

# Methods, Models, and the Matrix:

Disrupting the Architecture of Failure

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# Higher Education Today

## The Architecture of Failure

Safety Valves and Labor Warehouses  
(Rudolph, 1978; Shor, 1987)

World-Leading and Derided  
(Christensen & Eyring, 2011)

Knowledge Factories  
(Aronowitz, 2000)

Ideological Structures  
(Cuban, 1990; Veblen, 2015; Watkins, 2001)

Stratified and Unequal  
(Bowles & Gintis, 1976; Karabel & Brint, 1989)

Hereditary Meritocracies  
(Deresiewicz, 2014; Fussell, 1992)

Debt Traps  
(Bok, 2013; Kamenetz, 2007; Popken, 2015)

Recalcitrant  
(Hacker & Dreifus, 2010; Menand, 2010)

Fragmented and Incoherent  
(Boyer, 1987; Klein, 1996; Taylor, 2010)

Insidious Erosion of Quality  
(Hersh & Merrow, 2005)

Dropout Factories  
(Hiller & Hatalsky, 2016)

Master Planned Systems  
(Douglass, 2000; Kant, 1979; Lemann, 2000)

In *The Architecture of Failure*, Douglas Murphy argues that modern architecture in the 19<sup>th</sup> century is assumed to be a positive enterprise, but history reveals that these constructions are tied to ideas of failure. Failure is architectonic, which is a way of recognizing it as a system of constructs and relations that hinder or arrest the conditions that allow success to manifest and internalize (Bakhtin, 1990; Robertson, 2012). As a philosophical concept, the *architecture of failure* is virtually ignored in contemporary discussions on academic reform and redesign. In this presentation, I argue that we often deny the ways that failure permeates the ideological framework and infrastructure designed by academic architects such as Charles Eliot. Until we acknowledge *failure* as a permanent feature in higher education that requires continuous disruption (Davidson, 2017), we enable its reproduction and bypass methods and models that help us to better employ technology to improve teaching, learning, and assessment.

# Higher Education Yesterday

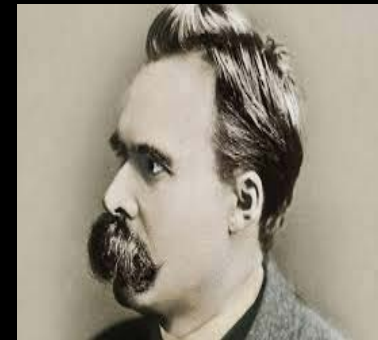


Eliot is one of the leading architects of the infrastructure, curriculum, and assessment methods that we have today. The model of education that he championed was influenced by the German system of higher education and was designed to meet the needs of the industrial economy in the 19<sup>th</sup> century. Is it time for a new model?

(Eliot 1869; Christensen & Eyring, 2011; Davidson, 2017; Kant, 1979)

As a critic of the German system of higher education, Nietzsche advocated for change and anticipated the problems that we have today. He believed that all knowledge is connected and that innovative ideas could lead to change. Nietzsche did not present a model for solving the problems that he exposed. What if he had?

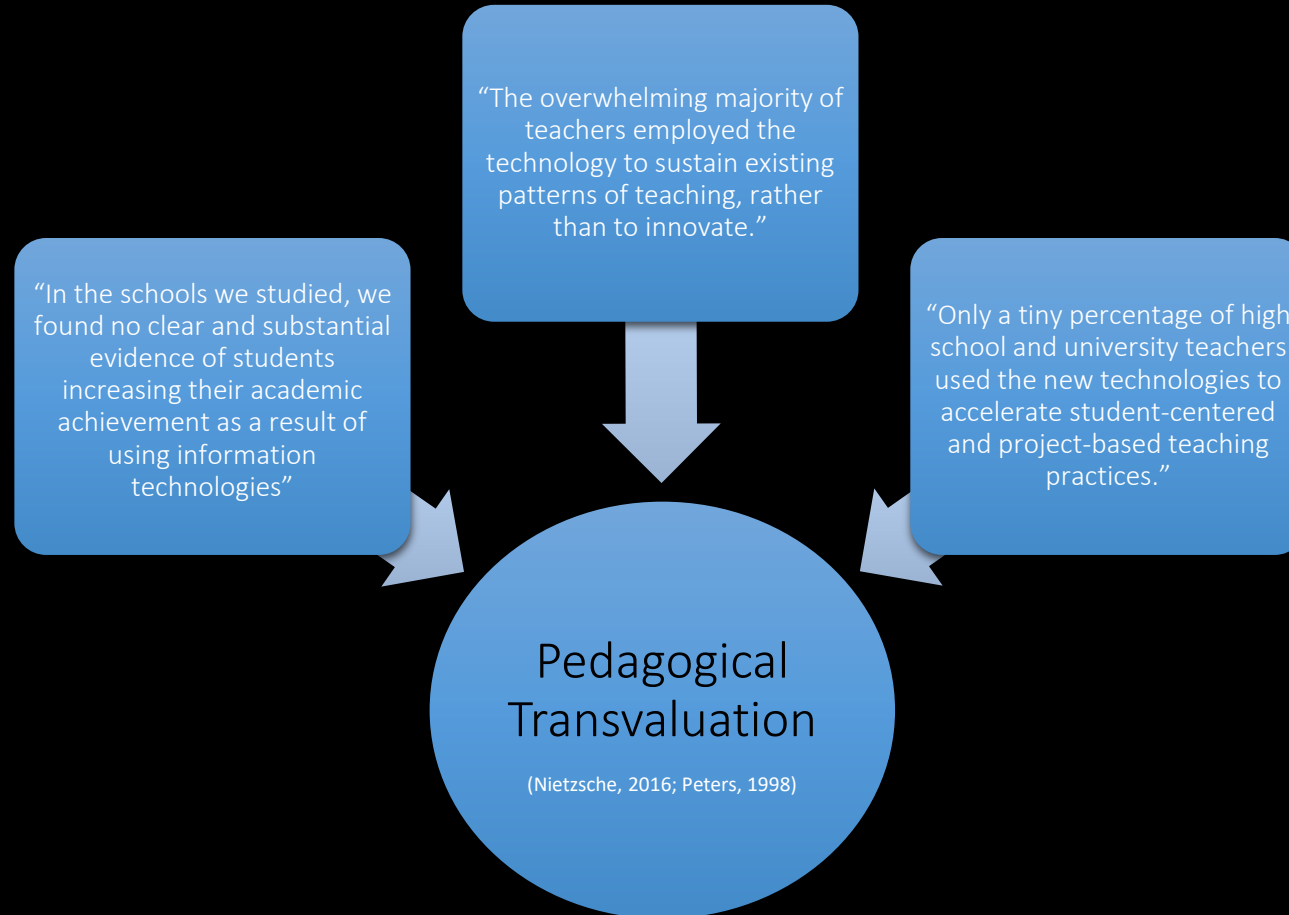
(Nietzsche, 2016; Kaufmann, 1974; Peters, 1998)



“...[M]any of the premises of our modern educational methods are in fact unnatural...the catastrophic failings of today have everything to do with these unnatural methods.”

(Nietzsche, 2016, p. 91)

# Higher Education Tomorrow?



Cuban (1990, 2003) studied the use of technology by teachers and students in early childhood education, high schools, and universities in Silicon Valley, where disruptive technological innovations continue to be celebrated as the way to improve teaching and learning for the future. Cuban’s outcomes (2003, pp. 133-34) contradict this notion and appear to be confirmed by other assessments (Bawa, 2016; Davidson, 2017; Dede & Richards, 2012; Lewin, 2013; Rooks, 2017; Tomei & Bernauer, 2015; U.S. Department of Education, 2006). Something must change.

# Pedagogical Transvaluation as Disruptive Methodology

## Principle 1

Aligning theory and practice with technological processes creates coherence and disrupts failure. The organization of knowledge in academe is artificial and incongruent with the knowledge economy of today.

(Christensen & Eyring, 2011; Foucault, 1981; Norris & Soloway, 2015)

## Principle 2

Knowledge exists in networks, webs, and narratives. Constructivism and Connectivism are coextensive expressions of how knowledge behaves as a theory of learning and integration for a world in flux.

(Barabasi 2002; Ravenscroft, 2011; Siemens, 2005; Vygotsky, 2012)

## Principle 3

Knowledge is naturally dialogic, connected, and borderless. Intertextuality, hypertextuality, intersectionality, and interdisciplinarity become figurative equivalents in dialogism.

(Bakhtin, 1990, 1998, 1999; Butler, 2017; Moran, 2010; Orr, 2003)

## Principle 4

Knowledge is performative. It behaves like a matrix, which is a metaphor and model for complex systems thinking. It can guide (digital) pedagogy and connect learning outcomes and assessment for accountability.

(Bateson, 1979; DQP, 2014; Freire, 1990; Tomei & Bernauer, 2015)

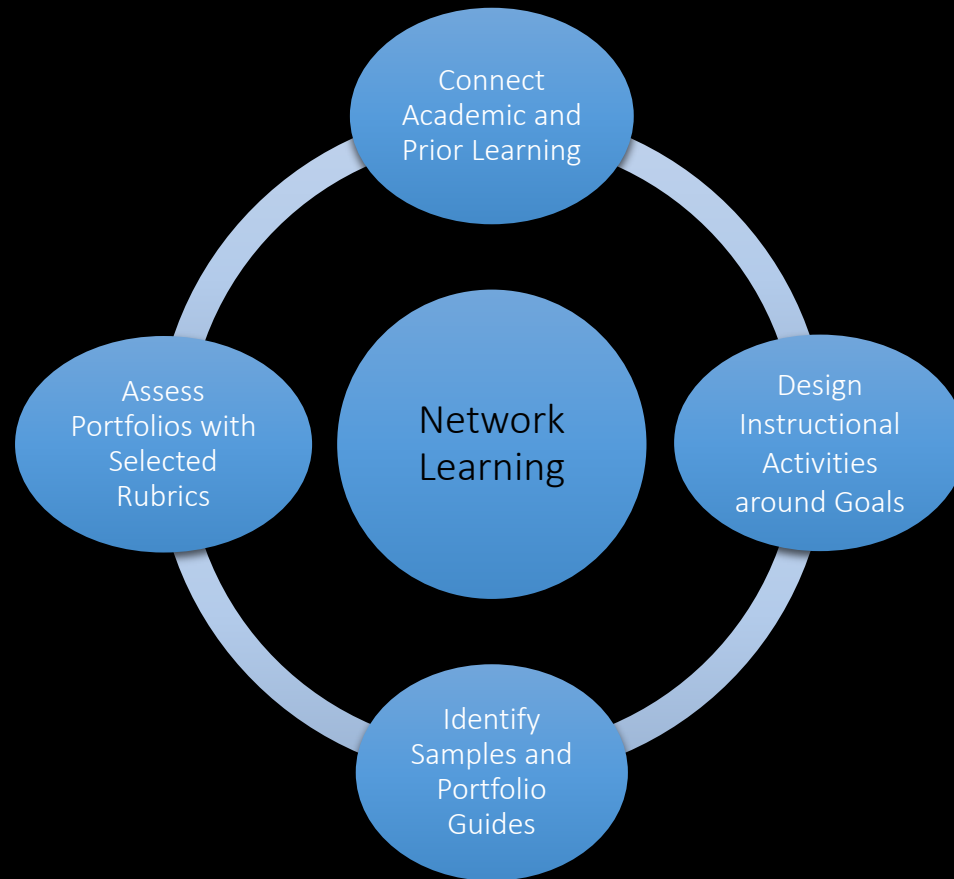
## Principle 5

The *Matrix* is a master trope. As metaphor and model, it is recognized and used across disciplines for teaching, learning, collaboration, problem-solving, and innovation.

(Derrida, 1997; Galbraith, 2009; Klein, 1996; Sylvester, 1904)

“Over a century ago, Friedrich Nietzsche wrote, ‘All things are entwined, enmeshed, enamored.’ We might translate Nietzsche’s insight into today’s terms by insisting that in the World Wide Web and Internet, everything is interconnected” (Taylor, 2010, p. 24). *Transvaluation* is a term used by Nietzsche to describe the process of (re)evaluating using ideas that are different from traditional views and practices (Kaufmann, 1974). The term is appropriated here in order to signify *the matrix* as an important tool for revaluing pedagogy for the postindustrial age.

# The Matrix as Model for Competency-Based Learning



Theories and models found in business management continue to influence reform in education (Cuban, 2003; Christensen & Eyring, 2011). However, we often fail to adopt and adapt models that recognize the complex reorganization of knowledge in the digital age, and we fail to use these models to inform both instructional and institutional (re)design (Bailey, Jaggars, & Jenkins, 2015; Boyer, 1987; Taylor, 2010; Tufte, 1990; Wiggins & McTighe, 2005). Christensen, Raynor, & McDonald (2015) would agree that creating logical models that work in the digital age is key to disrupting failure in education. Galbraith (2009) and Klein (1996) posit the matrix as a model for innovation. As a metaphor and model for networks, the matrix helps to frame complex relations that occur simultaneously across multiple dimensions. As an interdisciplinary tool, the matrix is an effective structural approach that can be easily appropriated in higher education, especially when implemented based on the variability, interactivity, and intertextuality described by Sylvester (1904), Freire (1990), and Tomei & Bernauer (2015).

# The Matrix as Model for Assessment

Intellectual Skills	Specialized Knowledge	Broad and Integrative Knowledge	Applied and Collaborative Learning	Civic and Global Learning	Institution-Specific Emphasis
Analytic Inquiry					
Use of Information Resources					
Engaging Diverse Perspectives	The Degree Qualifications Profile (DQP) Matrix				
Ethical Reasoning					
Quantitative Fluency					
Communicative Fluency					
Program-Specific Intellectual and Practical Skills					

Supported by the Lumina Foundation, the DQP Matrix is a set of learning proficiencies that help to identify and assess the kinds of learning that academic degrees should represent in higher education. The five areas of learning combine with six intersecting intellectual skills to form the DQP Matrix, which is an adaptable tool for developing assignments and assessing teaching and learning. With VALUE rubrics provided by the Association of American Colleges & Universities, DQP provides us with a common discourse for assessing learning outcomes across institutions.

# The Matrix as Virtual Classroom



A virtual classroom is “a teaching and learning environment located within a computer-mediated communication system” (Hiltz, 1994, p. 3). A virtual platform helps to integrate content, instructional design, praxis, and assessment, usually in digital form, for coherence, accessibility, and student-centered learning (Dede & Richards, 2012). It works best as an integrative medium for improving teaching and learning and not as a rationale for the dismantling, defunding, and privatization of education (Davidson, 2017; Rooks, 2017). The virtual classroom is an example of what can occur when textbooks and interactive technology merge in order to facilitate learning anywhere, anytime, and any place. Virtual classrooms are the textbooks of the future.



# Recommendation

It is time that we seriously consider reimagining the organization of knowledge and seat time in the academy.

The problems in higher education transcend disciplines and institutions, so we can no longer afford to think in silos.

To ignore interdisciplinarity in a network economy is to risk preserving the problems that sustain the architecture of failure and its internalization by students.

This presentation is an attempt to think outside silos in order to revalue and align methods and models from across the disciplines that help to improve teaching and learning in the age of digitalization. It is also a meditation on failure, helping to demythologize its relationship to education.

Because we tend to be more responsive to the pedagogical needs of our diverse constituents, community college administrators and faculty may have to take the leading role in discovering or (re)inventing the methods and models that we require. Hopefully, this presentation contributes to that effort.

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