These slides were prepared to accompany a talk at the AECT Convention, 2-7 November 2020. ([https://aect.org](https://aect.org))

Conference theme: “Towards Culturally-Situated Learning Design and Research”.

The talk was an invited presentation, associated with AECT’s ETR&D Distinguished Development Awards.

There’s also a paper, introducing and summarizing some recent work on ACAD. It’s currently under review with ETR&D.


Additional references to the ACAD literature can be found towards the end of this slide deck.
It’s a great pleasure to be able to thank AECT and the team at ETR&D for this award.

I’m a Professor of Education at the University of Sydney in Australia, but the best short description of what I’ve been doing for the last 40 years is “Research and Development work in Educational Technology”. So, it’s a delight to get this recognition from ETR&D.

Although I’ve not been able to get to many AECT conventions, the association and it’s journal have played a significant role in my professional life. I’ve published chapters in the Handbook, gave a keynote at the 2009 convention in Louisville and my most highly-cited paper appeared in ETR&D in 2001. So – I’m very grateful to the AECT community, to Lin Lin as editor of the Development section of ETR&D and especially to my friend and colleague Mike Spector, who has sent so many opportunities my way.

Thank you all.
Much of my R&D work takes place in higher education (university) settings. This image helps situate what I do. It also helps establish some shared terminology – which is important at an American convention, because we sometimes use different labels for the roles involved in what I’m calling the “HE value chain”.

In my research, I tend to focus on what’s happening at the interface between university teachers’ (“professors””) work and the work of those who (from time to time) give them professional support and advice – instructional designers, academic developers and so on.

There are, of course, other paths from research to improvement in HE – including through the creation of better learning environments, new tools for students to use, etc.

I’ve done some of that, but the work I’m talking about today – around ACAD – fits best in specific situations, where teachers are focused on course/curriculum design and enhancement work and educational development/instructional design personnel are supporting them.
Let’s use the shorthand term ‘teaching-as-design’ to highlight the ‘upstream’ planning, preparation, design and redesign work that (university) teachers do, from time to time. I want to distinguish this from ‘live’ interactive teaching – what teachers do on the fly with students ‘at learntime’. We can also distinguish some ‘downstream’ work, which comes after a live learning events – ‘post-active’ teaching, reflection, evaluation, etc.

This retrospective analytic work feeds back round into (re)design and enhancement, often on an annual cycle.

ACAD can best be understood as an attempt to (a) provide better tools, ideas and other resources for ‘teaching-as-design’ informed by (b) empirical research into how university teachers and professional educational designers do what they do.


ACAD offers ideas - ways of focusing thinking and discussion - for “Teaching as Design” work.
It’s good to be able to talk about ACAD in the context of this year’s convention – particularly with the theme of “Culturally-Situated Learning Design and Research”.

I’ve taught methods of instructional systems design and development since the late 80s. It’s easy to drift off into the world of abstractions, idealized models and simplified, step-by-step processes.

ACAD tries to keep a tighter grip on the real world, of specifics, local settings, actual courses, real students, time-strapped teachers, finite resources, incomplete knowledge. Real educational work is always already situated.

ACAD doesn’t specify a process model or a theory of learning.

It is, perhaps, most appropriate for the enhancement of courses, curriculum, learning spaces, etc that already exist. It fits in a cycle of improvement, in which analysis of how an existing system functions feeds forward into (re)design and iterative improvement/adaptation.
There are many ways of representing the essence of ACAD – developed over the last 20 years or so – but I’ll use this image now. (Thanks to Cristina Garduño-Freeman, for the original graphic.) There’s a short (3 minute) animated video that explains ACAD, so I won’t say much about it here.

A point I should make concerns the origins of this way of thinking about learning activity as emergent – not directly designable, but open to influence through design. In the UK in the late 90s, I was trying to work out why investment in the development of computer-assisted learning resources for higher education had not been a success and the simple answer was that university students rarely do what they are told. I tidied this diagnosis up into a theory about ‘the decline of the compliant learner’. Jan Elen has written along similarly lines in a recent ETR&D paper.


Elen, J 2020, ‘“Instructional disobedience”: a largely neglected phenomenon
deserving more systematic research attention', *Educational Technology Research And Development*, pp. 1-12.
So, it’s (perhaps) easiest to see the point of ACAD when we think about ‘use cases’ in which (a) students are engaged in collaborative learning activities (emphasis on ‘active learning’, ‘learning by doing’ etc) and (b) supervision of what they are doing is light or non-existent.

In resource-constrained UK and Australian universities, which often have very large classes and poor teacher-student ratios, student learning activity of this kind is rarely supervised closely. Students take on responsibility for deciding how to tackle a task, how to manage (or divide up) the work, what tools and resources to use, etc. In other words, group self-regulation is important. How students frame the task, and decisions they subsequently take to co-configure the task, working environment etc, have consequences for what is done and therefore what can be learned.

Once this kind of ‘use case’ is accepted as representative of a recognizable class of valued learning activities – starting to establish the relevance of ACAD – one might also say that, actually, teachers rarely have close knowledge of what students are doing/thinking at “learntime”. ACAD is of potential value in all circumstances where the teacher’s ability to redirect work on the basis of clear insights into what students are doing/thinking is limited.
Insert the ACAD video here

https://player.vimeo.com/video/302378219
The distinction between (a) what is designed and (b) what actually eventuates at “learntime” means that ACAD can be said to involve a dual ontology: what look like the same phenomena exist differently.

At “learntime” the core phenomena are real and can be tightly entangled (hard to separate out). Actual learning outcomes are causally dependent on learning activity. Tasks and physical affordances help shape activity. Causation is uni-directional.

At “design time” the core phenomena are imagined and are analytically separable. Learning outcomes are intended, not (yet) actual. Design thinking involves reasoning back and forth about relations.
Turning to some recent developments, these next few slides illustrate work by Lucila Carvalho and Pippa Yeoman, using some core ACAD ideas to create a design toolset, based primarily on the use of cards.

In this version, there are four kinds of cards – blue cards refer to elements of educational philosophy and theories of learning and the other three kinds of cards refer to designable elements of the kind we saw in the video: yellow for tasks (epistemically oriented), green for physical (set design) and orange for social design.

These cards can be used in a variety of ways, but we recommend them for use when aspects of an existing course and/or learning space are being redesigned and when several people (teachers and educational designer/developers) are working together and discussing how the existing arrangements work and what might it might be possible and beneficial to change. Pippa and Lucila have written this up in:

Yeoman, P & Carvalho, L 2019, 'Moving between material and conceptual structure—developing a card-based method to support design for learning', Design Studies, vol. 64, pp. 64-89.
This shows a subset of the ACAD cards being laid out on the ACAD design image that we saw in the video.

Among other things, the aim here is to provide visual scaffolding for joint discussion, design reasoning and decision-making.
This shows cards laid out across a ‘student autonomy-task complexity’ grid.

The student autonomy vs task complexity grid is useful for teams involved in curriculum or learning space redesign. It invites candid conversations about educational aspirations and practical enactment in the classroom. For example, if we are redesigning space to support team-based learning, are we prepared to redesign our curriculum to support increased student autonomy?
Another kind of visual scaffold, developed by Pippa Yeoman and tested out by her Stephanie Wilson and Lucila Carvalho is this ‘wireframe’.

It’s based on some distinctions I made in an early paper on scale and nesting of designs – rendered here in terms of macro, meso and micro scale levels.

Goodyear, P. 1999, Pedagogical frameworks and action research in open and distance learning. European Journal of Open, Distance and E-Learning, 1–7


Yeoman, P & Carvalho, L 2019, 'Moving between material and conceptual structure—developing a card-based method to support design for learning', Design Studies, vol. 64, pp. 64-89

Yeoman, P & Wilson, S 2019, 'Designing for situated learning: Understanding the relations between material properties, designed form and emergent learning activity',

<table>
<thead>
<tr>
<th>Philosophy or high-level pedagogy</th>
<th>SET DESIGN</th>
<th>EPISTEMIC DESIGN</th>
<th>SOCIAL DESIGN</th>
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<tr>
<td></td>
<td>Learning is...</td>
<td>Learning is...</td>
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<tr>
<td>MACRO The global Level 1 patterns</td>
<td>Buildings &amp; technology e.g. digital &amp; physical infrastructure</td>
<td>Stakeholder values e.g. forms of knowledge production &amp; sharing</td>
<td>Organisational structures e.g. hierarchal or networked</td>
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<tr>
<td>MESO The local Level 2 patterns</td>
<td>Allocation or use of space &amp; technology e.g. availability &amp; access</td>
<td>Curriculum e.g. unit of study, program or degree</td>
<td>Community e.g. school, faculty, cohort or club</td>
</tr>
<tr>
<td>MICRO The detail Level 3 patterns</td>
<td>Artifacts, tools &amp; resources e.g. clock, BYOD &amp; furnishings</td>
<td>Selection, sequence &amp; pace e.g. content &amp; timing of tasks</td>
<td>Roles &amp; divisions of labour e.g. facilitator, groups &amp; scripts</td>
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### ACAD: Activity-Centred Analysis and Design

**Selected reading**

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<th>ACAD Overviews</th>
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<tbody>
<tr>
<td>Goodyear, P., Carvalho, L. &amp; Yeoman, P. (under review) <em>Activity-Centred Analysis and Design (ACAD): core purposes, distinctive qualities and current developments</em>, ETR&amp;D</td>
<td></td>
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<tr>
<td>Goodyear, P., Carvalho, L., Yeoman, P., Castañeda, L. &amp; Adey, J. 2020, Una herramienta tangible para facilitar procesos de diseño y análisis didáctico: Traducción y adaptación transcultural del toolkit ACAD. (A tangible tool to facilitate design and analysis discussions: Translation and cross-cultural adaptation of the ACAD toolkit), <em>Revista de Medios y Educación</em></td>
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<th>Cards &amp; Wireframe</th>
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<td>Yeoman, P., &amp; Carvalho, L. 2019, Moving between material and conceptual structure: Developing a card-based method to support design for learning, <em>Design Studies</em>, 64, 64-80.</td>
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**Some follow-up reading**

Goodyear (1999) and Goodyear & Dimitriadis (2013) are both available in open access journals. The 1999 paper is the most accessible early introduction to ideas that resolved as ACAD. The 2013 paper lays out the main planks of the ACAD conception of design. The Carvalho & Goodyear book explains the ACAD analytic framework in Chapter 3 and presents a number of analyses in the subsequent chapters. The ETR&D paper mirrors this talk – it’s still under review, so email me if you want a copy. The paper in *Revista de Medios y Educación* summarises ACAD and some work on its cross-cultural translation in Spain and Argentina.

In addition

I’ve placed a number of papers, references etc on ACAD and design on my website here: [https://petergoodyear.net/2017/07/22/design-papers/](https://petergoodyear.net/2017/07/22/design-papers/)

There’s also a link to an interview I did with Jason Lodge and Mollie Dollinger on Teaching as Design.
**ACAD: Acknowledgments**

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Cristina Garduño-Freeman, Susan Sun, Simeon Retalis, David Ashe, Dewa Wardak, Martin Parisio,
Andy Dong, Stephanie Wilson, Chris Jones and Christine Smith.

**ACAD: Slides, links, reading**
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