

## Virtual Reality Educational Tool For Human Anatomy

Advancements in technology in modern societies have resulted in an abundance of new educational tools and aids. Analyzing the effects of different mobile educational applications can provide insight into how technology can promote or discourage purposeful learning among students and educators alike. The Handbook of Research on Mobile Technology, Constructivism, and Meaningful Learning is a crucial scholarly resource that examines the use of newly-developed technology on classroom education. Featuring pertinent topics that include collaborative learning, social media integration, virtual reality, and critical thinking dispositions, this publication is ideal for educators, academicians, students, and researchers that are interested in expanding their knowledge on recent trends and technologies that are enhancing the educational field.

A manual for both designers and users, comprehensively presenting the current state of experts' knowledge on virtual reality (VR) in computer science, mechanics, optics, acoustics, physiology, psychology, ergonomics, ethics, and related area. Designed as a reference book and design guide to help the reader develop a VR project, it presents the reader with the importance of the user's needs and various aspects of the human computer interface (HCI). It further treats technical aspects of VR, hardware and software implementations, and details on the sensory and psycho-sensory interfaces. Providing various concepts and technologies, including mathematics and modelling techniques, it allows the reader to formalize, conceptualize and construct a virtual reality project from original thought to application. This book is intended for engineers, computer scientists and computer game developers working on various VR applications. It can further serve as an educational tool in Virtual Reality courses for senior graduate and postgraduate students.

New Perspectives on Virtual and Augmented Reality discusses the possibilities of using virtual and augmented reality in the role of innovative pedagogy, where there is an urgent need to find ways to teach and support learning in a transformed learning environment. Technology creates opportunities to learn differently and presents challenges for education. Virtual reality solutions can be exciting, create interest in learning, make learning more accessible and make learning faster. This book analyses the capabilities of virtual, augmented and mixed reality by providing ideas on how to make learning more effective, how existing VR/AR solutions can be used as learning tools and how a learning process can be structured. The virtual reality (VR) solutions can be used successfully for educational purposes as their use can contribute to the construction of knowledge and the development of metacognitive processes. They also contribute to inclusive education by providing access to knowledge that would not otherwise be available. This book will be of great interest to academics, researchers and post-graduate students in the field of educational technology.

Digital classrooms have become a common addition to curriculums in higher education; however, such learning systems are only successful if students are properly motivated to learn. Optimizing Student Engagement in Online Learning Environments is a critical scholarly resource that examines the importance of motivation in digital classrooms and outlines methods to reengage learners. Featuring coverage on a broad range of topics such as motivational strategies, learning assessment, and student involvement, this book is geared toward academicians, researchers, and students seeking current research on the importance of maintaining ambition among learners in digital classrooms.

The Next Big Thing in Education

Finding New Ways to Teach in a Transformed Learning Environment

Concepts, Methodologies, Tools, and Applications

Reality Bytes

Transactions on Edutainment VII

Designing, Deploying, and Evaluating Virtual and Augmented Reality in Education

**"This book focuses on the study and application of human computer interaction principles in the design of online education"--Provided by publisher.**

**This open access book details the relationship between the artist and their created works, using tools such as information technology, computer environments, and interactive devices, for a range of information sources and application domains. This has produced new kinds of created works which can be viewed, explored, and interacted with, either as an installation or via a virtual environment such as the Internet. These processes generate new dimensions of understanding and experience for both the artist and the public's relationships with the works that are produced. This has raised a variety of interdisciplinary opportunities and issues, and these are examined. The symbiotic relationship between artistic works and the cultural context in which they are produced is reviewed. Technology can provide continuity by making traditional methods and techniques more efficient and effective. It can also provide discontinuity by opening up new perspectives and paradigms. This can generate new ideas, and produce a greater understanding of artistic processes and how they are implemented in practice. Tools have been used from the earliest times to create and modify artistic works. For example, naturally occurring pigments have been used for cave paintings. What has been created provides insight into the cultural context and social environment at the time of creation. There is an interplay between the goal of the creator, the selection and use of appropriate tools, and the materials and representations chosen. Technology, Design and the Arts - Opportunities and Challenges is relevant for artists and technologists and those engaged in interdisciplinary research and development at the boundaries between these disciplines.**

**Virtual reality is a set of technologies that enables two-way communication, from computer to user and vice versa. In one direction, technologies are used to**

***synthesize visual, auditory, tactile, and sometimes other sensory experiences in order to provide the illusion that practically non-existent things can be seen, heard, touched, or otherwise felt. In the other direction, technologies are used to adequately record human movements, sounds, or other potential input data that computers can process and use. This book contains six chapters that cover topics including definitions and principles of VR, devices, educational design principles for effective use of VR, technology education, and use of VR in technical and natural sciences.***

***Using Virtual Reality in English Language Arts Education provides researched-based teaching practices and strong theoretical support for teaching English Language Arts with Virtual and Augmented Reality tools. It is perfect for teachers of any experience level, with or without prior experience with VR/AR.***

***Envisioning Virtual Reality: A Toolkit for Implementing VR in Education***

***Employing the Oculus Rift for Artifact Visualization and Education***

***Virtual Reality in Education***

***Virtual and Augmented Reality in English Language Arts Education***

***A Bibliometric Study on the Use of Virtual Reality (VR) as an Educational Tool for High-Functioning Autism Spectrum Disorder (ASD) Children***

***Virtual and Augmented Reality: Concepts, Methodologies, Tools, and Applications***

Most people want to reach their maximum potential; and the use of tools are no different. Some say power is influence. If this is true, then virtual reality has “superpowers” because of its ability to make the unreal viscerally real, engaging and immersive. Thanks to these powers VR can influence and affect education in ways that no technology tool has in the past. This book will help people understand the power and true potential of virtual reality (or VR). The prime directive of this book is to provide educators with a way of thinking about how to use virtual reality in education in order to reveal its true superpowers. And, to arm educators with several hands-on lessons to get them started on implementing VR as a tool to enhance learning outcomes. Ultimately, the book aims to have educators clearly understand VR’s role in transforming education, thus reaching its maximum potential.

This book introduces state-of-the-art research on virtual reality, simulation and serious games for education and its chapters presented the best papers from the 4th Asia-Europe Symposium on Simulation and Serious Games (4th AESSSG) held in Turku, Finland, December 2018. The chapters of the book present a multi-facet view on different approaches to deal with challenges that surround the uptake of educational applications of virtual reality, simulations and serious games in school practices. The different approaches highlight challenges and potential solutions and provide future directions for virtual reality, simulation and serious games research, for the design of learning material and for implementation in classrooms. By doing so, the book is a useful resource for both students and scholars interested in research in this field, for designers of learning material, and for practitioners that want to embrace virtual reality, simulation and/or serious games in their education.

Transform teaching and learning with AR and VR in your classroom. We're at the dawn of an incredible transformation in education. Augmented reality and virtual reality--technologies that were once the province of science fiction and fantasy--are faster, better, and more affordable than ever. These tools have the potential to not only inspire students but to redefine how we teach and collaborate. But widespread adoption of AR and VR in K-12 classrooms requires taking risks, investing money and time, and training educators. Reality Bytes makes the case for taking this leap by showing how educators are using these amazing technologies, and it provides a powerful framework to help anyone, in any school, join them. The innovative educators profiled are already designing learning experiences using AR and VR that supercharge student motivation, encourage creativity, and make otherwise impossible educational adventures accessible to all. You can do the same, using easy-to-implement resources that will revolutionize how you approach instruction. Equip your students with the skills they'll need in the future--today. Reality Bytes opens the doors to tools for meeting every student no matter where they are. This book outlines the power that AR and VR have in building empathy and growing critical worldviews and perspectives.

Christine, Jesse, and Micah cast an exciting vision for the future of education! --Ken Shelton, educational strategist, equity and inclusion consultant Creating engaging lessons that successfully integrate technology can be challenging. Reality Bytes is here to help with tons of images, classroom stories, and ideas that will help you create student-centered lessons that allow your students to experience content in a whole new way. No matter the grade level, there is something for everyone in this wonderfully immersive book. --Alice Keeler, teacher, edtech expert, Google Certified Innovator While you won't see Winona Ryder's name on the cover of this book, you will find some star power in it--the power to create star learners in our classrooms using cutting-edge tools! Reality Bytes will you give you the tools, the pedagogy, and a practical framework to bring the new reality of learning into your classroom. --Kasey Bell, author of Shake Up Learning: Practical Ideas to Move Learning from Static to Dynamic

Virtual reality (VR) is an emerging digital platform that can be utilized as an immersive educational tool. This thesis uses the Oculus Rift virtual reality head-mounted display to create a VR Museum, building upon research exploring video games in education. This VR Museum leverages virtual reality and video game technology to educate players about archaeology. Through virtual reality technology, players enter the digitally-constructed museum environment as if they are inside the virtual world. This technology provides new avenues for engaging the public in archaeological studies. This thesis also examines how digital copies of artifacts made with photogrammetry can be utilized for education. The purpose of this thesis is to explore how a functional model of a VR Museum can be created and serves as a foundation for further development and research. This thesis also examines potential further developments. The theme of this VR Museum is the archaeology of blacksmithing. The same concepts for making a VR Museum can be applied to many other themes in archaeology, history, and other subjects. The VR Museum went through four prototype stages of development, exploring concepts on how to design a museum for VR. A fifth version of the VR Museum is the completed computer program, which launched in the Western Michigan University VR Lab. The VR Museum will receive continued development beyond this thesis, with ongoing player feedback.

Proceedings of IDEAS 2019

Virtual and Augmented Reality in Education, Art, and Museums

Optimizing Student Engagement in Online Learning Environments

A Tool for Improving Occupational Safety and Health

Virtual Reality and Virtual Environments

Learning Transported

*This book describes the current state of the art of various types of immersive learning: in research, in practice, and in the marketplace. It discusses advanced approaches in the design and development for various forms of immersive learning environments, and also the emerging innovations in assessment and research in the field. In addition, it demonstrates the opportunities and challenges in implementing advances in VR and immersion at scale in formal and informal learning. We are living in a time of rapid advances in terms of both the capabilities and the cost of virtual reality, multi-user virtual environments, and various forms of mixed reality. These new media potentially offer extraordinary opportunities for enhancing both motivation and learning across a range of subject areas, student developmental levels, and educational settings. With the development of practical and affordable virtual reality and mixed reality, people now have the chance to experience immersive learning both in classrooms and informally in homes, libraries, and community centers. The book appeals to a broad readership including teachers, administrators, scholars, policy makers, instructional designers, evaluators and industry leaders.*

*This journal subline serves as a forum for stimulating and disseminating innovative research ideas, theories, emerging technologies, empirical investigations, state-of-the-art methods, and tools in all different genres of edutainment, such as game-based learning and serious games, interactive storytelling, virtual learning environments, VR-based education, and related fields. It covers aspects from educational and game theories, human-computer interaction, computer graphics, artificial intelligence, and systems design. The 27 papers of this volume deal with virtual humans; graphics rendering and 3D animation; games and 2D animation; and digital media and its applications.*

*Emerging Tools and Applications of Virtual Reality in Education* IGI Global

*As technology continues to play a pivotal role in society, education is a field that has become heavily influenced by these advancements. New learning methods are rapidly emerging and being implemented into classrooms across the world using software that is low cost and easy to handle. These tools are crucial in creating skillful learning techniques in classrooms, yet there is a lack of information and research on the subject. The Handbook of Research on Software for Gifted and Talented School Activities in K-12 Classrooms is an essential reference source that discusses newly developed but easy-to-handle and less costly software and tools and their implementation in real 21st-century classrooms worldwide. The book also helps and supports teachers to conduct gifted and talented school activities in K-12 classrooms. Featuring research on topics such as educational philosophy and skillful learning techniques, this book is ideally designed for software developers, educators, researchers, psychologists, instructional designers, curriculum developers, principals, academicians, and students seeking coverage on the emerging role that newly developed software plays in early education.*

*Creating an Optimal Education Experience*

*The Use of Virtual Reality as an Educational Tool*

*Smart Pedagogy for Technology Enhanced Learning*

*Augmented, Virtual and Mixed Reality for All Classrooms*

*Water on Tap*

*Virtual, Augmented, and Mixed Realities in Education*

This book constitutes the proceedings of the 16th European Conference on Technology Enhanced Learning, EC-TEL 2021, held in Bolzano, Italy, in September 2021. The 21 research full papers and 28 short papers presented in this volume were carefully reviewed and selected from 98 submissions. The European Conference on Technology-Enhance Learning, is committed to address global challenges and quality education. The papers deal with the Sustainable Development Goals, particularly SDG 4 and SDG 10, to help to reduce the existing gaps and inequalities between countries and regions from around the world in terms of inclusiveness, equity, access, and quality of education.

The focus on smart education has become a new trend in the global educational field. Some countries have already developed smart education systems and there is increasing pressure coming from business and tech communities to continue this development. Simultaneously, there are only fragmented studies on the didactic aspects of technology usage. Thus, pedagogy as a science must engage in a new research direction—smart pedagogy. This book seeks to engage in a new research direction, that of smart pedagogy. It launches discussions on how to use all sorts of smart education solutions in the context of existing learning theories and on how to apply innovative solutions in order to reduce the marginalization of groups in educational contexts. It also explores transformations of pedagogical science, the role of the educator, applicable teaching methods, learning outcomes, and research and assessment of acquired knowledge in an effort to make the smart education process meaningful to a wide audience of international educators, researchers, and administrators working within and tangential to TEL.

Due to the growing prevalence of artificial intelligence technologies, schools, museums, and art galleries will need to change traditional ways of working and conventional thought processes to fully embrace their potential. Integrating virtual and augmented reality technologies and wearable devices into these fields can promote higher engagement in an

increasingly digital world. Virtual and Augmented Reality in Education, Art, and Museums is an essential research book that explores the strategic role and use of virtual and augmented reality in shaping visitor experiences at art galleries and museums and their ability to enhance education. Highlighting a range of topics such as online learning, digital heritage, and gaming, this book is ideal for museum directors, tour developers, educational software designers, 3D artists, designers, curators, preservationists, conservationists, education coordinators, academicians, researchers, and students.

The use of virtual reality (VR) as an educational tool for autism spectrum disorder (ASD) children is a research field that started some 20 years ago. ASD is associated with deficiencies in communication and social interaction, as well as restricted and repetitive behavioural patterns, according to the fifth edition of the diagnostic and statistical manual of mental disorders (DSM-5). By using the ISI Web of Knowledge as the reference data basis, we perform a bibliometric study of the use of VR as an educational tool for high-functioning ASD children. By this study we can quantify, on the one hand, the up to day importance of the different types of VR applied to this field: immersive or non-immersive, as well as the use of human or agent avatars. On the other hand, we can also differentiate amongst those interventions that work on emotional and social competences. The analysis of periods of research scarce, research abundance and research trends provides a dynamic view of the strategies used in this field in the last 20 years and suggests future lines of research.

Envisioning Virtual Reality: A Toolkit for Implementing Vr In Education

Handbook of Research on Software for Gifted and Talented School Activities in K-12 Classrooms

Innovating with Augmented Reality

Innovative Learning Using Augmented and Virtual Reality

Building a Better You : the Next Tools for Medical Education, Diagnosis, and Care

Virtual Reality: Concepts and Technologies

*This volume contains contributions from Edutainment 2008, the 3rd International Conference on E-Learning and Games. It serves as a forum for stimulating and disseminating innovative research ideas, theories, emerging technologies in the field.*

*Virtual Reality in Education: Breakthroughs in Research and Practice is an essential reference source on the uses of virtual reality in K-12 and higher education classrooms with a focus on pedagogical and instructional outcomes and strategies.*

*A Prototype Virtual Reality System for Preoperative Planning of Neuro-Endovascular Interventions -- Validation of Soft Tissue Properties in Surgical Simulation with Haptic Feedback -- Comparison of CAVE and HM for Visual Stimulation in Postural Control Research -- Virtual Vision Loss Simulator -- Reaction-Time Measurement and Real-Tune Data Acquisition for Neuroscientific Experiments in Virtual Environments -- A Preliminary Study of Presence inVirtual Reality Training Simulation for Medical Emergencies -- An Ali System with Intuitive User Interface for Manipulation and Visualization of 3D Medical Data -- A Haptic Surgical Simulator for the Continuous Curvilinear Capsulorhexis Procedure During Cataract Surgery -- Haptic Rendering of Tissue Cutting with Scissors -- Increasing face validity of a vascular interventional training system -- An Endoscopic Sinus Surgery Training System for Assessment of Surgical Skill -- Acquiring Laparoscopic Manipulative Skills: A Virtual Tissue Dissection Training Module -- Novel Force Resolver Designs for a Haptic Surgery Simulator -- Author Index*

*Augmented Reality (AR) has many advantages that include increased engagement and interaction as well as enhanced innovation and responsiveness. AR technology has applications in almost all domains such as medical training, retail, repair and maintenance of complex equipment, interior design in architecture and construction, business logistics, tourism, and classroom education. Innovating with Augmented Reality: Applications in Education and Industry explains the concepts behind AR, explores some of its application areas, and gives an in-depth look at how this technology aligns with Education 4.0. Due to the rapid advancements in technology, future education systems must prepare students to work with the latest technologies by enabling them to learn virtually in augmented ways in varied platforms. By providing an illusion of physical objects, which takes the students to a new world of imagination, AR and Virtual Reality (VR) create virtual and interactive environments for better learning and understanding. AR applications in education are covered in four chapters of this book, including a chapter on how gamification can be made use of in the teaching and learning process. The book also covers other application areas of AR and VR. One such application area is the food and beverage industry with case studies on virtual 3D food, employee training, product–customer interaction, restaurant entertainment, restaurant tours, and product packaging. The application of AR in the healthcare sector, medical education, and related devices and software are examined in the book's final chapter. The book also provides an overview of the game development software, Unity, a real-time development platform for 2D and 3D AR and VR, as well as the software tools and techniques used in developing AR-based apps.*

*Technology-Enhanced Learning for a Free, Safe, and Sustainable World*

*Immersive Learning*

*Emerging Tools and Applications of Virtual Reality in Education*

*Developing Immersive Experiences and Applications for Desktop, Web, and Mobile*

*Experience on Demand: What Virtual Reality Is, How It Works, and What It Can Do*

*Contemporary Perspective on Child Psychology and Education*

***As virtual reality approaches mainstream consumer use, a vibrant development ecosystem has emerged in the past few years. This hands-on guide takes you through VR development essentials for desktop, mobile, and browser-based applications. You'll explore the three go-to platforms—OculusVR, Gear VR, and Cardboard VR—as well as several VR development environments, programming tools, and techniques. If you're an experienced programmer familiar with mobile development, this book will help you gain a working knowledge of VR development through clear and simple examples. Once you create a complete application in the final chapter, you'll have a jumpstart on the next major entertainment medium. Learn VR basics for UI design, 3D graphics, and stereo rendering Explore Unity3D, the current development choice among game engines Create native applications for desktop computers with the Oculus Rift Develop mobile applications for Samsung's Gear VR with the Android and Oculus Mobile***

**SDKs Build browser-based applications with the WebVR Javascript API and WebGL Create simple and affordable mobile apps for any smartphone with Google's Cardboard VR Bring everything together to build a 360-degree panoramic photo viewer**

**In contemporary understanding, the working areas of children's psychology are expanding considerably. The mental health of the children ensures that they are able to use their developmental abilities, cope with difficulties in life, be productive and be creative, and demonstrate cognitive, emotional, and behavioral characteristics appropriate to their developmental turn. This research was conducted to be able to identify behavioral disorders that may be a sign of children's mental problems and to shed light on the resolution of possible problems by facilitating the follow-up of psychosocial developments during the period of growth. This book presents an overview of the contemporary approaches in the departments of child education and psychology, with the hope of them growing up as happy, peaceful, balanced, thoughtful confident and successful individuals.**

**For the last decade, virtual reality has been utilized in diverse fields such as entertainment, medicine, and industry. Recently, virtual reality has been applied in educational settings in order to transform student learning and experiences through such methods as building prototypes using digital devices or exploring new cultures through immersive interactions. Teachers who can incorporate virtual reality into their classrooms can provide their students with more meaningful learning experiences and can witness higher engagement. Current and Prospective Applications of Virtual Reality in Higher Education is a cutting-edge academic research book that provides comprehensive research on the integration of virtual reality in education programs and establishes foundations for course design, program development, and institutional strategic planning. The book covers an overall understanding and approach to virtual reality in education, specific applications of using virtual reality in higher education, and prospects and issues of virtual reality in the future. Highlighting a wide range of topics such as gamification, teacher training, and virtual reality, this book is ideal for teachers, instructional designers, curriculum developers, academicians, program developers, administrators, educational software developers, policymakers, researchers, education professionals, and students.**

**The next big thing in education is an anthology of forward looking insights by leading scholars, leaders and practitioners in the field of education regarding what may lie ahead for students and educators alike. As communities and leaders the world over struggle to adapt and thrive vis-à-vis ever growing challenges, education, in all its forms, is acknowledged as one of the major resources that will help propel individuals and societies into the unfolding millennium. That being said, what lies ahead? What opportunities, changes, and challenges are we about to meet as we step forward into the unknown? This book picks the brains of some of the leading minds in the field of education and asks them a simple, yet challenging question: "what is the next big thing in Education?". The answers we received paint a fascinating, multifaceted and complex picture. Educators, students, researchers, theoreticians and members of the general public who take special interest in education and human development may find inspiration, directions for future planning and even ideas for future research.**

**Applications in Education and Industry**

**Technology, Design and the Arts - Opportunities and Challenges**

**The Interdisciplinary Conference on Innovation, Design, Entrepreneurship, And Sustainable Systems**

**Virtual Reality and Its Application in Education**

**Virtual Realities in Archaeology**

**Feasibility of Virtual Reality as Roadway Infrastructure Design and Educational Tool**

Augmented reality (AR) and virtual reality (VR) provide flexibility in education and have become widely used for the promotion of multimedia learning. This use coincides with mobile prevalent, VR devices becoming more affordable, and the creation of user-friendly software that allows the development of AR/VR applications by non-experts. However, because the use of VR into education is a fairly new practice that is only in its initial stage, these processes and outcomes need to be improved. Designing, Deploying, and Evaluating Virtual and Augmented Reality: An Essential research book that presents current practices and procedures from different technology-implementation stages (design, deployment, and evaluation) to help educators use VR in their own teaching practices. The book provides comprehensive information on AR and VR applications in different educational settings from various perspectives including but not limited to formal/informal learning, and integration strategies with practical and/or theoretical implications. Barriers and challenges to their implementation that are currently faced by educators. This book is ideal for academicians, instructors, curriculum designers, policymakers, instructional designers, researchers, education professionals, practitioners, and students.

In this collection of essays, we explore virtual reality in K12 from a number of perspectives. We examine the effectiveness of VR as a teaching tool, technology hurdles in low resource settings, and from a teacher's angle, and students' initial reaction to VR in the classroom.

Virtual reality is the next frontier of communication. As technology exponentially evolves, so do the ways in which humans interact and depend upon it. It only follows that to educate the next generation of industry leaders, one must use the most innovative tools available. By coupling education with the most immersive technology available, teachers may inspire students. Emerging Tools and Applications of Virtual Reality in Education explores the potential and practical uses of virtual reality in classrooms with a focus on pedagogical and instructional applications. This title features current experiments in the use of augmented reality in teaching and highlights the effects it had on students. The authors also illustrate the use of technology in education. Students well-rounded in the fields of technology and communication are covetable in the workforce. This book will inspire educators, administrators, librarians, students of education,

software developers to push the limits of their craft.

The technology world is exploding with interest and investment in augmented, virtual, and mixed reality, and teachers across the country are following suit--inviting students to ex virtual field trips, manipulating 3D models and augmenting the world around them. The perception that AR/VR resources are costly investments is far from the truth; we have the o our curriculum today. As districts scramble to purchase the latest headset, there are many issues to resolve before making any major purchases, so planning and preparation are k and VR implementation. Some educators struggle to find a connection to their lesson plans, whereas others jump into using AR and VR without a concern for the safety of their st practical insights and a variety of classroom examples to help educators develop a plan and establish goals to enhance student learning and bring the most benefit to the most stu address all of the most important factors when incorporating AR/VR into the curriculum: that the instruction addresses student outcomes and standards; and that the mechanism (whatever the device) is safe, affordable and suitable for the available space.

Breakthroughs in Research and Practice

16th European Conference on Technology Enhanced Learning, EC-TEL 2021, Bolzano, Italy, September 20-24, 2021, Proceedings

Handbook of Research on Mobile Technology, Constructivism, and Meaningful Learning

Affective, Interactive and Cognitive Methods for E-Learning Design: Creating an Optimal Education Experience

Transactions on Edutainment I

Learning Virtual Reality

*"If you want to understand the most immersive new communications medium to come along since cinema... I'd suggest starting with Mr. Bailenson's [book]." –Wall Street Journal Virtual reality is able to effectively blur the line between reality and illusion, granting us access to any experience imaginable. These experiences, ones that the brain is convinced are real, will soon be available everywhere. In Experience on Demand, Jeremy Bailenson draws upon two decades spent researching the psychological effects of VR to help readers understand its upsides and possible downsides. He offers expert guidelines for interacting with VR, and describes the profound ways this technology can be put to use to hone our performance, help us recover from trauma, improve our learning, and even enhance our empathic and imaginative capacities so that we treat others and ourselves better.*

*Virtual and augmented reality is the next frontier of technological innovation. As technology exponentially evolves, so do the ways in which humans interact and depend upon it. Virtual and Augmented Reality: Concepts, Methodologies, Tools, and Applications is a comprehensive reference source for the latest scholarly material on the trends, techniques, and uses of virtual and augmented reality in various fields, and examines the benefits and challenges of these developments. Highlighting a range of pertinent topics, such as human-computer interaction, digital self-identity, and virtual reconstruction, this multi-volume book is ideally designed for researchers, academics, professionals, theorists, students, and practitioners interested in emerging technology applications across the digital plane.*

*This is the first comprehensive research monograph devoted to the use of augmented reality in education. It is written by a team of 58 world-leading researchers, practitioners and artists from 15 countries, pioneering in employing augmented reality as a new teaching and learning technology and tool. The authors explore the state of the art in educational augmented reality and its usage in a large variety of particular areas, such as medical education and training, English language education, chemistry learning, environmental and special education, dental training, mining engineering teaching, historical and fine art education. Augmented Reality in Education: A New Technology for Teaching and Learning is essential reading not only for educators of all types and levels, educational researchers and technology developers, but also for students (both graduates and undergraduates) and anyone who is interested in the educational use of emerging augmented reality technology.*

*This book presents the proceedings of the IDEAS Conference, which is intended as a forum for a new generation of researchers. IDEAS is an arena that encourages researchers to defy their field's boundaries, leveraging disciplinary mindset into contributions to broad domains within the Science, Technology, Engineering, Entrepreneurship, and Management. Further, IDEAS explores novel questions and challenges existing policies and practices on how to apply science and technology as an input to design more innovative and sustainable systems that promote human well-being.*

*Investigating Virtual Reality as a Situated Learning Tool for Supporting General Education*

*A New Technology for Teaching and Learning*

*A Practical Guide to Virtual Reality's Superpowers in Education*

*Virtual and Augmented Reality, Simulation and Serious Games for Education*

*Augmented Reality in Education*

*Medicine Meets Virtual Reality 12*

Virtual reality (VR) techniques are becoming increasingly popular. The use of computer modeling and visualization is no longer uncommon in the area of ergonomics and occupational health and safety. This book explains how studies conducted in a simulated virtual world are making it possible to test new solutions for designed workstations, offering a high degree of ease for introducing modifications and eliminating risk and work-related accidents. Virtual reality techniques offer a wide range of possibilities including increasing the cognitive abilities of the elderly, adapting workstations for people with disabilities and special needs, and remote control of machines using collaborative robots. Detailed discussions include: Testing protective devices, safety systems, and the numerical reconstruction of work accidents Using computer simulation in generic virtual environments On the one hand, it is a self-study book made so by well-crafted and numerous examples. On the other hand, through a detailed analysis of the virtual reality from a point of view of work safety and ergonomics and health improvement. Ewa Grabska, Jagiellonian University, Kraków, Poland Noteworthy is the broad scope and diversity of the addressed problems, ranging from training employees using VR environments with different degrees of perceived reality; training and rehabilitation of the elderly; to designing, testing, modifying, and adapting workplaces to various needs including those of disabled workers; to simulation and investigation of the cause of accidents at a workplace. Andrzej Krawiecki, Warsaw University of Technology, Warsaw, Poland

*Didactics of Smart Pedagogy*

*New Perspectives on Virtual and Augmented Reality*

*Current and Prospective Applications of Virtual Reality in Higher Education*