Australasian Journal of Educational Technology (AJET)

Special Issue 2015 - Call for Papers

**Educational Design Research for Technology-supported   
Post-secondary Learning**

**Guest editors**

Dr. Theodore J. (TJ) Kopcha, Assistant Professor of Learning, Design, and Technology, Department of Career and Information Studies, University of Georgia, [tjkopcha@uga.edu](mailto:tjkopcha@uga.edu)

Dr. Matthew Schmidt, Assistant Professor, Department of Learning, Design, and Technology, University of Hawaii, [matthew.schmidt@hawaii.edu](mailto:matthew.schmidt@hawaii.edu)

Dr. Susan McKenney, Associate Professor, Fostering Effective, Efficient and Enjoyable Learning (F3) Group at the Welten Institute || Open University of the Netherlands & Department of Instructional Technology, University of Twente, [S.E.Mckenney@utwente.nl](mailto:S.E.Mckenney@utwente.nl)

**Introduction**

Concerns have been voiced that current approaches to research in educational design and technology lacks value and practical application (see Baughman, 2008; Bichelmeyer, Boling, & Gibbons, 2006; Gutiérrez & Penuel, 2014; Merrill & Wilson, 2011; Reeves, 2011; Winn, 2003). Educational Design Research (EDR) is an emerging approach that attempts to bridge the demand for rigorous research with the development of relevant solutions to educational problems, particular those that involve technology.

EDR constitutes a family of design-oriented approaches to educational research, including but not limited to design-based research (DBR; Barab & Squire, 2004), design and development research (DDR; Richey & Klein, 2014), and design-based implementation research (DBIR; Penuel, Fishman, Cheng, & Sabelli, 2011). Despite a surge of literature in the mid-2000s (e.g., Barab & Squire, 2004; Bell, Hoadly, & Linn, 2004; Reeves, Herrington, & Oliver, 2005; van den Akker et al., 2006), however, there remains uncertainty and criticism regarding the value and application of evidence produced through design research (Anderson & Shattuck, 2013; Shavelson et al., 2003; Dede, 2004) and of research methodologies that lack the qualities associated with exclusively experimental methods (Yoon et al., 2007; Reimann, 2011). This uncertainty is not unwarranted - the quality of research within EDR studies can vary greatly from iteration to iteration, as well as case to case (McKenney & Reeves, 2014; Reimann, 2011). Even though the same can be said for educational research in general, scholars remain skeptical that the potential of EDR can be fully realized.

In response to this skepticism and to advance the field, McKenney and Reeves (2014) and Reimann (2011) suggested the need for clear set of high quality EDR exemplars. Others have noted the need for examples to highlight the affordances of various design-oriented approaches (Richey & Klein, 2014; Nieveen et al., 2006) and examples that demonstrate systematic variation and testing of specific design features over repeated interventions (Reeves, 2011; McKenney & Reeves, 2014). Developing and sharing exemplars that are of high quality, portray rich variation, and clearly explore the extent and limits of generalization constitutes an important step towards bridging the tension between research and design in a way that promotes innovative, research-based solutions to our educational problems that work in the real world.

**Special Issue Focus**  
The purpose of this special issue is to advance EDR by showcasing exemplars of high quality design-oriented research in technology-supported post-secondary educational settings. We seek manuscripts that detail EDR projects involving the use and/or development of educational technology in tertiary education (higher and further), lifelong learning, and training. Manuscripts should therefore promote research and scholarship on innovative instructional designs that integrate technology in those settings, promote effective practice, and help inform policy.

The special issue paper set will present a variety of high quality EDR studies that explore the extent and limits of generalization across a spectrum of maturity – that is, at various stages, with varying degrees of implementation and spread (see Figure, below). Manuscripts should detail EDR project work during the main phases of 1) analysis and exploration, 2) design and construction and/or 3) evaluation and reflection. Examples include:

|  |
| --- |
|  |
| Figure. *McKenney and Reeves (2012) model of EDR.* |

* *Analysis & Exploration*: Focus on understanding an educational problem through analysis of the literature, stakeholders, and/or setting, (e.g., Agyei & Voogt, 2011; Lucero, Valcke, & Schellens, 2013).
* *Design & Construction*: Present design frameworks along with the theoretical and empirical grounding that gave them shape, (e.g., Herrington & Oliver,   
  2000; Raval, McKenney, & Pieters, 2010).
* *Evaluation & Reflection*: Primarily describe the formative and/or summative evaluations of designed interventions, and the practical and scientific implications of the findings, (e.g., Bakah, Voogt, & Pieters 2012; Ley et al., 2014).

Special issue topics will include reports of: single studies; multiple studies; and/or repeated studies. Conceptual papers that critique or expand upon theoretical and methodological issues in EDR (e.g., generalizability; conceptual frameworks; etc.) are also encouraged.

All papers, including conceptual papers, should include specific EDR examples. Submissions will be screened for meeting the aims and scope of the special issue, specifically: reporting on or grounding conceptual work in one or more EDR examples (current projects and/or previously published) concerning technology integration in post-secondary education. Then, submissions will be ranked on the following criteria:

* Appropriate theoretical perspectives given the goal of the study or paper;
* Transparency of design thinking and related inquiry; e.g., through figures or logic models (McKenney & Reeves, 2012) or conjecture maps (Sandoval, 2013)
* Methodological rigor (e.g. validity, reliability, credibility, trustworthiness)
* Overall contributions to scientific understanding and relevance to practice (Gutiérrez & Penuel, 2014)

Finally, submissions will be characterized for their stage of development. The final paper set will include papers that were highly ranked and ideally, as a set, represent a variety of EDR phases across different stages of project maturation.

**Submission instructions**

*NOTE: When submitting manuscripts, please note in ‘Comments for the Editor’ that it should be considered for the special issue on Educational Design Research.*

Proposals should be submitted through the AJET online submission system (http://ascilite.org.au/ajet). Please go to ABOUT to consult the author guidelines prior to submission for information about the required format. Information about peer review criteria is also linked from the ABOUT page.

**Deadlines for authors**

28 February, 2015: Deadline for submission of full manuscripts

27 April, 2015: Decisions / reflections on submitted papers sent to authors

26 June, 2015: Revised manuscripts due

24 July, 2015: Final manuscripts due for publication in October 2015 Special Issue

**References**

Agyei, D. D., & Voogt, J. (2011). Exploring the potential of the Will Skill Tool model in Ghana: Predicting prospective and practicing teachers’ use of technology. *Computers & Education, 56*(1), 91-100.

Bakah, M. A. B., Voogt, J. M., & Pieters, J. M. (2012). Advancing perspectives of sustainability and large-scale implementation of design teams in Ghana's polytechnics: Issues and opportunities. *International Journal of Educational Development, 32*(6), 787-796.

Barab, S., & Squire, K. (2004). Design-based research: Putting a stake in the ground. *The Journal of the Learning Sciences*, *13*(1), 1-14.

Baughman, M. (2008). The influence of scientific research and evaluation on publishing educational curriculum. In T. Berry & R. M. Eddy (Eds.), Consequences of No Child Left Behind for educational evaluation. *New Directions for Evaluation, 117*, 85-94.F

Bell, P., Hoadley, C. M., & Linn, M. C. (2004). Design-based research in education. *Internet Environments for Science Education,* 73-85.

Bichelmeyer, B., Boling, E., & Gibbons, A. (2006). Instructional design and technology models: Their impact on research and teaching in instructional design and technology. In *Educational Media and Technology Yearbook*, Vol. 29, edited by M. Orey, V. J. McClendon, and R. M. Branch, pp. 23–43. Westport, CN: Libraries Unlimited.

Cobb, P., Confrey, J., diSessa, A., Lehrer, R., & Schauble, L. (2003). Design experiments in educational research. *Educational Researcher, 32*(1), 9-13.

Dede, C. (2004). If design-based research is the answer, what is the question? A commentary on Collins, Joseph, and Bielaczyc; diSessa and Cobb; and Fishman, Marx, Blumenthal, Krajcik, and Soloway in the JLS Special Issue on Design-Based Research. *The Journal of the Learning Sciences*, 13(1), 105-114.

Gutiérrez, K. D., & Penuel, W. R. (2014). Relevance to practice as a criterion for rigor. *Educational Researcher, 43*(1), 19-23.

Herrington, J., & Oliver, R. (2000). An instructional design framework for authentic learning environments. *Educational Technology Research and Development, 48*(3), 23-48.

Ley, T., Cook, J., Dennerlein, S., Kravcik, M., Kunzmann, C., Pata, K., Purma, J., Sanders, J., Santos, P., Schmidt, A., Al-Smadi, M., & Trattner, C. (2014). Scaling informal learning at the workplace: A model and four designs from a large‐scale design‐based research effort. *British Journal of Educational Technology, 45*(6), 1036-1048*.*

Lucero, M., Valcke, M., & Schellens, T. (2013). Teachers' beliefs and self-reported use of inquiry in science education in public primary schools. *International Journal of Science Education, 35*(8), 1407-1423.

McKenney, S., & Reeves, T. C. (2013). Systematic review of design-based research progress: Is a little knowledge a dangerous thing? *Educational Researcher, 42*(2), 97-100.

McKenney, S., & Reeves, T. C. (2012). *Conducting Educational Design Research*. London : Routledge.

McKenney, S., & Reeves, T. C. (2014). Educational design research. In Spector, J. M., Merrill, M. D., & Elen, J. (Eds.), *Handbook of Research on Educational Communications and Technology*, 4th ed. Lawrence Erlbaum Associates: New York

Nieveen, N., McKenney, S., & van den Akker, J. (2006). Educational design research: The value of variety. In J. Van den Akker, K. Gravemeijer, S. McKenney & N. Nieveen (Eds.), *Educational Design Research* (pp. 151-158). London: Routledge.

Penuel, W. R., Fishman, B. J., Cheng, B. H., & Sabelli, N. (2011). Organizing research and development at the intersection of learning, implementation, and design. *Educational Researcher, 40*(7), 331-337.

Raval, H., McKenney, S. & Pieters, J. (2010). A conceptual model for supporting para-teacher learning in an Indian NGO. *Studies in Continuing Education 32*(3), 217-234.

Reeves, T. (2011). Can educational research be both rigorous and relevant? *Educational Designer, 1*(4). Retrieved from http://www.educationaldesigner.org/ed/volume1/issue4/article13

Reeves, T. C., Herrington, J., & Oliver, R. (2005). Design research: A socially responsible approach to instructional technology research in higher education. *Journal of Computing in Higher Education, 16*(2), 96-115.

Reimann, P. (2011). Design-based research. In *Methodological Choice and Design* (pp. 37-50). Springer Netherlands.

Richey, R. C., & Klein, J. D. (2014). Design and development research. In *Handbook of Research on Educational Communications and Technology* (pp. 141-150). Springer New York.

Sandoval, W. (2013). Conjecture mapping: an approach to systematic educational design research. *Journal of the Learning Sciences*, 23(1), 1-19.

Shavelson, R. J., Phillips, D. C., Towne, L., & Feuer, M. J. (2003). On the science of education design studies. *Educational Researcher, 32*(1), 25 -28.

van den Akker, J., Gravemeijer, K., McKenney, S., & Nieveen, N. (2006). Introducing Educational Design Research. In J. Van den Akker, K. Gravemeijer, S. McKenney & N. Nieveen (Eds.), *Educational Design Research* (pp. 3-7). London: Routledge.

Winn, W. (2003). Research methods and types of evidence for research in educational technology. *Educational Psychology Review, 15*(4), 367-373.