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# Book Review: Mobile Technologies and Augmented Reality in Open Education

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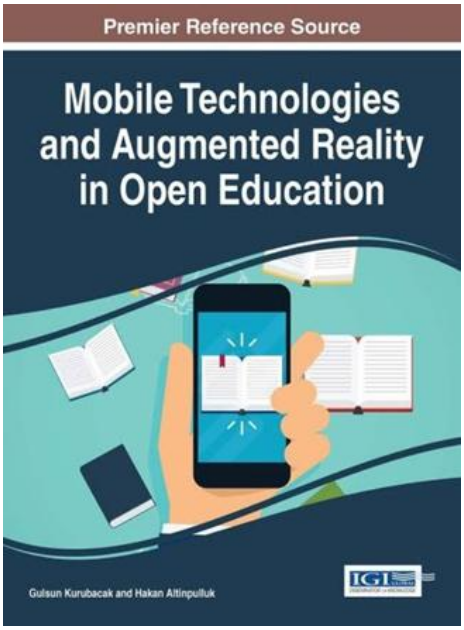
Book Review

**Abstract**

*Mobile Technologies and Augmented Reality in Open Education is edited by Gülsün Kurubacak and Hakan Altınpulluk. The book was published by IGI Global in 2017. The book is 366 pages. The ISBNs of the book are as following: ISBN13: 9781522521105, ISBN10: 1522521100, and EISBN13: 9781522521112. DOI number of the book is: 10.4018/978-1-5225-2110-5*

**Keywords**: Open education, open and distance learning, distance education, mobile technologies, augmented reality.

## 1. INTRODUCTION

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Augmented Reality is a system that blend augmentation with reality to enrich learning environments. In an online environment supported by Augmented Reality technologies, learners can enhance their learning visions actively. This book, in this regard, aims to provide some insights and samples on Augmented Reality. Concisely, the book designates interactive, interesting and entertaining applications of Augmented Reality and Mobile Technologies within open and distance learning.

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## 2. REVIEW of the BOOK

The topics addressed by the authors of 16 chapters are as follow:

Chapter 1: Are Wearables Good or Bad for Society? An Exploration of Societal Benefits, Risks, and Consequences of Augmented Reality Smart Glasses by Daniel W. E. Hein, Jennah L. Jodoin, Philipp A. Rauschnabel and Björn S. Ivens. In Chapter 1, the authors depict the new form of wearable devices like Augmented Reality Smart Glasses and how these devices have become crucial potentials with their personal and professional settings. The authors of the chapter also illustrate the good and bad factors of the mentioned devices in terms of societal benefits and risks.

Chapter 2: Educational Augmented Reality (AR) Applications and Development Process by Muzaffer Özdemir. Chapter 2 highlights the contribution that Augmented Reality technologies provide for the learners. In this connection, several empirical studies in the literature are revisited. Moreover, Unity and Vuforia, as the development tools are presented and how these applications could be used by mobile or desktop PCs are examined in detail.

Chapter 3: Augmented Reality: Opportunity for Developing Spatial Visualization and Learning Calculus by Patricia Salinas. Chapter 3 embraces Augmented Reality technology for Mathematics. In this chapter, some calculus topics, being designed upon graphical representation and digital design, are given as samples which are also regarded as the part of the modern culture.

Chapter 4. The Impact of Augmented Reality and Virtual Reality Study Material in the Future of Learning: A Teamwork Experience by Giuliana Guazzaroni. Chapter 4 guides readers to a discussion of Augmented Reality implementation and its potential usage. To reach this aim, a high school class of 23 students from Italy are invited to use Augmented Reality and Virtual Reality tools to utilize from the materials created by them. The future learning tools are digital ones.

Chapter 5: Use of Augmented Reality in Mobile Devices for Educational Purposes by Bülent Gürsel Emiroğlu and Adile Aşkım Kurt. In Chapter 5, the use of technology is perused in relation with the current developments and improvements in information and communication technologies. The authors of this chapter underline the importance of mobile devices and how they could be implemented on both Augmented Reality (AR) and Mobile Augmented Reality (MAR) technologies.

Chapter 6: Existing Standards and Programs for Use in Mobile Augmented Reality by Gülay Ekren and Nilgün Özdamar Keskin. Chapter 6 deliberates Augmented Reality (AR) with respect to its dimensions regarding educational use. The current trends, issues, and developments of AR technologies and their possible applications within mobile learning are all discussed in detail.

Chapter 7: In Search for a “Good Fit” Between Augmented Reality and Mobile Learning Ecosystem by Miraç Banu Gündoğan: In Chapter 7 “ecosystem” term, used both in scientific and social contexts, is scrutinized by the author. Augmented Reality and its possible potentials of integration in mobile learning are also discussed. All those above mentioned aspects and definitions are derived from a Delphi study carried out in 2016 in Turkey.

Chapter 8: An Augmented-Reality-Based Intelligent Mobile Application for Open Computer Education by Utku Köse. In Chapter 8, the author probes Augmented Reality based intelligent mobile application (M-Learning application) to support courses of Computer Education. In this part of the book, the author elaborates Artificial Intelligence based approaches and their dynamic learning parameters in relation with course materials.

Chapter 9: Learning in a Virtual Environment: Implementation and Evaluation of a VR Math-Game by Christof Sternig, Michael Spitzer and Martin Ebner. The authors of this chapter address various approaches on Virtual Reality (VR) by giving samples of different applications. In this regard, a math-game prototype that was implemented in a school by pupils aged 12-13 is proposed accordingly. It is observed that the pupils were highly motivated to be involved in a virtual world.

Chapter 10: Mobile Augmented Reality Applications in Education by İrfan Süral. Chapter 10 provides possible insights on how Augmented Reality applications are used for training in various fields such as trade, military, entertainment and health. Therefore, it could also be regarded as a vivid educational tool that might take learners' attention.

Chapter 11: Design Principles for an Intelligent-Augmented-Reality-Based M-Learning Application to Improve Engineering Students' English Language Skills by Derya Bozdoğan, Buket Kasap and Utku Köse. The authors of this chapter display an effective learning flow designed upon Elias' four design principles namely "fair use, flexible use, fault tolerance and educational climate". By combining real and virtual environments, the authors suggest a frame of a possible application that could be used for improving engineering students' English language skills.

Chapter 12: Integration of Augmented Reality and Virtual Reality in Building Information Modeling: The Next Frontier in Civil Engineering Education by Sai Rohit Chenchu Boga, Bhargav Kansagara and Ramesh Kannan. The authors of Chapter 12 highlight the importance of both Virtual Reality (VR) and Augmented Reality (AR) in education. In this regard, the authors offer an entertaining platform on which students could be more active. The chapter proposes a game-based device called "Unity3D" that could be specifically used for civil engineering.

Chapter 13: Augmented Reality Implementations, Requirements, and Limitations in the Flipped-Learning Approach by Nilgün Tosun. Chapter 13 examines flipped learning with its dimensions related to innovative, efficient and active learning. As connoted by the author of this chapter, the students should be supported with stronger learning materials and implementations designed upon Augmented Reality.

Chapter 14: Augmented Reality in K-12 Education by Lisabeth J. Leighton and Helen Crompton. Chapter 14 disputes how Augmented Reality could be used in an educational context. The chapter particularly focuses on the related literature and research supporting the Augmented Reality affordances K-12 Education.

Chapter 15: The Importance of Mobile Augmented Reality in Online Nursing Education by Belgin Boz Yüksekdağ. The author of Chapter 15 guides readers to a discussion of the utilization of mobile augmented reality in online nursing education. In the first part, nursing education is discussed in general and in the second part, theoretical and practical areas of online nursing are broadly tackled.

Chapter 16: Design, Development, and Marketing Process of Video Games by Devkan Kaleci and Tansel Tepe. Chapter 16 provides insights on video game sector in general. For this purpose, video game concept and game categories are basically described in detail. Thus, it is thought to raise awareness on video game development.

## 3. CONCLUDING THOUGHTS

This book sheds light on Mobile Technologies and Augmented Reality and their possible applications within Open Education. In this connection, the book stands as a must have resource for researchers, educators and stakeholders who deeply concern technology integration with conventional and online learning milieus. Considering the wide effects of Mobile Technologies and Augmented Reality in recent decades, different authors who took part in this book give timely responses towards questions regarding the integration of virtual and real implementations in open learning.

## About the Author

**Nil Göksel**

Nil Göksel currently works as an English language instructor at Anadolu University. She received her MA Degree in Distance Education with "Learner -Instructor Interaction within University-Community Partnerships by Giving Samples from Second Life (SL)" in 2009. To pursue her PhD degree, she then completed a research study entitled "Utilizing the Personal Learning Environment for English as a Foreign Language within the Scope of Open and Distance Learning" in 2018. Her research interests lie broadly in online-immersive learning, new learning technologies, Personal Learning Environments (PLEs), educational social networks, virtual interaction, Augmented Reality, Web 2.0 tools used for foreign language teaching and learning, Artificial Intelligence and Intelligent Personal Assistants (IPAs).

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