

GUEST EDITORIAL PREFACE

Special Issue on Ludic Simulations: Part 2

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This is part two of a two-issue special collection on ludic simulations. In this special issue, 5-2, we present the second set of four papers and a book review. Prior to a description of the papers in this special issue and a summary of lessons learned, it is important to return to the purpose of this special issue (as referenced from the first editorial).

This special issue focuses on the notion of ludic simulations. Ludic refers here to Latin definitions of the term ludus, referring to fun, play or playfulness. It might also be widened to include notions like entertaining forms of facilitation, and ease or pleasure of use. Simulations are computer- (or otherwise) mediated environments that provide opportunities for users to explore and interact with a possible world, a theoretical model, an occupation, a task, etc.. Here, we are making a broad assumption that all electronic games are in some sense simulations, while not all simulations are necessarily games.

We generally expect electronic and other games to be fun. Games that are not fun are not played, while understanding that the experience of “fun” is also unique to each individual player. However, we generally do not expect simulations to be fun. If a pilot or anesthesiologist is learning vital aspects of their vocation through virtual experiences, we seem to care more about their learning gains than whether they are actually enjoying the experience of doing so. First and foremost we want to train better, more highly qualified doctors and pilots.

What does it mean, therefore, to have a simulation that could be described as ludic? Does making a simulation that is more playful, fun, and pleasing to use impact learning, retention, or practice? Does a ludic simulation receive more critical reviews than a non-ludic one, for not being “serious” enough? What does it mean to make a simulation ludic, without actually turning it into a game?

The purpose of this special issue is to address a selection of relevant issues related to potential and actual ludic aspects of simulations. Authors were invited to submit manuscripts that:

- *Present empirical findings on the use of ludic simulations*
- *Push the theoretical knowledge of ludic simulations*
- *Conduct meta-analyses of existing research on ludic simulations*
- *Present innovative interfaces for ludic simulations, including testing/evaluation data*

It is worth noting that this special issue is a transnational collaboration between friends and colleagues at the Department of Communication and Economics¹ Game Philosophy Initiative², at the University of Modena & Reggio Emilia in Italy, and the Research Center for Educational Technology³ at Kent State University in the USA. As such, we have received numerous papers from literally all around the globe. A challenge for such collaborations across cultural boundaries is, of course, trying to make knowledge sharing global while understanding that natural language barriers exist that may prevent those who typically write in Italian (or Swahili for that matter) from sharing their important work. This is something that needs to be addressed by all journals with international ambitions. In spite of such transcultural concerns, we are proud to be able to present ten papers that help us broaden and shape our future understandings of what ludic simulations may, or may not, be.

This special issue on ludic simulations begins with a discussion of the problem of how best to define the notions of gamification, serious games and ludic simulations, by Brock Dubbels of the G-Scale Game Development and Testing laboratory at McMaster University, USA. As was noted by several authors in our first special issue, this author suggests that key definitions in this field are often either overlooked or misunderstood-- definitions are critical to deeper understandings and making connections within the field. He offers a

conceptual framework based on a distinction between coherence and ambiguity to facilitate identification and design considerations regarding gamification, ludic simulations and serious games. In doing so, he reminds designers and researchers to seek to operationalize and differentiate these complex notions by examining specific factors, such as purpose, process, and interpretation, in order to render these broader generic categories more discrete and more usefully definable and understandable.

Aleshia T. Hayes, Carrie L. Straub, Lisa A. Dieker, Charlie E. Hughes, and Michael C. Hynes, all of the University of Central Florida, coauthor the second piece in this special issue. It offers an interesting and detailed close-up presentation and discussion of TLE TeachLivE™ a student avatar based classroom teaching simulation based on mixed reality, utilizing both off-the-shelf and emerging technologies. The authors argue that one of the most positive aspects of ludology-facilitated playful (or ludic), aspects of simulators, or of simulation technologies in general is that they can be designed to allow users to experiment safely with managing complex, even potentially dangerous situations, without fear of eventual negative shorter or long-term consequences (e.g. airplane crashes). Unfortunately it is often difficult to actively 'explore' actual teaching situations because there are always potentially unpredictable others involved, i.e. the students. The TLE TeachLivE™ simulation is designed to provide oft needed opportunities for exploration and experience of different types of classroom interactions for pre-service and already practicing teachers, as a component of basic or in-field training. Using Jesper Juul's Game Diagram as a starting point, together with references to other theoretical work in the international game research community the authors dig more deeply into their simulation in order to explore and understand the different types of components that may make simulations ludic. They conclude that education can benefit from understanding better how computer mediated simulations can be maximized to access the ludic and paideic nature of learners to create enjoyable learning experiences.

The third article, focused on key aspects of mathematical simulations, coauthored by Julie K. McLeod, of Good Shepherd Episcopal School, Mary Jo Dondlinger, of Texas A&M University Commerce, Sheri Vasinda, Oklahoma State University, and Leslie Haas, Dallas Christian College (all USA), reports on Digital Play, one of three central themes identified in a qualitative study of sixth grade students who used mathematical simulations in proportional thinking. The study originally set out to study learner curiosity, but ending up by focusing on forms of play, as defined by Salen and Zimmerman. The authors found that digital simulations gave the students welcome opportunities to play constructively with complex mathematical concepts and properties. In the end, the students attributed their own learning gains to the fun, exploration, and personalization possibilities embedded in the design of the simulations they used. The authors conclude that the findings of the study indicate that digital play can also benefit standards based, high-stakes testing environments, since every instance of play bears with its seeds of what Salen and Zimmerman refer to as “transformative play”. When students use digital technologies like ludic simulations, they can serve as a transitional object to move into a playful state, thus invigorating traditional formal school learning settings.

The final paper in this special issue was coauthored by members of a large interdisciplinary team: Robert M. Waddington, Ellen J. Kalin, Marjorie A. Moreau, and Harald Scheirich, of SimQuest Inc.; Jerry Heneghan, and Steven Cattrell of Virtual Heroes Division Applied Research Associates Inc.; William D. Aggen, of Prison Fellowship; and Thomas C. Reeves, of the Department of Educational Psychology and Instructional Technology, University of Georgia. This piece focuses on the development and testing of a simulation-based game for training first responders in management of blast incidents, HumanSim Blast™. The authors’ principal research hypothesis was that ludic aspects of simulation design would make the simulation more engaging, enhancing participant learning, and this was confirmed by

the study. What is particularly interesting about this work is that the authors did not only study if the simulation worked in practice, and if the ludic component actually mattered to players, they also examined in what kinds of training/education setting it worked. The authors report that observation of students and instructors during its evaluation showed the game worked well as a lab component of a wider curriculum, promoting communication and dialogue among students and instructors. This feedback was useful in remodeling a revised version of the game in order to meet the needs of end users and achieve an appropriate blend of instructional and game design

Included in this special issue is a book review by Anna Baralt and Albert D. Ritzhaupt, both of the University of Florida, who review “Reality is Broken: Why Games Make Us Better and How They Can Change the World” (2011) by Jane McGonigal. Arguably this book is mainly about games. However, this thoughtful review of McGonigal’s thoughts regarding game design, alternate realities, and ‘epic wins’ all fit well within a conversation on fun and ludicity in relation to simulation design. and usage. Her focus on alternative reality games (ARGs) is of particular interest in this connection, since such games essentially model, or simulate, if we will, key aspects of our everyday reality in surprising, thought provoking ways, in order to prod players into questioning the validity of some of our current realities and perhaps to invent better, even more workable alternatives to these. The authors close by recommending this work to educators from PK-20, both to give them a better idea of what their students enjoy playing and experimenting with outside of school, and also to help teachers reevaluate their own classroom practices, by thinking more in depth about how games (or ludic simulations) might be used in the classroom in order to create more challenging and stimulating environments for both them and their students.

It would be nearly impossible to both adequately and succinctly summarize all nine articles we are now publishing with the aim of exploring what we actually mean by the notion

of 'ludic simulations.' However, it seems fair to briefly try to re-assess some of the main points we seem to have learned about ludic simulations after having undertaken this exercise. There are at least three important outcomes that can be briefly described here, and then more fully understood by our readers through a careful reading of the articles in both these special issues.

1. The term ludic simulation encompasses and stimulates a wide variety of terms, definitions, and debates in the more general fields of simulation and game research. For instance, what really is the difference between a game and a simulation? These are not merely semantic overtures. Spending some time playing critically with these definitions actually does matter. As we have discovered from the included theoretically oriented pieces, more thorough structured organization and categorization efforts directed at probing and describing in depth the many kinds of different meanings attached to the various concepts currently in play in this increasingly important area will provide a basis by way of which we can both inform and stimulate debate regarding current research ideas and trends, and help engage future designers of ludic worlds meaningfully in the design of ludically based simulations and other applications for use in many different kinds of sociocultural settings.
2. The research studies included in these two special issues provide a wide range of evidence that simulations can be both fun, useful and informative; they can be enjoyable for those that use them, and at the same time lead to measurable, positive outcomes. Arguably, many of the research results presented here highlight a range of positive outcomes of use of ludic simulations in educational and other settings that are primarily affective in character, i.e. in terms of users' subjective perceptions of enjoyment and personal utility but not only. In the shorter term, it may well be that ludic simulations do not always manage to produce significant variations in terms of positive cognitive-behavioral learning outcomes. However, in the longer run of things, it may become increasingly clear that the ludic aspect of the activity types ludic simulations offer different user groups will produce attitudinal and affective growth leading to continued interest in the area, better retention and more confident application of skills being trained within the larger setting that these simulations are designed for, and used within.
3. Finally, it is also worth noting that our authors have handled the topic of ludic simulations in many different ways, and from many different points of view rooted in many different application contexts. In part, this refers back to the need for the development, diffusion and discussion of far more well defined and empirically tested definitions as has been proposed and elaborated on by several of our guest authors in both special issues. However, this issue is also tied in with the wider one of how ludicity is structured and implemented, and in which contexts it actually occurs. Some of our authors have described the ludic nature of actual simulations. Here, fun was to be found, or attempted designed into, the simulation or game itself. For others, there was an acknowledgement that fun or ludicity might actually already reside in the real people and many different contexts in which ludic simulations are actually implemented and used. A fourth grader might find something enjoyable that a seventh grader would not; someone might find something enjoyable in learning course curriculum and not find it to be fun or useful in the field. This in itself points to the need for much more well-structured research to help inform designers in planning, structuring and implementing ludicity in different types of simulations, and also how to recursively use scientifically monitored case study experiences of ludic simulations for use in different settings, as a learning

tool in itself, in order to become even better at maximizing the ludic potential of ludic simulations in relation to many different types of end user needs, institutional settings and areas of deployment.

There are many more important lessons to be learnt from continuing research in this wider field than just these three potential areas of interest mentioned above. However, we have raised these three points precisely to point out the need for more well funded, well designed and systematic research in this increasingly important area. We return finally to our original claim that there is still quite a lot of institutional and other skepticism regarding the importance of having simulations that also are ludic, either

in nature or in implementation. Further excellent research like the various studies reported on, conceptualized or proposed, might well help to dampen at least some of that of instinctive, and all too often, uninformed “fear of the unknown”.

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ENDNOTES

- 1 <http://www.dce.unimore.it>
- 2 <http://game.unimore.it>
- 3 <http://www.rcet.org>

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