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The article at right is excerpted from AECT's new *International Journal of Designs for Learning*. Please take time to consult the journal for full text of this article and much more. See the information on page 2.

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The Need for Design Cases: Disseminating Design Knowledge

Elizabeth Boling

(Editor's note: See full article for complete reference citations.)

What is a design case?

The design case is a vehicle for dissemination of precedent, direct or vicarious experience of existing designs stored as episodic memory (Lawson, 2004). Precedent is also described as "the unique knowledge embedded in a known design" (Oxman, 1994, p. 146), meaning, in everyday terms, that the memory of having experienced an existing design is a memory that contains special forms of knowledge. That knowledge includes the moves that one designer interprets another as having made in order for the design in question to have come into being, and the affordances this design offers for making such moves in the future (Norman, 2003).

Expert designers accumulate "a huge range of precedent which is stored as having affordances that might come in useful at some point in design projects" (Lawson, 2004, p. 456); they "browse freely and associatively between multiple precedents in order to make relevant connections... [this] browsing enables the discovery of new, often unanticipated, concepts" (Oxman, 1994, p. 146). Design students are expected to develop this capability via their growing appreciation of the designed world and the specific designs they experience directly or via representation. While this may sound ad hoc in situations where design is viewed as primarily scientific and systematic (Smith and Boling, 2009), it is seen as central to design expertise and learning across traditional disciplines (Brown, 2008; Eckert & Stacey, 2005).

At heart, the design case is a description of a real artifact or experience that has been intentionally designed. A case may be as minimal as an individual image

of a commercial product, a building, an advertisement, a classroom or anything else designed; these forms of design cases appear in hundreds of magazines, design annuals, competition catalogs, display books, web portfolios and similar venues. A case may also be as comprehensive as a full-length book tracing the inception of an idea through the process of design to the use and the ultimate destruction of the artifacts (Glanz & Lipton, 2003).

How are design cases used?

The use of precedent as a design activity is characterized by a particular combination of qualities. Some of these are shared with the use of other forms of knowledge and some are not. Together these qualities determine much of what must be considered in the production of design cases as a distinct form of knowledge dissemination.

Precedent use is proactive versus reactive. Designers develop the habit of observing and mentally storing episodic memories, or physically storing materials, in advance of any consciously perceived need. While a designer might encounter a situation in which it is appropriate to seek specific examples of existing designs and mine them for their potential contributions to the project at hand, the expert designer continually observes the designed world...from the perspective of its ability to offer solutions that may come in useful someday, even when the particular future use is not yet known. This is a form of disciplined "preparation for action" (Stolterman, 2008).

Designers use precedent in a synthetic versus a linear manner. In addition to noting and storing precedent opportunistically, or proactively, in advance of possible need, designers draw upon that store of knowledge synthetically when they bring it into play.

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AECT Mission

The mission of the Association for Educational Communications and Technology is to provide international leadership by promoting scholarship and best practices in the creation, use, and management of technologies for effective teaching and learning in a wide range of settings.

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- Define the disciplines and professional activities that comprise the field of educational communications and technology.
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- Advance scholarship and practice that contribute to and enlarge the knowledge base of the field.
- Promote policies that ensure the humane and ethical use of educational communications and technology at all levels, from the personal through the international.

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The Need for Design Cases: Disseminating Design Knowledge

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Specific details from an observed and remembered design may be retrieved and applied, but most precedent use is application of affordance for solutions from the episodic memories of designs to the problem space at hand in the form of a gambit, or design move (Lawson, 2004).

Use of precedent is concrete and situated versus theoretical and generalized (Goldschmidt, 1998). The primary use of precedent is not to extract disembodied “lessons learned” from previous situations and store these as rules for future designing. In practice, designers reason from cases, not from principles. This is not to imply that principles have no place in designing, or in the activity of designing, but that generalized knowledge “warn[s] designers about what cannot be altered or assure[s] them of the stabilities not worth questioning” (Krippendorf, 2006) and does not tell them what actions to take in a specific situation. Designers develop the ability to size up situations rapidly and determine the fit, if any, between the potentials embodied in precedent and the current situation (Cross, 2004; Lawson, 2004; Thomas & Carroll, 1979), but there is little, if any, evidence that they generate potential solutions based on principles or evaluate these solutions systematically against criteria or principles (Norman, 2006). There is, in contrast, reason to believe that when they do, such processes “encourage...terminologies that become

straightjackets and divert...designers’ attention from what really matter[s]” (Archer, 2004).

The use of precedent in design is also fluid versus fixed; a precedent used in one way at a given time may be used in another way later, either by different designers or by the same designer....

Summary

Precedent, in the form of design cases, is a critical component of learning and practicing design.... Precedent is used in specific ways by designers, and this use drives the characteristics of design cases. ... Growth in the number and quality of rigorous design cases offers the potential for multiple fields of design to improve development of expertise and cross-disciplinary communication, increase the perceived value of design knowledge, and build appreciation in the design community for the explanations behind moves made by their peers.

Elizabeth Boling is at Indiana University.

This excerpt is from the *International Journal of Designs for Learning* 1 (1): 1–8. Same title as this article. Read it at <http://www.aect.org/>. Full access may require regular AECT membership.

Calls for Papers, Proposals, and Participants

Call for Papers. Got a Hot Topic? A burning issue? A philosophical musing? Air your thoughts in a white paper for AECT directed at our field or our world. For more information please go to: <http://aect.org/publications/whitepapers/>.

Call for Participation. You, or someone you know, can become involved with AECT and its convention on many levels: as a volunteer, an intern, or a student mentor. Check the AECT homepage under “Get Involved!”: <http://www.aect.org/>.

AECT VoiceLine Offers New Service

The purpose of **AECT VoiceLine** is for the association to continue to be responsive to members’ wants and needs. To quote Executive Director Phil Harris, its purpose is “for AECT to be an important part of an individual’s professional life, AECT has to know what the member expects to get from membership in the organization.” We invite your valuable perspectives on issues the Board and staff are dealing with as they and you articulate the vision for the future of AECT. Go to <http://www.aect.org/Voiceline>, respond in a timely manner, be proactive, and be reflective in your responses or comments. This will be a great help in planning the future of your association.

Florida Beckons: AECT Convention and ISMF

Jacksonville, Florida, plays host this year to the AECT International Convention, November 8-12, and the International Student Media Festival (ISMF), November 10-12. Both events will be set in the Hyatt Regency Jacksonville Riverfront Hotel.

The convention theme this year is “Celebrate 3.0: Design.Learn.Community,” which promises a wealth of professional development resources and many opportunities for networking with colleagues from around the globe.

Register early—before November 8—and save \$100 off the onsite registration

fee. Visit the AECT website to register online: <http://www.aect.org/>.

The International Student Media Festival (ISMF) will interest students, parents, teachers, media specialists, and other educators, whether they submit a media project or not. Participants do not need to be expert media producers or even know anything about media production to benefit from the many workshops, field trips, a student producer showcase, networking opportunities, an awards ceremony, and other events.

Find out more about ISMF online: <http://www.ismf.net/>.

Developing an “International Issues in ICT” Course

Ross A. Perkins

(Editor’s note: The complete *TechTrends* article provides a brief overview of a course that Perkins designed for the spring 2011 semester, which was offered as a three-credit hour elective in Boise State University’s Department of Educational Technology master’s degree program.)

Given that educational or instructional technology graduate programs are preparing students to work in a highly connected, global society, faculty should seriously consider adding a course to their curriculum that specifically examines ICT integration in educational or training contexts outside of the nation in which the course is offered. Adding a course that examines international perspectives about ICT for teaching and learning would benefit all students no matter their career trajectory, as the issues to be addressed can provide them with critical perspectives within a comparative framework.

Course Goal and Objectives

The primary purpose of the course was to explore the implementation of ICTs in selected educational systems outside of the United States. The central learning goal was for students to confidently discuss the promises and challenges of ICT integration in instructional settings in developed and developing countries, and to apply this knowledge to selected problems.

Some of the objectives of the course included:

1. Discuss issues of cultural hegemony and the digital divide
2. Explore the role that the United Nations, various non-governmental organizations (NGOs), parastatals, and nonprofit organizations play in supporting “ICT4D”
3. Describe various technology tools as they are used in international educational settings
4. Develop and use contextual knowledge to design an instructional product for a selected area of the world
5. Create a culturally neutral resource to be shared via a selected Open-CourseWare consortium
6. Discuss the aspects of diffusion of innovation as they relate to ICT implementation.

The class contained units that covered the following areas: 1) Culture, Context, and Instructional Design, 2) ICTs and Development, 3) “Old” Technologies Still in Use (ex., educational radio), 4) Exploration of a Regional Perspective, 5) Open Educational Resources, 6) Diffusion of Innovation, and 7) Mobile Technologies for Learning.

Ross A. Perkins writes a regular column, titled “ICT International,” for *TechTrends*.

Read more about this course in the September 2011 issue of *TechTrends* (Vol. 55, No. 5, 11-12). Same title as this article. Read it at <http://www.aect.org/>. Full access may require regular AECT membership.

Congratulations to our new Hong Kong affiliate! It’s official!

Keep an eye on the homepage for news as we develop an AECT conference in Asia.

<http://www.aect.org/>

Research Roundup

New Asian Open-Access Journal Provides Additional Perspectives

Asian Journal on Education and Learning (AJEL), according to its website at www.ajel.info, is an open-access journal “published in Thailand through a consortium of education institutions in Asia. The journal had its beginnings in an International Conference on the Role of Universities in Hands-On Education, held in Chiang Mai in 2009. The strong need was felt for a publication that recognized the unique contribution of hands-on or work integrated learning, distance learning, as well as working with special groups. While each country’s education system has its own distinctive features, common problems and issues are shared internationally by researchers, teachers and institutional leaders.”

At press time, two issues were available online: Vol. 1, No. 1 (January-March 2010) and Vol. 1, No. 2 (July-December 2010). Following are sample articles.

In the first issue Miriam Firth’s article, “Can Facebook Engage Students in Critical Analysis of Academic Theory?” (pp. 10-19) “presents a preliminary review of the current literature and use of technology within assessment and delivery of courses within higher education in the United Kingdom..... The study follows the aims and objectives of the MMU Shock Absorber Project: a Higher Education Academy project to support and retain the first year learner.”

Firth concludes: “Although CSCL [cognitive social collaborative learning] was termed and has been in practice since Koschmann’s original 1996 study [1], the real question will be how Facebook can be used to support peer interaction and group learning. As support within CSCL is developed and evaluated in time, it is vital for lecturers to be aware of new technologies as they will undoubtedly be embraced by the generation Y students of today’s faculty.

“A recent survey stated that 78% of students felt that external working requirements affected their study [2]. It is therefore imperative for students to access learning environments that are socially enabled and reflect their identity. With a current fan base of over 4.1 million

[3], Facebook is a distinctively preferential platform for HE [higher education] to utilise alongside assessments as it lowers barriers and allows more self-disclosure to improve collaboration in preparation for graduate employment [4].” Future results may prove interesting.

In the second issue Rainer Zawadzki’s article, “Is Process-Oriented Guided-Inquiry Learning (POGIL) Suitable as a Teaching Method in Thailand’s Higher Education?” (pp. 66-74) offers a point of view based on research. Zawadzki cites several studies and then quotes in conclusion: “Several common and important outcomes are observed in all of these studies:

- Student attrition is lower for POGIL than for traditional courses.
- Student mastery of content generally exceeds that for traditional instruction.
- Students generally prefer the POGIL approach over traditional approaches.
- Students generally have more positive attitudes about the course and the instructors.
- Student learning skills appear to improve over the semester.” [5]

Notes

1. Koschmann, T. (1996). *CSCL: Theory and practice of an emerging paradigm*. Mahwah, NJ: LEA.
2. Anderson, M. J. (2006). Degree of fit: University students in paid employment, service delivery and technology. *Australasian Journal of Educational Technology*, 22(1), 88-103. [Online] Available at <http://www.ascilite.org.au/ajet/ajet22/res/anderson.html>.
3. Facebook (2009). About Facebook, accessed on-line at: <http://www.facebook.com/srch.php?n=16780041&yr=2004&sf=f&init=s%3Aclassmate%2Fcoworker&sf=r&sid=17c5ffc92fd6c528c1aa04fae92e2a2d&nm=#/facebook?ref=pf,10/07/2009>.
4. McCarthy, J. (2009). Utilising Facebook: immersing Generation-Y students into first year university, *The Journal of the Education Research Group of Adelaide*, ISSN 1835-6850, Volume 1, Number 2, February, available online at https://www.adelaide.edu.au/erga/ergo/ergo_v1n2_p39-50.pdf, accessed on 18/07/2009.
5. Hanson, D.M. (2005). Designing process-oriented guided-inquiry activities. *Faculty Guidebook Tool for Improving Faculty* 2nd ed. Eds. D.K. Apple and S.W. Beyerlein. Lisle, IL: Pacific Crest, 305-308.

Member Access Publications

Educational Technology Research and Development

Bimonthly
ISSN: 1042-1629
(print)
ISSN: 1556-6501
(electronic)
Journal no. 11423
Springer US

TechTrends

Bimonthly
ISSN: 8756-3894
(print)
ISSN: 1559-7075
(electronic)
Journal no. 11528
Springer US

Instructional Science

An International Journal of the Learning Sciences
Bimonthly
ISSN: 0020-4277
(print)
ISSN: 1573-1952
(electronic)
Journal no. 11251
Springer Netherlands

International Journal of Designs for Learning

Quarterly
ISSN: 2159-449X
(electronic)
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Journal of Applied Instructional Design

Quarterly
ISSN: 2160-5289
(electronic)
AECT

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