

The Activity-Centred Analysis and Design framework – learning to connect theory, design and practice

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The Activity-Centred Analysis and Design framework has been used to analyse and design a broad range of complex learning situations in universities, schools, museums, and informal settings. This workshop is an invitation to practically engage in innovative educational design, considering how an assemblage of elements – learning tasks, digital and material resources, and people – can be brought together to support productive learning activity. Participants will discuss the application of pedagogical concepts using a set of cards that were specifically created to prompt conversations about design for learning. Working in groups, participants will consider how their design choices align across scale levels, accommodate socio-cultural and socio-material approaches to learning, and support connection, collaboration and choice across diverse cohorts. The face-to-face half-day workshop will introduce participants to core ideas of the ACAD framework and wireframe, and a series of hands-on design challenges.

Keywords: Learning activity, Educational design, Design for learning, Teaching-as-design

Objectives of the Workshop

The Activity-Centred Analysis and Design (ACAD) framework (Goodyear et al., 2021; Goodyear & Carvalho, 2014) is an architecturally inspired framework that has been used in the fine-grained analysis of many learning situations, and in supporting the work of educational design teams (Buckingham Shum et al., 2019; Bullow, 2022; Green, 2022; Rungnava et al., 2018; Tietjen et al., 2021; Wilson, 2022; Yeoman, 2018). Drawing on the ACAD framework, this workshop is designed to facilitate discussions about educational concepts amongst groups of educators (Yeoman & Carvalho, 2019) who may, or may not, have had previous training in educational design. A key aim of the workshop is to help participants make the subtle but crucial distinction between what is open to alteration through design, or within our control, and what is not. Thereby focusing attention on a broad range of actionable pedagogical possibilities across three dimensions of design, and considering how aspects of each might influence a fourth—emergent learning activity—that is not within the realm of our control. The four dimensions of the framework are as follows:

- set design - the material and digital resources available to learners,
- epistemic design - learning tasks or suggestions of useful things to do,
- social design - social arrangements of learners, such as groups, pairs and,
- co-creation and co-configuration activity - the emergent learning activity on the day that is not designable (see Goodyear & Carvalho, 2014).

The workshop provides time and space for participants to connect theory, design and practice using the ACAD Toolkit to analyse a design challenge and work towards a potential resolution (Yeoman, 2018; Yeoman & Carvalho, 2019). The toolkit includes a deck of cards comprising four colour coded sets, one representing key learning theories and the other three the designable dimensions of the framework (set, epistemic, and social). The cards are used in conjunction with the wireframe, as a space where elements from the four decks can come together. Participants will work in groups, whilst considering how to ensure that design choices are coherent across scale levels, how to accommodate socio-cultural and socio-material approaches to learning, and how to create designs that address students' connections, support autonomy and collaboration, diversity and choice. The workshop will be co-hosted as face-to-face half-day session, which will include a short presentation

to introduce participants to core ideas of the framework and the wireframe. Participants will then work in groups to analyse scenarios and to jointly discuss a specific design challenge.

Detailed Description of Workshop Activities

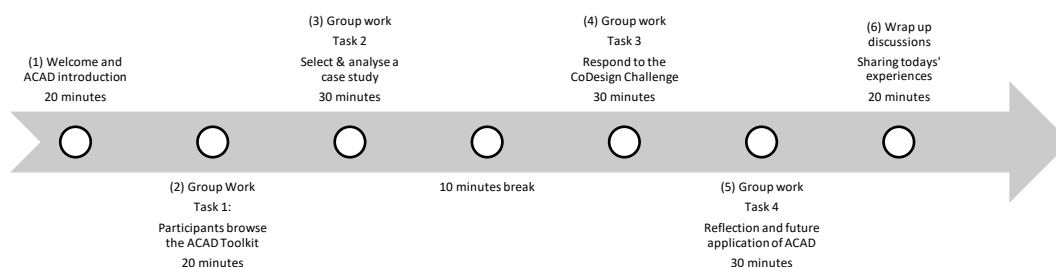


Figure 1: ASCILITE ACAD Workshop Process

1. *Welcome and Introductions* – includes a whole group presentation of the framework and wireframe
2. *Group Task 1* – participants are introduced to the ACAD Toolkit and complete a task designed to get participants familiar with the cards and wireframe. This task focuses on opportunities for exploring terms used on the ACAD cards with respect to familiarity, relevance, fit within context etc., to elicit discussions about participant's values and beliefs about learning.
3. *Group Task 2* – participants start to connect theory and practice, exploring how to use the cards with the help of the ACAD wireframe and mapping concepts to a short case study scenario. This task focuses on encouraging participants to come to a shared consensus about a learning theory, and to clearly articulate that theory, to then trace correspondence or dissonance across dimensions of design and scale levels.
4. *Group Task 3* – building on Task 2, this task will involve a related design challenge. Participants will be encouraged to change an aspect of the original case study, proposing an innovation in response to a challenge. For example, how a change in mode from f2f to online, may be addressed through on an online scenario – where the focus is on maintaining connections between students).
5. *Group Task 4* – participants engage in a structured reflection considering how the ACAD toolkit could be applied in their own contexts. They reflect on their own the process and consider future alternative applications.
6. *Wrap up discussion* – all participants share their group experiences

Intended Audience and Logistics

Educational Researchers, Learning Designers, Educators and Postgraduate Students interested in design for learning. The workshop will run with a minimum of 8 and a maximum of 20 participants.

We will need a collaborative flexible learning space that incorporates areas for small teams' discussions. People will work together towards a common goal but will also come together as a whole group. A room computer and projector for presentation, and Internet connection will also be required.

References

- Buckingham Shum, S., Echeverria, V., & Martinez-Maldonado, R. (2019). The Multimodal Matrix as a Quantitative Ethnography methodology. In B. Eagan, M. Misfeldt, & A. Siebert-Evenstone (Eds.), *Advances in Quantitative Ethnography : First International Conference, ICQE 2019 Madison, WI, USA, October 20–22, 2019 Proceedings* (pp. 26-40). (Communications in Computer and Information Science; Vol. 1112). Springer. https://doi.org/10.1007/978-3-030-33232-7_3
- Bülow, M.W. (2022). Designing Synchronous Hybrid Learning Spaces: Challenges and Opportunities. In Gil, E., Mor, Y., Dimitriadis, Y., Köppe, C. (Eds.) *Hybrid Learning Spaces. Understanding Teaching-Learning Practice*. Springer. https://doi.org/10.1007/978-3-030-88520-5_9
- Green, J.K. (2022). Designing Hybrid Spaces for Learning in Higher Education Health Contexts. *Postdigital Science and Education* 4(1), 93–115. <https://doi.org/10.1007/s42438-021-00268-y>

- Goodyear, P., & Carvalho, L. (2014). Framing the analysis of learning network architectures. In L. Carvalho & P. Goodyear (Eds.) *The architecture of productive learning networks* (pp. 48–70). Routledge.
- Goodyear, P., Carvalho, L. & Yeoman, P. (2021). Activity-Centred Analysis and Design (ACAD): Core purposes, distinctive qualities and current developments. *Education Technology Research & Development*, 69, 445–464. <https://doi.org/10.1007/s11423-020-09926-7>
- Rungnava, P., Markauskaite, L. & Goodyear, P. (2018). Actionable recommendations for redesigning a pre-clinical dental course: Simulations and students' perceptions of epistemic setting. In M. Campbell, J. Willems, C. Adachi, D. Blake, I. Doherty, S. Krishnan, S. Macfarlane, L. Ngo, M. O'Donnell, S. Palmer, L. Riddell, I. Story, H. Suri & J. Tai (Eds.), *Open Oceans: Learning without borders*. Proceedings ASCILITE 2018 Geelong (pp. 243-252).
- Tietjen, P., Bekiroglu, S.O., Choi, K., Rook, M.M., & McDonald, S.P. (2021). Three sociomaterial framings for analysing emergent activity in future learning spaces. *Pedagogy, Culture & Society*, 1-20. <https://doi.org/10.1080/14681366.2021.1881593>
- Wilson, S. (2022). A Musical Lens on Spatial Representations of Form to Support Designers and Teachers using Hybrid Learning Spaces. *Postdigital Science and Education*, 4(1), 177-200. <https://doi.org/10.1007/s42438-021-00262-4>
- Yeoman P. (2018). The material correspondence of learning. In R. Ellis, & P. Goodyear (Eds.) *Spaces of Teaching and Learning. Understanding Teaching-Learning Practice*. Springer. https://doi.org/10.1007/978-981-10-7155-3_6
- Yeoman, P., & Carvalho, L. (2019). Moving between material and conceptual structure: Developing a card-based method to support design for learning. *Design Studies*, 64, 64-89. <https://doi.org/10.1016/j.destud.2019.05.003>

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