EDITORIAL

Motivation and new media: an introduction to the special issue

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Abstract This article provides an introduction to the theme of this special issue, "Motivation and New Media," followed by an explanation of the motivation for the issue and a brief description of the process for selecting articles to be included. The article concludes with a brief overview of each of the articles included in this special issue.

Keywords Motivation · New media

Introduction

Motivation has been recognized as a relevant part of the instructional design process for several decades, from Jean Piaget to Robert Gagne to John Keller. Scholars from Marshall McLuhan to Don Ely to Chris Dede, have suggested creating and integrating media, or *new media* (i.e., computer-based technologies integrated with other, more traditional media such as video and audio), into instructional design in order to more actively engage students in the learning experience. Recent research indicates that digital media used in teaching and learning enhance engagement and increase participation in learning activities (Schilling 2009; Sadik 2008) and improve learning motivation (House, 2009; Hsu 2008). This special issue looks at new media through a motivation lens.

New media fit well with constructivist learning environments. They (1) allow students to interact more easily and at higher cognitive levels with peers, experts, and instructors, both locally and globally; (2) offer students more control over their own learning; and (3) provide students with an opportunity to use software that was not previously available to them or as easy to use (e.g., animation, game design) for designing their own learning spaces. These are all powerful motivators for student learning.

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Motivation for this special issue

The motivation for this special issue was triggered by a 2005 National Science Foundation Science of Learning catalyst grant which brought together several leading scholars in the areas of motivation, technology and child development to explore how children are motivated to learn in informal, technology-rich learning contexts. Research luminaries, such as Edward Deci, Eliot Solloway, Jacquellyn Eccles, and John Keller, provided inspiration to the cohort of more than 30 researchers who participated in that project, including several contributors to this special issue.

Paper selection process

In spring 2010, a call for submissions was issued to the AECT community from Michael Hannafin, research editor of *ETR&D,* for abstracts for articles on "Motivation and New Media" for a special issue of the journal. The call stated:

> New media have become important tools for motivating learning performance in the 21st century. This special issue will bring together researchers who focus on exploring how motivation influences the use of new media, how the use of new media stimulates motivation, and the methods and complications of studying motivation using new media in a learning context. This call solicits research or development articles that address one or more of these areas of focus.

Twenty-one abstracts were submitted; seven were invited to submit full papers to the guest editor. Criteria for selection included a (1) strong foundation of motivation theory, (2) focus on motivation and learning outcomes, and (3) technology-related learning context. Dr. Richard Mayer accepted an invitation to contribute the summary chapter for the issue.

Contributors to this special issue

The articles in this special issue address a variety of motivation theories and models, such as expectancy-value theory, intrinsic motivation, curiosity, self-determination theory, and interest, as the authors explore ways to stimulate and maintain student engagement in learning. Each of the articles demonstrates the application of one or more of these theories or models to digital learning environments (e.g., online learning, electronic learning games).

The issue begins with a theoretical article by Marilyn P. Arnone, Ruth V. Small, Sarah A. Chauncey, and H. Patricia McKenna (Syracuse University). The authors introduce their article, *Curiosity, Interest and Engagement in Technology-Pervasive Learning Environments: A New Research Agenda*, with scenarios that demonstrate the differences between how information access in the 20th and 21st centuries influences students' curiosity and their attempts to satisfy that curiosity. These scenarios serve as advanced organizers for the reader as the authors present a model of the relationship of curiosity, interest, and engagement in technology-pervasive learning environments.

With the recent surge in cyberlearning experiences into all facets of education, it is not surprising that three of the articles focus on online learning environments, two of them in a college setting and one in a professional development workshop for teachers.

In *Self-regulation of Motivation When Learning Online: The Importance of Who, Why and How*, authors Carol Sansone, Tamra Fraughton, Joseph Zachary, Jonathan Butner and Cecily Heiner (University of Utah) describe their investigation into whether and how students' incoming motivation affects their self-regulation during online learning. Within an expectancy-value theory framework, Peggy A. Ertmer, Timothy J. Newby, Wei Liu, Annette Tomory, Ji Hyun Yu, and Young Mi Lee, (Purdue University) explore how wikis and other Web 2.0 tools might be used to motivate cross-cultural students to collaborate in an online course in their article, *Students' Confidence and Perceived Value for Participating in Cross-Cultural Wiki-based Collaborations*. In *Motivation and Learning in an Online, Unmoderated, Mathematics Workshop for Teachers*, authors K. Ann Renninger, Ming Cai, Mark C. Lewis, Margot Adams, (Swarthmore College) and Katherine L. Ernst (Drexel University) investigate math teachers' motivation and learning outcomes using data collected from surveys, discussion boards, forums, and journals during an unmoderated online workshop.

The final research article by Min Liu, Lucas Horton, and Justin Olmanson (The University of Texas, Austin) and Paul Toprac (Southern Methodist University), entitled *A Study of Learning and Motivation in a New Media Enriched Environment for Middle School Science,* uses a mixed method design to look at sixth graders' intrinsic motivation for and learning of science. The study focuses on the use of an online problem-based simulation for engaging students.

On the development side, Rebecca Reynolds (Rutgers University) and Idit Harel Caperton (World Wide Workshop Foundation) introduce us to Globaloria, a pilot educational program for middle school, high school, and community college students in West Virginia. The program uses constructionist theory, game-based learning and social media learning as a framework and, in their article *Contrasts in Student Engagement, Meaning-making, Dislikes, and Challenges in a Discovery-based Program of Game Design Learning,* the authors explore the impact of this program on student self-report feedback surveys of autonomy and other factors.

An article by Amy L. Baylor (Florida State University), entitled *The Design of Motivational Agents and Avatars,* explores how characteristics of interface agents and avatars can serve as virtual social models and affect student motivation while using Internet-based game and learning systems.

This special issue concludes with a capstone article, *Towards a Science of Motivated Learning in Technology-Supported Environments.* In this article, Richard E. Mayer (University of California, Santa Barbara) highlights and provides commentary on the contributions of each of the articles and offers his observations on the current state of and future possibilities for research in the theme area.

It is the hope of all participating authors that the readers of this special issue will be inspired to contribute to our knowledge of the relationship between motivation and new media by conducting high-quality research studies and development projects. Such work ensures a better understanding of the ways in which new and emerging media can be used to motivate student engagement in both formal and informal learning settings.

References

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