Submissions Abstract Book - All Papers (Included Submissions)

0209

Designing together: The role of collaborative and multidisciplinary teams in designing for online learning

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Research Domain: Academic practice, work, careers and cultures (AP)

Abstract:

A collaborative approach to online learning design, where Higher Education (HE) educators work in partnership with professional staff has become a mechanism for developing high quality online learning environments. Collaborative design has been viewed as an authentic and situated activity that can contribute to educators' professional development (Voogt et al., 2015; Kali et al., 2018; Pieters et al., 2019; Sharpe & Armellini, 2020). Although there is a strong theoretical basis for the later position, the empirical base has been limited. This study aimed at filling this gap by employing Engeström's (1999) 3rd generation Cultural-Historical Activity Theory (CHAT) and McKenney's et. al. (2015) ecological framework. Interview and observational data were collected from 5 multidisciplinary design teams from 4 UK-based universities in which educators were novices to online learning. Results show that educators 1) cultivated productive design habits of mind and skills, 2) rethought pedagogy for an online learning context, and 3) developed their learning technology awareness and skills. Lessons drawn from this study can contribute to the improvement of collaborative design for online learning.

Paper: Introduction

The design and provision of fully online and blended programmes by universities has gained traction, as a strategic move towards education that is flexible and maximises students' learning opportunities. The necessity of online learning due to the COVID-19 pandemic saw the majority of educators designing remote learning and teaching, making it mainstream (Rapanta et al., 2020). Design is a crucial activity putting the educator on the front line of decision-making with a direct impact on student learning. However, literature highlights that educators may have outdated or insufficient design, pedagogy, technical knowledge and skills, limited time and resources to productively engage with the development of pedagogically sound online learning (Kilgour et al., 2019).

A collaborative approach to learning design could be a two-pronged mechanism that develops high quality learning and teaching and educators' own learning (Voogt, Pieters & Handelzalts, 2016). However, the literature shows that usually, unsupported educators engage in troubleshooting and surface level discussions, typically based on tacit knowledge (Gast, 2018; McKenney et al. 2016; Boschman, McKenney, & Voogt, 2015), rendering opportunities to learn through collaboration. A

mechanism that has a better potential to support this twin goal is partnering of educators with professional staff and/or students (Sharpe & Armellini, 2020). University professional staff add their expertise – among others –to facilitate the design process, introduce new approaches, and assist with technology integration. This is important as the enhancement of educators' pedagogic capacity may lead to sustainability of change (Bennett et al., 2018).

Although there are several studies that highlight educators' pedagogical and design capacity building through collaborative design in HE (e.g. Burrell et al., 2015; Horton et al., 2016; McInnes, Aitchison & Sloot, 2020), these studies do not offer details of what this entails. To address this gap, this study examined how the situated design activity of educators in collaboration with professional staff may enhance both their practice and development.

Theoretical framing

Engeström's (1999) 3rd generation CHAT was used as the main theoretical framework. It contextualises the activity of collaborative design and provides a set of attributes such as multivoicedness, historicity, contradictions and expansive learning that framed the interpretation of this investigation. McKenney's et. al. (2015) ecological framework added a further analytical lens by emphasising the required knowledge for educators to productively engage in learning design.

Methodology

This research employed a qualitative multiple case study design (Yin, 2009). Data were collected from 5 design teams from 4 UK-based universities that were involved in ongoing cycles of online learning design and teaching. Semi-structured one-to-one interviews (n=26) with 13 participants (7 new to online learning HE educators, 4 learning designers, 1 learning technologist and 1 media producer) were conducted in two stages; before/during and after the development of online modules. Non-participant observations of design meetings were conducted as a further data source. Since the focus of this study was on educators' learning as a result of collaborative design, the unit of analysis was individual educators. The interviews with professional staff and observations were analysed as secondary data to allow for richer contextual understanding and interpretations. Thematic analysis was adopted (Braun & Clarke, 2006) as the overarching analysis method, following both within-case and cross-case analyses (Miles & Huberman, 1994). Data collected from each case study were analysed separately, and individual case themes and descriptions were tabulated in a matrix to facilitate comparison across the 5 cases. Common patterns and unique features were identified that led to the final themes.

Findings

Overall, participants expressed that the experience of collaborative online learning design could act as a "blueprint" for their future design practices. The key themes that emerged were:

1. Cultivation of productive design habits of mind and skills in relation to: a) design process and efficiency, b) development of individual and collective design cognitive and metacognitive skills, c) awareness of stakeholder and community expertise for future work and d) leadership.
2. Rethinking pedagogy for online learning. This entailed pedagogic enhancement at a conceptual level through normalising online learning, but also, at a practice-level, by adopting new pedagogic approaches that were more holistic, inclusive and student-centered. Envisioning of future practice towards blurred boundaries of learning modes was also alluded to among participants.
3. Growth in learning technology awareness and skills.

Mechanisms that appeared to support educators' learning through deliberate actions of decision-making and reflection included:

- a scaffolded, intensive, material-mediated design process,
- theory-informed discussions through questioning, ongoing feedback cycles and opportunities for reasoning and justification of decisions and
- modelling of practice

These findings can offer insights into what may be the benefits from collaborative design efforts as well as what it takes to engage productively in online learning design activities. Importantly, they may inform practice of professional staff (e.g. learning designers/technologists) and academic developers and decisions of leadership as they offer empirical perspectives that have the potential to assist with thinking towards educational sustainability.

References:

References

Boschman, F., McKenney, S., & Voogt, J. (2015). Exploring teachers' use of TPACK in design talk: The collaborative design of technology-rich early literacy activities. *Computers & Education*, *82*, 250-262.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative research in psychology*, *3*(2), 77-101.

Burrell, A. R., Cavanagh, M., Young, S., & Carter, H. (2015). Team-based curriculum design as an agent of change. *Teaching in Higher Education*, *20*(8), 753-766.

Engeström, Y. (1999). Activity theory and individual and social transformation. *Perspectives on activity theory*, *19*(38), 19-30.

Gast, I. (2018). *Team-based professional development: possibilities and challenges of collaborative curriculum design in higher education*. University of Twente.

Horton, E., Cunningham, J., Gomez, L. M., Gomez, K., & Rodela, K. (2016). Opportunities to Learn Through Design: Mapping Design Experiences to Teacher Learning. Singapore: International Society of the Learning Sciences.

Kali Y., Eylon BS., McKenney S., & Kidron A. (2018) Design-Centric Research-Practice Partnerships: Three Key Lenses for Building Productive Bridges Between Theory and Practice. In: Spector M.,

Lockee B., Childress M. (eds) Learning, Design, and Technology. Springer, Cham. https://doi.org/10.1007/978-3-319-17727-4_122-1

Kilgour, P., Reynaud, D., Northcote, M., McLoughlin, C., & Gosselin, K. P. (2019). Threshold concepts about online pedagogy for novice online teachers in higher education. *Higher Education Research & Development*, *38*(7), 1417-1431.

McInnes, R., Aitchison, C., & Sloot, B. (2020). Building Online Degrees Quickly: Academic Experiences and Institutional Benefits. *Journal of University Teaching and Learning Practice*, *17*(5), 2.

McKenney, S., Kali, Y., Markauskaite, L., & Voogt, J. (2015). Teacher design knowledge for technology enhanced learning: an ecological framework for investigating assets and needs. *Instructional science*, *43*(2), 181-202.

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook*. Sage.

Pieters, J., Voogt, J., & Pareja Roblin, N. (2019). *Collaborative curriculum design for sustainable innovation and teacher learning*. Springer Nature.

Rapanta, C., Botturi, L., Goodyear, P., Guàrdia, L., & Koole, M. (2020). Online university teaching during and after the Covid-19 crisis: Refocusing teacher presence and learning activity. *Postdigital Science and Education*, *2*(3), 923-945.

Sharpe, R., & Armellini, A. (2020). Designing for learning within an organisational context. *Rethinking Pedagogy for a Digital Age*, 134-148.

Voogt, J. M., Pieters, J. M., & Handelzalts, A. (2016). Teacher collaboration in curriculum design teams: Effects, mechanisms, and conditions. *Educational Research and Evaluation*, *22*(3-4), 121-140.

Voogt, J., Laferriere, T., Breuleux, A., Itow, R. C., Hickey, D. T., & McKenney, S. (2015). Collaborative design as a form of professional development. *Instructional science*, *43*(2), 259-282.

Yin, R.K. (2009) Case Study Research: Design and Methods. 4th edition. California, Sage.