design and Implementation of Educational Games: Theoretical and Practical Perspectives* (pp. 65-77).

[www.irma-international.org/chapter/proposed-framework-studying-educational-virtual/42446](http://www.irma-international.org/chapter/proposed-framework-studying-educational-virtual/42446)