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Moving forward with Digital Badges

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This symposium is based on a recently published edited volume "Foundations of Digital Badges and Micro-Credentials" which aims to provide insight into how digital badges may enhance formal and informal education by focusing on technical design issues including organizational requirements, instructional design, and deployment. All panel members are contributors to the edited volume and will share their perspectives on (1) digital badges' impact on learning and assessment, (2) digital badges within instructional design and technological frameworks, and (3) the importance of stakeholders for the implementation of digital badges.

Keywords: Digital badges, learning design, technology integration, micro-credential, assessment

Digital Badges in Education

Digital Badges represent a valid indicator of specific achievements, knowledge, skills, and competencies that can be earned in formal and informal learning environments. They are an opportunity to recognize such achievements through credible organizations that can be integrated in traditional educational programs but can also represent experience in informal contexts or community engagement. Digital Badges are a relatively new technology and therefore acceptance depends on the reputation of the issuer, the level of quality control, and the design and implementation in learning environments. They offer a form of recognition of learning, with a focus on qualifications like problem-solving, self-management. They are flexible, which supports individual learning achievements and they can provide information to relevant stakeholders when they are digitally linked with user profiles or shared in social networks. But implementing digital badges in learning environments can be challenging, because different forms of assessment and awards processes require new forms of instruction and a clear understanding of learning outcomes.

Format, Strategies, Audience

This symposium is based on a recently published edited volume "Foundations of Digital Badges and Micro-Credentials" (Ifenthaler, Bellin-Mularski, & Mah, 2016) which aims to provide insight into how digital badges may enhance formal and informal education by focusing on technical design issues including organizational requirements, instructional design, and deployment. All panel members (see below) are contributors to the edited volume and will share their perspectives on (1) digital badges' impact on learning and assessment, (2) digital badges within instructional design and technological frameworks, and (3) the importance of stakeholders for the implementation of digital badges. The audience will be invited to contribute to the discussion toward future research initiatives. Dirk Ifenthaler will provide an overview on the four major parts of the edited volume: (I) Theoretical Foundation of Digital Badges, (II) Technological Frameworks and Implementation, (III) Learning and Instructional Design Considerations, and (IV) Case Studies: Practices and Experience (Ifenthaler et al., 2016). Melinda Lewis will offer a philosophical look at the place of digital badges in professional learning degrees, in the contemporary, globalised university and for graduates entering a complex, uncertain world of work (Lewis & Lodge, 2016). We focus on the potential paradox of micro-credentialing higher-order qualities of professional becoming, informed by Jason Lodge's research in the Science of Learning Research Centre, at

the University of Melbourne. A summary of use cases which has been developed by Deborah West and Alison Lockley will be used to prompt discussion and ideas related to potential applications (West & Lockley, 2016). The impact on learning and assessment will differ considerably according to the way digital badges are used which can vary considerably from focusing on a task or concept within a unit of study through to the program level and well beyond to non-accredited/extra-curricular activities. David Gibson, presenting collaborative research with Kathryn Coleman and Leah Irving, will outline three primary roles of digital badges for supporting learning journeys in higher education: bringing *visibility and transparency* to learning, teaching and assessment; *revealing meaningful, identifiable and detailed aspects of learning* for all stakeholders; and providing *a new mechanism to recognize skills, experience and knowledge* through an open, transferable, stackable technology framework (Gibson, Coleman, & Irving, 2016).

Biographies of Panel Members

David Gibson 	Associate Professor David Gibson (david.c.gibson@curtin.edu.au), Curtin University's Director Learning Futures, is an educational researcher, professor, learning scientist and technology innovator. His research focuses on learning analytics, complex systems, web applications and the future of learning, and the use of technology to personalize education via cognitive modeling, design and implementation. He is creator of simSchool, a classroom flight simulator for preparing educators, and eFolio an online performance-based assessment system. He provides vision and sponsorship for Curtin University's Challenge, a mobile, game-based learning platform.
Dirk Ifenthaler 	Professor Ifenthaler's (dirk@ifenthaler.info) research focuses on the intersection of cognitive psychology, educational technology, learning science, data analytics, and computer science. His research outcomes include numerous co-authored books, book series, book chapters, journal articles, and international conference papers, as well as successful grant funding in Australia, Germany, and the USA – see Dirk's website for a full list of scholarly outcomes at www.ifenthaler.info. He is editor-in-chief of the Springer journal *Technology, Knowledge and Learning* (www.springer.com/10758).
Melinda Lewis 	Melinda Lewis (melinda.lewis@sydney.edu.au) is an academic developer in the Educational Innovation team at the University of Sydney. Her work has centered on the design, development and evaluation of health professional learning degrees, informed by health information science, the learning sciences and the sociology of education. Melinda currently coordinates projects supporting a university-wide strategy to connect cultural competence to curriculum.
Deborah West 	Associate Professor Deborah West (Deborah.West@cdu.edu.au) BA, MSW, PhD) is the Director of Learning and Teaching at Charles Darwin University. She has over 20 years of experience in higher education in a variety of roles prior to her current position including as a lecturer, Head of School and Associate Dean Learning and Teaching. In recent years her research work has been in the areas of technology mediated learning, learning analytics and academic leadership with numerous publications and nationally funded research projects.

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