

Coordinated Autonomy

Although most of us in higher education would agree there is great programmatic potential for information technology (IT) in higher education, realizing this potential beyond instrumental tasks (e.g., word processing, document exchange, information access) remains difficult. At UCLA, we have been asking whether we could better deliver on that potential by focusing on the social aspirations that underlie our programmatic goals in higher education. More specifically, the changing university reveals strong threads of individualism and autonomy but in a way that is open, public, worldwide, and fully engaged. This marriage of autonomy with connectedness becomes a defining principle for the deployment of IT. We use the term *coordinated autonomy* to describe this and to remind ourselves about its constructive, counterintuitive nature. John Seely Brown captures our intent with his statement: "I believe [an interesting shift] is happening: a shift between using technology to support the individual to using technology to support relationships between individuals. With that shift, we will discover new tools and social protocols for helping us help each other, which is the very essence of social learning."¹

Frank Rhodes, the former president of Cornell University, provides an effective starting point for this discussion by listing eight characteristics of the "American University for the Future":²

1. Institutional autonomy, lively faculty independence, and vigorous academic freedom but strong, impartial public governance and decisive, engaged presidential leadership

2. Increasingly privately supported but increasingly publicly accountable and socially committed
3. Campus-rooted but internationally oriented
4. Academically independent but constructively partnered
5. Knowledge-based but student-oriented; research-driven but learner-focused
6. Technologically sophisticated but community dependent
7. Quality-obsessed but procedurally efficient
8. Professionally attuned but humanely informed

These characteristics merge traditionally distinct and seemingly contradictory social dimensions of higher education. They speak to a college/university environment that is constructively energized by the tensions created when general dimensions of individualism and community are brought together. This kind of social tension creates an important capacity for new perspectives and insights and forms a basis for the research university of the future.

It is in the context of how the constructive nature of combined individualism and community can help define the success of the future higher education institution that we consider the role of IT. The convergence of these emerging ideals for higher education with the emerging capabilities of IT offer a strikingly aligned venue for change—if there is a confluence of potential rather than a conflict. Both higher education and IT are fundamentally about people.

How, then, do these kinds of constructive tensions relate to IT? The first level of IT alignment must rest with long-standing core values in higher education. Indeed, higher education is already shifting toward new practices that are redefining old values in terms of the promise of IT:

- If *insight* is about *new understanding*, then new insight is possible through the perspectives and perceptions afforded by visualization and the presentation of digital media. The richness of insight is enhanced through IT by a significantly expanded diversity of perspectives—for example, science and artistic researchers working jointly on medical imaging.
- If *literacy* is *the ability and the capacity to understand information*, then the convergence of human-machine media into a single digital language of data that can be sorted and organized can promote literacy. However, literacy itself is redefined in part as IT allows unprecedented combinations and compilations of once inaccessible data—for example, the effects of Web resources on understanding and qualifying information.
- If *information assimilation* is *a new form of literacy*, then networked repositories of digital media become new and significant vehicles for efficiency, insight, and conceptualization. These repositories require data structures that reflect the requirements for merging, linking, and managing diverse, interdisciplinary digital assets—for example, curricular information portals.
- If *collaboration* is about *insight gained from testing and tying together diverse views*,

then the outcomes of collaboration are significantly expanded as inclusion of new communities of expertise, irrespective of physical location, are brought together. Virtual centers of topical expertise and new kinds of civic spaces are the meeting grounds for these communities.

■ If *conceptualization* is about *new ideas*, then we now talk about transdisciplinary research areas to reflect the yet-to-be-defined disciplines of the future. There is high anticipation about new “meta-disciplines” growing up around assimilated data as a new medium for doing research—for example, informatics. The IT infrastructure provides the necessary virtual home, and digital media provides the digital language, flexibility, and nimbleness to accommodate the dynamic and distributed nature of new ideas.

Although associating IT with these core values is a necessary foundation, it is insufficient for defining the full potential of IT in higher education if the future indeed reflects a new energy spurred by a constructive marriage of individualism and community. Because IT can readily accommodate the contradictory implications of autonomy and connectedness, *coordinated autonomy* becomes the corresponding principle for deploying IT in the service of these desired social tensions. The term *coordinated autonomy* indicates, first, that IT should be deployed to actively preserve and support individual and institutional autonomy. Coordinated autonomy allows this individual pursuit to be harnessed in a worldwide community. This coordination supports and defends the individual’s chosen direction by bringing it into new patterns and conversations to serve the “public good,” a core social value and responsibility of higher education.

By juxtaposing individualism and connectedness, we can capture five deployment principles for achieving coordinated autonomy and escape the apparent oxymoron of the phrase:

1. *Mass individualism*: Mass individualism refers to information broadly disseminated but with a focus on the needs of the individual. IT should be deployed so that the individual can surround

himself or herself with the resources relevant to local inquiry or objective. Mass individualism also captures the implications of access, the notions of data as an institutional resource, portal and reporting strategies that integrate information services but offer flexibility for local configuration, ready collaboration, and personally relevant learning.

2. *Robust flexibility*: Robust flexibility is an infrastructure concept that recognizes an infinite number of possible user applications. The front-end investment in infrastructure, commonly used tools, data and information, and standards that support modular deployment of applications is not only fiscally responsible but critical to coordinated autonomy. This principle better positions the college or university for responding to opportunities.

3. *Undirected direction*: A key outcome from the convergence of IT and the notion of coordinated autonomy is open review, rapid feedback, and the potential of improved value. The convergence brings forward the idea that it is better to invest less in big-application, deterministic planning and more in planning of the form that includes rapid prototyping and multi-user feedback. This planning process involves the institutional community earlier and can produce more buy-in and earlier adoption. It widens the potential of drawing on the wisdom of an engaged community.

4. *Persuasive standardization*: Imposed standards philosophically, and sometimes in reality, cut at the core of autonomy. Yet standards that are appropriately accepted, coordinated, and managed are critical to autonomy. IT deployment for coordinated autonomy creates value that is persuasive. Infrastructure and policy decisions become justified on that value.

5. *Open privacy*: Data constitutes the digital resource that provides the key for people to interact intellectually on a very broad scale and to pursue lines of inquiry on a very individualistic scale. Even though serious security and access issues must be addressed and managed, there is enormous intellectual value in accessibility. This argues

for openness and accessibility of data as the starting consideration.

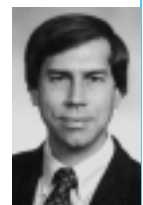
At UCLA, we are considering these five deployment principles across a spectrum of research, learning, curricular, administrative, and outreach IT initiatives. Although the principles are not necessarily pointing to any different technology choices, they do raise important questions about programmatic purpose, and they push toward a more comprehensive technology, policy, fiscal, and programmatic implementation process. For example, we are deploying a GIS-based community information system platform, with the first application being a directory of UCLA activities in Los Angeles County (*robust flexibility*). Decisions on our next modular applications are coming from emerging individual and multidisciplinary faculty proposals and community requirements (*undirected direction*). System functionality and protocols have been based on faculty and community input; participation is voluntary but is encouraged by the value associated with significantly enhanced internal and external interaction and collective image (*persuasive standardization*). The functionality of the system is designed for aggregating, packaging, and disseminating information for local use (*mass individualism*). The system is designed to be its own appropriately open research database for longitudinal studies of activities in Los Angeles County (*open privacy*).

Ultimately, we are motivated to foster an emerging culture that encourages individual but engaged exploration to enable the core institutional values of UCLA. *Coordinated autonomy* captures the IT planning and implementation processes needed to realize this goal.

Notes

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1. John Seely Brown, “Growing Up Digital: How the Web Changes Work, Education, and the Ways People Learn,” *Change*, March/April 2000, 20.
2. Frank Rhodes, “The New University,” in *Challenges Facing Higher Education at the Millennium*, ed. Werner Z. Hirsch and Luc E. Weber (Phoenix: Oryx Press, 1999).



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