ORTHODOXY, HETERODOXY AND INSTRUCTION: AN INSTITUTIONAL ETHNOGRAPHIC STUDY OF DISRUPTION IN HIGHER EDUCATION BROUGHT ON BY POLICY, TECHNOLOGICAL INNOVATION AND IDEOLOGIES OF TEACHING AND LEARNING

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This dissertation addresses the symbolic struggles of ideologies of learning in the development of instructional practices during the implementation of a fully online undergraduate curriculum at the University of Florida. These ideologies are represented by heterodoxy—an articulation of new instructional practices that ostensibly conform to emerging trends in education precipitated by the rapid adoption of new technologies—and orthodoxy in defense of traditional classroom instruction. Recent perturbations in the academic field have often been described as disruptions rooted in online technologies, but might also be fruitfully understood as a shift in the field of power, with dominance over the academic field moving gradually away from the bureaucratic field of the state and towards the economic field of finance and venture capital. These perturbations can be seen in an erosion of the power of instructional faculty and a concentration of power in research faculty with an emphasis on the production of commercial products. The author highlights some of these trends as he attempts to negotiate systems of relations and power in the academic field in the process of creating an online dual enrollment program and participating in online course production

process. Study participants include university administrators, policy makers, faculty, and staff involved in the design and implementation of the University of Florida online undergraduate curriculum and online dual enrollment program. The research is conducted using ethnographic methods through participant observation, semi-structured interviews, and the analysis of electronic texts such as correspondence, draft legislation and policy documentation.

CHAPTER 1
STATEMENT OF THE PROBLEM

> ..the university field is, like any other field, the locus of struggle to determine the conditions and the criteria of legitimate membership and legitimate hierarchy, that is, to determine which properties are pertinent, effective and liable to function as capital so as to generate the specific profits guaranteed by the field (Bourdieu, 1988, p. 11).

In this historical moment of “disruption”, instructional practices in higher education are being challenged. These critiques are animated by external forces largely precipitated by advances in information and communications technology and the growth of online learning. Given that university teaching and learning practices have historically been sheltered from public view until the widespread dissemination of online courses, the question this dissertation seeks to explore is the emerging symbolic struggles that the discourse on disruption (in both its material and rhetorical manifestations) is provoking in the institutional imagination surrounding teaching and learning. It is an ethnographic study of disruption in higher education brought on by politics, technological innovation and ideologies of learning and instructional practices.

Disruption

In his theory of disruption, Clayton Christensen stipulates that new technologies are most disruptive to well-run and competently managed organizations (Christensen, 1997). These organizations are unable to adjust to the disruption usually until it is too late to do so effectively. The reason for this lies in the fact that the organization is busy improving its products and services to meet the demands of its consumers. By investing in these sustaining technologies, the organization is making a rational choice to preserve its self-interest and to meet the demands of the market. Disruptive technologies, according to Christensen, are usually cheaper and less effective at their

inception than the sustaining technologies in which the organization has invested. These disruptors—such as the historical examples of transistors and desktop computers—are usually adopted by a few at the fringes of the market. However, in the long term, as the technologies improve they can overcome the established apparatus with market dominance, as we have seen in the case vacuum tubes and mainframe computers. In the 2011 book, The Innovative University, Christensen and co-author Eyring turn their disruption lens on higher education (Christensen & Eyring, 2011a). In it, they argue that universities are in the midst of a disruptive revolution with several factors that pose potential threats and opportunities to the institution. Most prominent among these is the rapid rise of online learning—a technological innovation that fits the profile of some of Christensen's most poignant examples. It is generally cheaper and less effective than traditional classroom learning, and up until recently has not been adopted as a principal source of instruction for mainstream and prestigious institutions (Christensen & Eyring, 2011a).

Background

In April of 2013, the Florida legislature bestowed the title of preeminence on the University of Florida (Stargel et al., 2013, p. 117). With this prestigious distinction, the university was also afforded the opportunity to develop fully online baccalaureate degrees as the exclusive public institution in the state to do so (Stargel et al., 2013, p. 119). With a stroke of a pen, the Governor of Florida set forth in statute the imperative to foster two counter-currents in the growth of this 21st Century land grant institution. The preeminence distinction encumbered the fiscal commitment to the enhancement of the research status of the university, with $15 million set aside to recruit renowned

scholars and to develop the supporting institutional apparatuses they require in order to generate academic knowledge (Stargel et al., 2013, p. 124). Ostensibly, these resources are to be applied for the overall enhancement of institutional status with the stated goal of achieving a “top 10” ranking among public, research universities (Machen, 2013).

This same bill that bears the Governor’s mark, also confers upon the University of Florida a mission to return to the spirit of its Morrill Act roots, and provide access to the rarefied intellectual engine of research through low cost, online four-year degrees. An additional $15 million was appropriated for the formation of an online institute with the same rigorous admissions requirements of the in-residence programs but with tuition set at 75% of the standard rate (Stargel et al., 2013, p. 122). In this single bill, the legislature committed equal resources to structural changes at the university that represent institutional and cultural shifts that are at once at odds and dependent on each other for success.

Theoretical Framework of the Study

The epistemic frame of this study is grounded in the practice theory of Pierre Bourdieu. The main thrust is to mediate the aporia between agency and structure, simultaneously embracing both while accounting for individual will and the limits on volition imposed by the systems of differentiated power embedded in culture. Such systems are expressed in social intercourse as agents negotiate their lived-in world. The challenges the literature review seeks to address are 1) the limits on action imposed by deeply embedded and unconscious cultural logics; 2) the fluid and yet durable systems of power that create and reinforce social stratification; 3) the nature

and impact of context within space and time; and 4) the generative capacity of cultural systems that allow for change, innovation and even revolution. There are several concepts derived from Bourdieu's oeuvre that maintain a central importance in examining the discourse on disruption and the symbolic struggles surrounding teaching and learning. They are:

- Habitus: an internalized set of durable dispositions that agents acquire as members of a culture and reproduce through their thoughts, actions, language and behaviors. Habitus provides a framework for understanding how particular practices of instruction maintain a normative status.
- Forms of Capital is useful for an analysis of power and status within a particular field; and subsequently which agents may dominate a particular symbolic struggle:
- Economic capital, which is immediately and directly convertible into money and may be institutionalized in the form of property rights;
- Cultural capital, which is convertible, in certain conditions, into economic capital and may be institutionalized in the form of educational qualifications: cultural capital is critical for understanding power in the academic field.
- Social capital, made up of social obligations ("connections"), which is convertible, in certain conditions, into economic capital and may be institutionalized in the form of a title of nobility.
- Symbolic Violence: a system of domination that perpetuates an unequal and durable distribution of power without the need for physical violence through the unconscious consent of dominant and dominated alike. Symbolic violence maintains a high degree of efficacy where cultural capital has its greatest value.
- Field: a site of structured social relationships with embedded power relations; a locus of struggle to determine the conditions and the criteria of legitimate membership and legitimate hierarchy—that is, to determine which properties are pertinent, effective and liable to function as capital.
- Doxa: the rules that create a code largely outside of awareness, and taken for granted by the members of the culture. This code is misrecognized as part of the natural order of things rather than recognized as a truly arbitrary cultural construct
- Orthodoxy: defense of the status quo
- Heterodoxy: counter-narratives that question the doxa of the field

The universe of discourse represents a site of symbolic struggle between orthodox and heterodox voices; disruption provides a rift that exposes the arbitrary nature of *doxa*—the unconscious, taken for granted, rules of the game, allowing this discourse to emerge.

Overview of Methods

In Chapter 3 I address the methods, and their limitations, employed in this institutional ethnography on disruption. My research rests firmly within the ethnographic tradition, as a project of participant observation with a collaborative bent and a reflexive posture. I acknowledge the inherently subjective nature of ethnography, especially in a field where I play the role of native as well as researcher. This institutional ethnography has been conducted “on the ground” by directly engaging the actors who are confronting this new reality and seeking ways to adapt their own practices, create new opportunities, and develop their professional identities. These include faculty, administrators, political leaders, and those who operate behind the scenes as consultants, staff and entrepreneurs. While this study is presented largely in the first person, it should not be construed as an auto-ethnography. It is not about me. Rather the fact that I occupy a position within the power structure of this field and have engaged in ideological struggles over the symbolic power therein, offers an empirical perspective of the dynamics of the field. The research presented here does not presume to follow a tidy path of proposition, exposition and hypothesis testing by one heroic author. It reflects the result of an intense collaboration. Not a collaboration on the document per se, but a concerted effort by agents in a field engaged in the design and

development of new technologies, instructional practices, institutional scaffolds, and entrepreneurial machinations.

This ethnography includes data sources derived from both computer-mediated communications and face-to-face interaction with research subjects, as well as electronic documents including Web pages, public records, and periodicals. Data has been collected from study participants using semi-structured interview techniques, electronic correspondence, documents produced by subjects in the course of their work, and public information such as press articles, government reports and legislative work products. Semi-structured interviews captured the personal, ideological stance of participants in a context where they were asked to articulate attitudes and perspectives on change vis-a-vis their relative position of power in the academic field. Computer mediated communications and electronic documents provide cultural artifacts for analysis as evidence supporting or contradicting attitudes and structural posturing expressed in the interviews. The key elements that are captured in the data are features of the field and the ideologies of the agents therein. Study participants include instructional designers, teaching faculty, administrators, and policy makers who are deeply involved in the transition to online education. Some are driving change as organizational entrepreneurs. Others are responding to change with varying degrees of enthusiasm or consternation.

The wide ranging and various data sources, from speeches and policy documents, to interpersonal communications and semi-structured interviews, are meant to provide a glimpse into an ethnographic moment or series of moments situated in time and place. The collection process varies widely, as the cultural moments on the ground

afforded the researcher an opportunity. The research process is ad hoc as well as systematic, improvised as well as carefully planned. No doubt, the limitations to access have as much to do with my position in the field as they have to do with any observer's personal subjectivity and the inability to have comprehensive powers of observation and reflection.

My semi-emergent coding framework is strongly framed by Bourdieu's forms of capital (Bourdieu, 1986). I employ this framework as a means of exposing the power relations within the academic-bureaucratic field. For Bourdieu, the concept of capital is an analytic instrument that illustrates the means by which power is accumulated and exercised. He takes the concept of economic capital—with its objective implications of materialism, control of the means of production and social stratification through classic Marxian class dominance—and adds the concepts of social and cultural capital. In this coding framework, these global themes are further articulated into organizing and basic themes to illustrate how the thematic analysis functions under these rubrics.

The Genesis of an Ideology

Chapter 4 explores the instructional ideology that study participants developed during the development of an online dual enrollment program and the design of the learning platform that was called Ulysses. Some of the informants for this study provided insight and inspiration for the development of the dual enrollment program; others may have contributed to its planning and execution. Still others were colleagues working on projects that had an impact on our program, such as the launch of UF Online. The dual enrollment project contributed to two major strands in my thinking at the time of this research: the importance of creating an educational experience in which

students would find intrinsic value; and the need for alternative sources of revenue to be able to create such an experience. The first was inspired partly by the growth of Massive Open Online Courses, and the second was inspired by the impact of entrepreneurial ventures in educational technology. In particular, the work of Stanford professor and entrepreneur, Sebastian Thrun and his spinoff company Udacity. Thrun introduced disruptors to the business of education as well as the practices of instruction by providing high-quality content, designed by faculty at high-status institutions, and made available to the world for free using scalable networked, interactive technology.

As a result of these inspirations, I worked with some of my colleagues to develop and propose a business plan for the formation of an educational technology spinoff company called Utrinsic. In the plan, the company would provide online course production, support services for online students, and a learning platform developed using University of Florida technology. However, the group that we assembled to write the plan fell victim to internal conflict.

The educational technology pioneers of Stanford and MIT as well as learning theorists, political figures and entrepreneurs inspired the group's ideas. But their deepest influences came from those they worked with most closely, including members of the Ulysses design team. These ideologies can be divided into three themes. The first theme I have identified is commercialization, derived mainly from educational technology startups, organizational entrepreneurs, and the overall trend in branding and marketing in higher education. Important ideas included outsourcing the lecture; providing engaging instruction; the importance of high touch, scalable student services; the social impact of distributed collaboration; and the need for a high-level peer

interaction and co-learner support. The team also operated with a free-market orientation and viewed the university brand to be a critical asset. The second theme is that of theories of learning and instructional practices. The approaches to teaching and learning that influenced the group the most included: mastery learning and adaptive instruction; one-on-one tutoring; social constructionism and community; the potential for retention through game-like activities; self-regulation, motivation theory; and new technologies that allow for ubiquitous learning. The third theme is that of intellectual property. The team developed their approach to adaptive learning, social constructivism and collaboration while articulating a data-driven system for compliance within the dynamic and complex structure of relationships of the university field. They called this data system Euporia. The team was confronted with new systems of classification presented by both the academic and entrepreneurial fields. The planning, design, and computer programming that signified the work behind the data architecture of Ulysses, performed as labor under contract with the University of Florida, transformed the *opus operatum* of Euporia into intellectual property to be transferred to the commercial sphere as product. This transmogrification imbued the ordinary process of work with the magical, fetish-like qualities of innovation to be hammered into licensable product through the grueling process of business incubation and start-up.

The purpose of this chapter is to illustrate the depth and breadth of the heterodox ideology espoused by the members of the Ulysses team, and the difficulty such ideas would inevitably face in a confrontation with the doxa of the academic field, given their dearth of cultural capital. The members of the Ulysses design team believed they had a unique perspective on the challenges facing higher education. They perhaps suffered

from the conceit that the structural manifestations of the academic field could be overcome by a forceful counter-hegemonic narrative—or in the words of comrade Lenin, that “the differences between workers and intellectuals should be obliterated”. In such a view, the tired practices of institutionalized education based on the agricultural and industrial approaches of the 19th and 20th centuries would be cast aside and replaced by rational approaches of the information age that serve the interests of the students and the needs of the economy. The problem with such a conceit is that it fails to recognize that the fundamental structure of the field of power is reinforced and recreated by symbolic systems internalized and expressed in the habitus of individual actors. Ideologies are not, as in the traditional Marxist view, distortions of rational thought held in service of the bourgeoisie, but spontaneous philosophies that compete with dominant symbolic systems.

A Clash of Practices

In chapter 5 I give examples of the clash between the heterodox and orthodox approaches to instruction as I observed them during the months leading to the launch of UF Online. The university faced a unique challenge in the institution of UF Online through legislative mandate. The timing and budget constraints placed pressures on administrators and teaching faculty that had a significant impact on how novel and heterodox approaches to instruction would be realized. Legislators had established expectations for the new online university that would be difficult to achieve in the few short months that university administrators had to work with. These included flexible enrollment schedules that were not restricted to a traditional academic calendar, and

the implementation of competency-based approaches to measuring learning outcomes that did not rely on high-stakes exams.

Just as my colleagues and I had been observing developments in the academic field led by elite universities such as Stanford University and the Massachusetts Institute of Technology, many University of Florida faculty and administrators were taking note of the discourse surrounding Massive Open Online Courses (MOOCs) in the media. Indeed, by the time the Florida Legislature was considering the bill that would create UF Online, the university had begun producing a series of MOOCs in collaboration with the Stanford University spinoff company Coursera. This process introduced rediscovered approaches to instruction similar to those that had been pioneered by proponents of mastery learning, such as shortened lectures with frequent formative assessments.

As part of their mission, university instructional designers were charged with promoting methods for online course delivery as a means of scaffolding teaching faculty into this new method of instruction. Their approach is articulated in the Faculty Institute, an online introduction to university instructional design and recommended best practices. The institute was mandatory training for UF Online faculty and adjunct instructors. The training was delivered in nine instructional modules covering the student experience, course design and planning, goals and objectives, assessment, instructional materials and activities, tools and techniques, and course management.

The first module, titled simply “Students”, began with an online video produced by the Kansas State University anthropologist Michael Wesch (2007). Wesch and his students created a short video highlighting some of the generational differences for students in the first decade of the 21st century. The central message communicated by

the video is a profound sense of alienation that students experience in large survey courses taught in university lecture halls. Perhaps the most critical lesson that faculty learn from this institute is that established instructional practices of university classrooms are counter productive in an electronically mediated format.

A central tenet of this module (and perhaps the training itself) is to create a rupture between what the teaching faculty accept as common sense—a practical sense that is taken for granted—and what is beneficial to students. The Wesch video shows a student body that is profoundly alienated by an impersonal educational experience. This condition is made worse by directly translating the lecture-assessment approach into an online format. Furthermore, instructors run the risk of creating an even greater distance between themselves and the student body by the misuse of technology with a population that generally has a higher level of comfort and sophistication with digital media and communications.

Faculty resistance to the heterodox approaches advocated by UF Online administrators and instructional designers is understandable in light of the stressful conditions demanded by the rapid timeline established in legislation. These demands were essentially reinforced by a compensation model that rewarded the teaching faculty for extra effort, i.e. beyond their expected duties as paid employees of the university. This was much like a consulting model or teaching as an adjunct instructor. UF Online administrators believed that this approach would give them the leeway to impose new methods of instruction on faculty as they developed their courses. But administrators were caught in a double bind. On one hand the launch of the online university required participation from academic departments that offered courses from the general

education curriculum—courses that students are expected to take from a variety of subjects before they are able to enter their major area of study. The instructors in these departments have largely employed traditional methods of instruction designed for large enrollment courses. On the other hand, the administration had a legislative mandate to launch many of these courses in just a few short months—the period between September 1, 2013 and January 1, 2014. Thus, this effort was left to faculty who embodied the habitus of traditional instruction reinforced by the *doxa* of the academic field to produce new instructional media rapidly and voluminously as an optional activity for extra compensation.

Some Implications

As I conducted this institutional ethnography as an exploration into the discourse on disruption, I developed a sense that Christensen's thesis, with its emphasis on online technology, was overstated. Given Bourdieu's thesis that fields are durable and reproducible, they should not be vulnerable to episodic bursts of disruption such as the emergence of new online modes of course content delivery and instruction. Indeed, the disruption to higher education may be largely a result of other factors, with online education adding to the cumulative impact of political, economic and demographic forces.

I place the disruptions that higher education is experiencing into five broad categories. The first is Cost Disease: rising costs, the student debt crisis and the political pressure to keep tuition low. Cost disease clearly plays a role in the discourse surrounding teaching and learning that emphasizes scale. The second is Adjunctification: a shift to temporary, part-time and contingent instructional staff in the

form of adjunct faculty. Many faculty view this reduction in full-time faculty as a means by which university administrators will cut costs. Some conflate the move to online with the adjunctification trend. The third is Acceleration: the increasingly blurred lines between secondary and post-secondary curriculum. The online dual enrollment project provides an example of how this moment of disruption is fed by current trends in accelerated coursework by high school students. The fourth is Commercialization: the entrepreneurial turn in higher education as more universities seek alternative revenue streams. The impact of commercialization is clear in the growth of educational spinoff companies such as Udacity and the increasing tendency to treat students as customers and consumers. And the fifth is Unbundling: new approaches to curriculum that are modular and competency-based. This trend has the potential to standardize the way university curriculum is developed and delivered—de-emphasizing the role of the individual faculty instructor and increasing the influence of elite universities such as Harvard, MIT and Stanford.

Technologically mediated instruction will continue to play a role in these disruptions, but it is not likely to create an advantage for either greater equity and access, or the complete commodification and mass production of higher education. Rather, new tools of instruction will be incorporated into the personalized curriculum of elite schools on the one hand, as well as the expanding access approaches of MOOCs for the vast majority of students on the other. It may prove difficult in the long run for the university to market itself simultaneously as a high status institution and a discount online option. Success in the latter may be especially daunting if the university cannot promote an instructional imagination that fosters innovative online instructional practices

on par with established private MOOC providers and low-cost, vanguard online institutions.

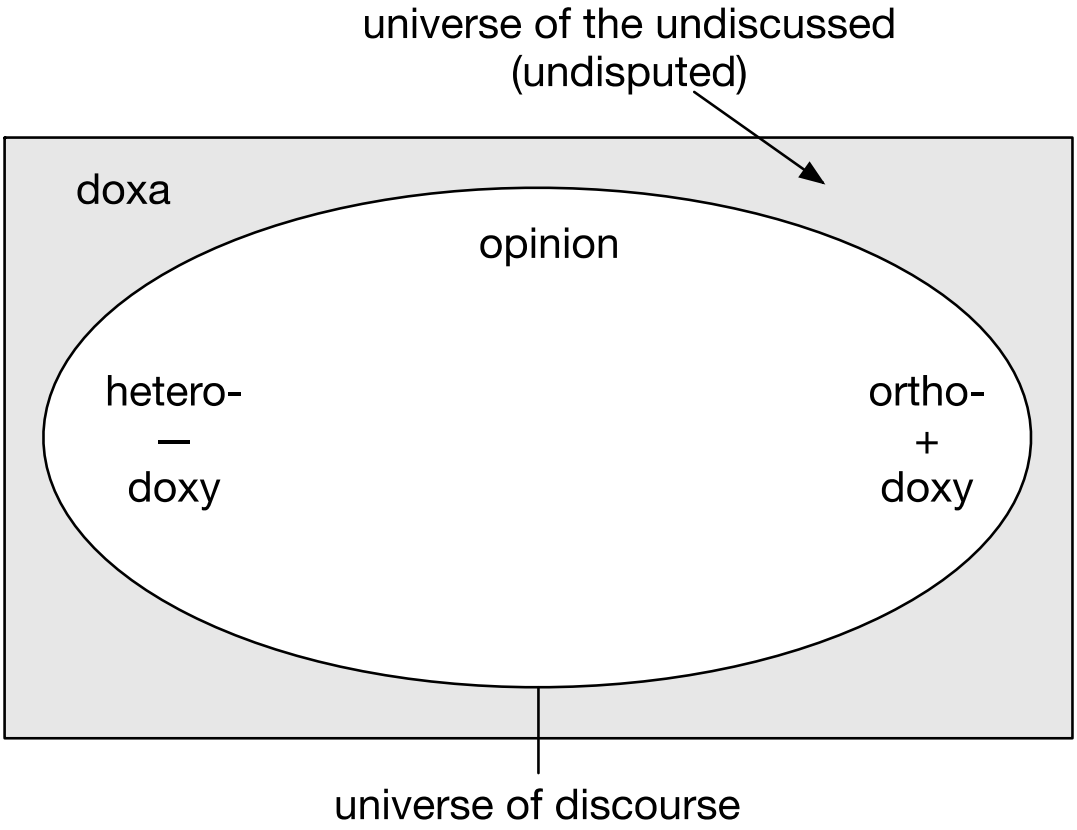


Figure 1-1. The Universe of Discourse (Bourdieu, 1977, p. 168)

CHAPTER 2
REVIEW OF THE LITERATURE

The purpose of this chapter is to provide an epistemic frame for a theory of institutional change based largely on the concepts espoused by Pierre Bourdieu in his theory of practice. The main thrust is to mediate the aporia between agency and structure, simultaneously embracing both while accounting for individual will and the limits on volition imposed by the systems of differentiated power embedded in culture. Such systems are expressed in social intercourse as agents negotiate their lived-in world. The challenges this literature review seeks to address are 1) the limits on action imposed by deeply embedded and unconscious cultural logics; 2) the fluid and yet durable systems of power that create and reinforce social stratification; 3) the nature and impact of context within space and time; and 4) the generative capacity of cultural systems that allow for change, innovation and even revolution.

Action, Agency and the *Habitus*

The locus of analysis starts with the individual agent. The agent embodies a system of durable, yet unconscious dispositions that Bourdieu dubbed the *habitus*. The *habitus* is simultaneously constituted and expressed in the activity of the agent. Thus it is tied to the deep structure of the agent's culture—the rules of which create a code largely outside of awareness, and taken for granted by the members of the culture. This code, which Bourdieu calls *doxa,* is misrecognized as part of the natural order of things rather than recognized as a truly arbitrary cultural construct. The result, in complex societies, is a system of power relations where social stratification is reproduced from one generation to the next by the tacit acceptance of domination and subjugation by all members of the culture group.

The concept of agency provides a rubric for understanding the role of individual will and social action in effecting the world of possible outcomes. Agency represents a central epistemological break with the deterministic frameworks of modernism such as structuralism and Marxism, where individual behavior is reducible to outside structural influences such as language, mythology, kinship and economy. But it is derived from another modernist project, that of phenomenology, where theorists are interested in subjective experience, meaningful action and the internal construction of reality. The challenge for post-structuralists is to incorporate a plausible theory of self that allows for subjective reality but doesn't turn structural determinism on its head. Many theorists find a radical relativism in post-modern thought that commits such a fallacy (Cf. Lyotard, 1984).

Structure is a primary concern, and is conceptually derived variously from linguistics (de Saussure, 1966), anthropology (Levi-Strauss, 1963), political economy (Marx, 1967) and ecology (Darwin, 1967). Admittedly, this is a liberal reading of the concept and conflates several major exclusive and often conflicting theoretical approaches. The purpose is not to obscure or elide the specificities of these theoretical realms, but to emphasize their objectification and externalization of socio-cultural processes, as opposed to subjective, agent-centered, phenomenological processes. This perspective is derived from Weber (1968) and Schutz's (1967) concern with an objectively understood subjectivity. Structure is an abstract concept that represents a series of relations within a social system that make intuitive sense to participants in that system. Theorists in education are interested in structure in variety of contexts including the institutional structures of schools, economic stratification, cultural privilege, racial

stratification and issues of gender. Understanding how structure can objectively exist as an external force that is reproduced through its internalization by the individual is problematic in the conception of structure. Most current theorists reject the completely external, objectivist constructs of structure such as Marxist class structures, anthropological concepts of myth and kinship, and an approach to language that determines thought. Class structures, for example, proved durable beyond the transformative aspirations of twentieth century revolutionaries. Proletarians were replicating the conditions of their own oppression (Cf. Willis, 1977). Anthropologists discovered the idealized constructs of Levi-Strauss did not match cultural reality. Some structuralists abandoned meta-theoretical concepts and grand narratives such as Marxism, to the indeterminacy and subjectivism of post-modern thought. While others, such as Bourdieu, sought to reconcile the tensions of external structure and internal processes.

In his seminal work on practice theory, Pierre Bourdieu outlines an approach to social science counter to essentializing grand narratives such as Marxism and structuralism without reducing experience to subjectivism (Bourdieu, 1977). His concept of *habitus* – an internalized set of dispositions acquired as a member of a culture – sits in relation to the field. The field represents structured social relationships with embedded power relations. Social agents use the tools of their *habitus* to navigate the limitations of the field. These relations are misrecognized; they are taken for granted as part of a “natural order” but fall into stark relief when their internalized rules are transgressed. Bourdieu is also interested in the exercise of power as an unconscious process. Power is crucial concept discussed in the context of cultural reproduction.

Concepts of race, gender and class are important in much of the discussion in education. Theorists of this bent are described variously as critical theorists and/or post-structuralists and are interested in an emancipatory framework that seeks to redress historical wrongs such as racism, sexism, and class oppression. Theoretical roots can be found in the Marxist thought of the Frankfurt School, the historically centered analysis of power by Michel Foucault (1979) and Antonio Gramsci's (1971) concept of hegemony.

But for Bourdieu, class structure is not a result of simple Marxian political economy where capital is the single mechanism that allows for control of the means of production. Capital in Bourdieu's analysis takes many forms, including cultural, social and symbolic. The cultural capital of the ruling class is institutionalized and reproduced largely by the state through schooling. In the school, the subjugated enter into a system of cultural reproduction at an immediate disadvantage. Their embodied *habitus*—dispositions, dress, linguistic conventions, and social relations—are marginalized as illegitimate in successive acts of dominance via symbolic violence accepted and enacted by dominant and dominated alike.

This power structure, while durable and reproducible, is not necessarily permanent or impervious to disruption. Agents may speak truth to *doxa*, exposing the arbitrary rules of the game and potentially threatening the instruments of power. In so doing, agents may give utterance to a heterodoxy that challenges the unchallenged. Conservative forces of power are likely to respond in kind, offering an orthodox counter punch in defense of the status quo. This universe of discourse arising from the

unconscious affects the fringes of the *habitus*, subtly changing in turn, the generative schema that constrains the potential for cultural improvisation to social conventions.

These are the conventions that must hold to the immediate context in which they find their expression. For Bourdieu, overlapping and mutually supporting contexts constitute the field, a cultural space where the various forms of capital instantiate their effects. The field constitutes a logic of power that is internalized by the agents acting therein, and thus reproducing the structure of social relations that differentially distributes influence, prestige and dominance (see Figure 2-1). Fields may privilege one form of capital over another. For example, in the scientific field legitimacy is garnered through the accumulation of cultural capital in the form of academic credentials, refereed publications, and research grants. On the other hand, for those in the field of finance, economic capital holds primacy. The transferability of one form of capital to another is unequal. Cultural capital is not easily exchanged for economic capital, but economic capital in the form of research grants, for example, can translate to power within the scientific field.

Bourdieu's Critics in Educational Research

Some theorists in education, such as Nash (1990) find shortcomings in the concept of *habitus*, especially in understanding the role of the school in the reproduction of social class. First and foremost Nash claims that the theory allows for "no recognition of self, or choice, or action." Also, schools have a fundamental role beyond the preservation of the dominant *habitus*—a conservative cultural force. In liberal societies, schools produce literate, numerate, and rational citizens. As such, the author points out, children from social classes whose parents are endowed with these abilities, as a

matter of professional necessity will have an immediate advantage over those who are not. There is no practical way to engineer the culture of the school to accommodate the structural disadvantages of working class and immigrant children without negatively affecting the students from the dominant group.

Lakomski (1984) goes even further, and situates Bourdieu firmly within a deterministic framework. In his view, Bourdieu leaves no room for agency and resistance: power relations and social outcomes are structurally determined with power rooted in the dominant classes. In Lakomski's critique of Bourdieu, subjugated groups such as the working class are fatalistically doomed to replicate the conditions of their own oppression. Using Willis' ethnography of working class British students (Willis, 1977) as an example, she illustrates that what appears to be an act of resistance, is in fact a form of self-sabotage that ensures these students a lifetime of economic and cultural disenfranchisement. Her analysis is a vindication of Bourdieu's concept of practice from the perspective of the unconscious and culturally determined process of social reproduction and power relations. But Lakomski's critique of Bourdieu's theory of symbolic violence as fatalism is overdetermined.

Harker (1984) addresses some of the implications of the reproduction of class status in public education. The concept of *habitus* is evaluated as cultural capital, whereby the structured dispositions of the ruling class are favored, thereby giving middle and upper class students an educational advantage. Working class students, on the other hand, are structurally disadvantaged by virtue of their *habitus*. The author attempts to liberate the mechanistic determinism foisted on Bourdieu's theories by his critics. *Habitus* is individually situated, providing a structured means of generating

practices within a specific historical milieu. It is not deterministic, but it can place limits on its possessor, especially economic ones. Education systems are involved in the reproduction of practices, *habitus* and inequalities.

Zevenbergen (1996) uses Bourdieu's concepts of social capital to construct a meta-critique of constructivism in mathematics education. Zevenbergen 's argument can be summarized thusly: although constructivism has rightly demonstrated that knowledge is individually and socially constructed, it falls short as a theoretical construct because it fails to recognize that only certain forms of knowledge are considered legitimate in the dominant field. This failure can lead to the replication of social inequality, since not all forms of knowledge are equal, especially in empirical disciplines such as mathematics. Students who incorrectly construct mathematical knowledge will be at a disadvantage when applying for admission to universities. Such students will therefore at a permanent structural disadvantage thereby implicating constructivism in the reproduction of social inequality.

Gartman (2002) focuses on Bourdieu's (1984) seminal work on cultural capital, *Distinction*. This is further grounded in the author's concept of culture in the metaphor of free market liberalism. Exchange, competition and production are the mechanisms for change, governed by the laws of supply and demand. In Bourdieu's formulation social stratification provides the impetus for rapid cultural production as agents seek cultural products that distinguish themselves as members of a particular class. As cultural products are consumed by economic elites (the bourgeoisie) these products trickle down social strata through imitation, which in turn drives elites to consume new products in order to maintain their distinction as elites. While this formulation works well

as an analysis for French (and perhaps American) society, one wonders if the market metaphor is apt in more egalitarian societies. Would such societies, by virtue of their lack of social hierarchy, be considered static?

While the theories of Bourdieu broach the role of structure and its internalization in cultural reproduction, most of the above authors either privilege the role of structure over individual agency (Gartman, 2002; Zevenbergen, 1996) or offer such privileging as problematic (Harker, 1984; Lakomski, 1984; Nash, 1990). The problem arises when theorists wish to address the emancipatory powers of education, the benefits of cultural diversity, and the taken-for-grantedness of dominant structures. For social constructivists and critical theorists, agency, or the directed action of the individual, is of central importance.

Au (1998) addresses second-language literacy, cultural sensitivity and learning in cultural context. In her view, learning is enhanced through a diverse social constructivism that allows students to ground learning in their native languages and cultures. In an ideal world students would be bilingual at a minimum, and teachers would be able to respond to cultural needs easily. While the theory of diverse social constructivism seems sound (though the mainstream vs. diverse dichotomy is a little forced) the practice of diverse social constructivism might not be attainable. How is it, for example, that a teacher can be expected to respond to the needs of a multicultural group by providing instruction in the students' native languages and cultural contexts when the teacher is limited by her own linguistic and cultural competence? Wouldn't the students find such an approach less than authentic? And even if the teacher were multilingual and had some knowledge of the cultures of her classroom, how would

Latino students respond to African-American style instruction? How would Korean students respond to Native American style instruction?

Apple (1996) takes a post-Marxist perspective of education and is generally sympathetic to work critical of conservative forces. Like many who review the effect of post-modern discourse on current scholarship, the author seeks redemption for his own project; i.e. of political economy informed by critical theory and identity politics, or the politics of meaning. Acknowledging that the socialist project has failed and that liberal policies are under threat, the author seeks to rescue emancipatory curricula without abandoning materialism to the post-modern discursive ether.

Harkin (1998) also seeks to rescue educational theory from post-modern nihilism. He argues for renewed faith in rational discourse and human understanding using Habermas' concept of communicative action. Harkin is troubled by the "radical relativism" of some postmodern theorists, especially those who follow Lyotard's concept of language as a game and — ergo — communication as war. In the context of education, this attitude is nihilistic at best. While it is important to recognize power structures in language and classroom discourse, we should also recognize the power of rational, productive and cooperative communication. The modernist project, he argues, should not be about discovering universal truths, but building community consensus where participants are empowered through mutual understanding.

Ewert (1991) seeks to locate a critical theory of education informed by Habermasian ideas of a normatively informed and empirically driven application of theory and practice. The purpose of critical theory, according to the author, is to transform practice by resolving contradictions in rational social acts. As such, critical

theory in education aspires to both enlighten and emancipate. The author also advocates for three distinct forms of knowledge: critical, interpretive and empirical. None have exclusive claims to truth and should be used to mutually inform researchers and educators.

Popkewitz (1998) takes an approach that is grounded in Foucault, whereby the institution's role in cultural reproduction is generating model citizens in liberal democracies, inscribed with the disciplines of self-motivation and self-realization. As such, the psychology of modernism as practiced by Dewey and Vygotsky is a means of transcending the self and society, the public and private, while ironically rejecting Cartesian dualism. It seems the educated individual embodies the mechanisms of power in society, and thus sets out to reproduce them, either as a beneficiary of power or one of power's exploits. This theoretical construct fits nicely with neo-Gramscian notions of hegemony and Bourdieu's concept of misrecognition.

These theorists all raise important concerns about the exercise of power in institutional, cultural and political contexts. Individual agency starts to play a role as many advocate for education as a means of empowerment (Au, 1998; Apple, 1996; Harkin, 1998; Ewert, 1991). Au sees culture as an asset in education that institutional structures should seek to incorporate into curricula. Apple identifies the contradictory dynamics of power in the sociology of education, and the importance of factors such as race, gender and class. Harkin (1998), Ewert (1991) and Popkewitz (1998) identify the role of education in the reproduction of liberal democratic societies. Rational communication is opposed to the post-modern language games that seem so prevalent in reactionary political discourse.

McLaughlin (2001) is theorist that does not quite fit the post-structuralist or constructivist molds. His article does not address education per se, but organizational change. Coming from the prospective of Human Ecology, the author tries to bridge the gap from positivism to interpretivism via a reading of Bourdieu with an emphasis on Darwinian theory. His meta-theory might be divided into four concepts (two binary pairs): adaptation/selection :: structure/agency. His critique is oriented towards the shortcomings of organizational ecology engendered in essentialism and a lack of interest in agency and power, and not the polemics of post-structuralism and post-modernism. His theory of an ecology of social action shows some promise in the concept of the socially constructed adaptive landscape where individuals make conscious choices within structures that effect outcomes. In other words, he views the tensions between structure and agency through an adaptationist lens.

The role of constructivism in education can only be enhanced and improved by theories that incorporate structure, agency and power into their analyses. The theorists mentioned above are the logical inheritors of the modernist project. They seek to escape modernism's strictures without entirely undermining its foundations. It seems that much of the post-modernist project was to undermine the self-evident power of empirical investigation while suggesting that truth is essentially a linguistic mask for power. The result, unfortunately, is that there is an equivalence established that undermines empirically-driven rational discourse as just another language game. If the purpose of education is to elevate citizens through knowledge-empowerment, we must recognize that not all knowledge is equal, but has a structural logic. If the purpose of education is to be an equalizer as well, we must recognize the power of diversity in a

knowledge system and the importance of rational discourse and debate. If knowledge construction is reduced to a radical subjectivity where truth is relative, personal beliefs and prejudices will be treated equally to empirical analysis; society will become atomized; and education becomes a vehicle for ignorance rather than enlightenment.

A Theory of Change: Improvisation in the Field

Improvisation, as a theoretical framework, suffers from prejudice. It is a victim of presuppositions that either trivialize it as a process of last resort when one finds oneself either unprepared or out of one's depth (Peters, 2009, p. 9); or ghettoized it as a practice of the 'less-refined' arts such as jazz or comedy. These attitudes are understandable, perhaps even justified, given the ubiquity of improvisation in human life. The practice itself is so deeply engrained, that it is misrecognized as a reflexive means of engagement with the world (Lewis, 2007, p 108). Only when we are pushed beyond our boundaries, in an unexpected context, or when novelty becomes disorienting, do we realize that our improvisational mechanisms are situationally inadequate (Ford, 2008, p. 178). Thus we become aware that they exist, and in becoming conscious of them in that moment, we mistakenly believe that it is only in this moment that they exist. Likewise, improvised performance — staged acts of music or theater that foreground indeterminacy over structure — privileges improvisation as an ethos and embraces it as an identity that stands apart from the dominant cultural field (Bailey, 1993; Peterson, 2006; Lewis, 2009). This act of ideological defiance also serves to obscure the fundamental banality of improvisation. 'Improvisers' set themselves apart when, in fact, we are all improvisers. As with all forms of prejudice, the trivialization and exoticification of improvisation also serves to deepen our ignorance about ourselves.

According to Bourdieu, the structures that guide our actions lie beneath our conscious awareness, manifest in our *habitus* — a fact that is often obscured by the bureaucratic strictures, legal codes, religious mores, and curricular prescriptions that are meant to explicitly govern our behavior, attitudes, interactions and learning. These are structural limitations. They are limiting but non-determinant. They are also just the surface of the many structures we adhere to as social beings. These structures are innumerable, overlapping, and ever changing; growing and adapting as the products of our interactions with them. That is, they are *generated* by us and yet we are also *subject* to them (Bourdieu, 1990a; Giddens, 1979). This generatively opens the door for a theory of change through improvisation. Like the interpretive acts of musicians performing within the limits of composition and the social rules of creative action. Ornamentation and cadenza may give rise to new forms, new scores. Great ensemble performances may set standards for future revues (Berliner, 1994; Monson, 1996). This process proceeds largely out of conscious awareness, in the slow interaction of agents, time and context; social, historical and emergent (Hallam & Ingold, 2007). In times of major disruption, when context demands an immediate adaptive response, we may experience rapid bursts of innovation and creativity, where the scripts of tradition are bracketed, held in abeyance, and new forms are allowed to freely emerge (Murphy, 1971; Sawyer 2006). All of these, from the methodological conformity to tradition, to the disruptive avant-garde approach, are forms of improvisation.

How else can we account for individual agency and the continuity of culture? As Bourdieu has forcefully argued, it is not feasible to imagine that cultures exist outside of the bodies of the humans that inhabit them, as some free-floating superstructure

bending its subjects into submission (Marchand, 2011). At the same time, we cannot assert that culture does not exist independently of individuals. It is both within us and distributed amongst us. And yet how can a 'thing' that has no single physical form exist at all? The answer must be that culture is a durable form that reproduces itself — a structuring structure in Bourdieu's formulation (Bourdieu, 1977, p. 72). Culture exists as the actions of the beings that inhabit it. But it cannot exist always and forever the same. It must evolve and adapt. Culture emerges, and all things that constitute culture emerge with it: language, norms, knowledge, technology, social structure, ethics, cuisine, and creativity. *This act of cultural emergence is an enormous ongoing collective improvisation*. It is the fundamental process that allows for culture to function as a complex adaptive system (Ford, 2008), a system that has enabled a relatively weak mammal to colonize and dominate the entire planet.

That any improvisational act is a collective endeavor should go without saying. For those who consciously adopt improvisation as a counter-cultural activity understand, at least implicitly, the essentially social nature of their project. In jazz and theater, the creative act is a group effort (Berliner, 1994). Structures emerge as a part of interaction and flow. Individuals are acutely attuned to the gestures, postures, intonation and emotional engagement of their interlocutors (Bastien & Hostager, 1992, p. 94). They must adjust instantly and intuitively to changes in tone, theme or orientation. Mistakes become opportunities. Dissonance becomes harmony by implication. This is because the elaboration of group interaction into an emergent structure is dependent only on the context of the present, a context that is itself emergent, and thus provides the logical impetus for the next act (Paulus & Nijstad, 2003; Sawyer 1997). This process can only

be deemed sane by its social nature — i.e. successive moments of generative ‘sense’ must be sanctioned by the implicit acceptance of the group. Otherwise, we might be left with the ravings of a lunatic. This not a wish to ignore improvisatory acts of individuals, only to emphasize that these acts can only make sense in the context of the group — the logic of the field that provides the grounding for solo flights of fancy. But, as noted, improvisation need not only be considered in its most radical form, for this is the exception that elides the ubiquity of improvisation in every day practice. If improvisation is the cornerstone of culture as a complex adaptive system (Sawyer, 2005), then by definition, it must be a social process. For to have a cultural process that is not social is nonsensical. Culture does not live in the heads of homunculi nor as an independent invisible hand, but as a socially distributed and emergent process, generated and maintained by the acts of individuals. As Benson notes with musical performance:

> While the fact that performance is essentially improvisatory . . . might seem to free the performer from restrictions, it actually does precisely the opposite. For it means that the performer has a tremendous responsibility, one that is far grater and more complex than one conceived in terms of simple transmission or reproduction or "fidelity". The performer, just like the translator, is essentially the inheritor of a gift — something bequeathed, unearned, and unowned. As gift, it is something over which the performer does not have mastery or control. Moreover, it is not merely the piece of music that is bequeathed but, rather, the whole tradition to which that piece belongs and in which the performer and listener merely take part (Benson, 2003, p. 187).

Social actors are dependent on social structure, just as structures are dependent on the actors that inhabit them. Thus every act has a structural context that is also historical. That is, activity is a temporal process, bounded by time, dependent on antecedents in the construction of meaning, and implicating successive acts by proximity and contiguity. But improvisation emphasizes the present with an eye to the past. The future is always unpredictable, it is emergent. It happens, and the fact that we

are rarely surprised is a matter of experienced conjecture. This is why our improviser's toolbox is so important. We adapt to the uncertain, mostly with confidence, occasionally with trepidation and with rare instance out of obliviousness. This speaks to the adaptive power of our cultural systems. We are, by and large, well equipped to handle most events that unfold before us without the privilege of prior experience. Prior experience is collective and becomes shared through the temporal accumulation of understanding. Thus, our ability to respond to the unpredictable is as dependent on our experience interacting with others as it is in our ability to improvise. To be sure, this speaks to the importance of improvisation to the learning process as much as it speaks to the importance of learning to improvise.

Experts are master improvisers. They have internalized the generative structures of their field—that is, their *habitus* is finely tuned to its logic. Their activity within the field takes on a generative potential, giving rise to new practices, refining others, and leaving still others to historical memory. As a social process, expertise (as well as leadership) is defined and legitimized by the field (Newton, 2004). But there is no denying that improvising requires skill. Technique must be completely embodied, transforming individual identity. The process of becoming expert is the process of becoming a new person (Lave & Wenger, 1991; Wenger, 1998). We are all experts in our culture. Some of us are experts in two or more cultures. This requires a total immersion in cultural practices for years – 'formative' years, when brain structures are emerging and are elastic enough to absorb language, spatial logics and behaviors without bias. These cultural and class biases then inform how we internalize the logic of the field: be it medicine, engineering, law, textile production, woodworking, ceramics, or evangelizing.

Improvising within these fields requires technical skills — embodied techniques — that include fine motor movement, mastery of jargon, and the adoption of a certain comportment. Without these techniques, expert knowledge can be questioned. The expert might be accused of being a charlatan, thus rejected by the field. Ultimately, I would argue that the expert is judged on her ability to improvise—to use the tools of her trade to produce an unexpected or novel result, perhaps, ironically, even in her ability to execute traditional forms flawlessly. She must learn her field as well as to improvise within it.

Improvisation and Reproduction in Education

The social construction of knowledge is taken as given in many areas of social research. The act of making knowledge must be understood as the emergent collective understanding generated by group activity (Theodoraki & Kampiotis, 2007). The student should be learning this process rather than memorizing the propositions of her instructor. In fact, in so doing, she is learning more about authority and the social construct of the “school” than the subjects of her lessons. Rote memorization does not make for expertise, although it may help to internalize the conventions of certain communities. The doctor in training must memorize human anatomy in order to speak authoritatively with her patients and peers. But this internalization of facts is only a small aspect of her expertise, and serves more as a requisite to entry into her field than as a marker for expertise. Without the practical implication of her rote memorization (as entry into the field or as foundation for greater understanding) the exercise serves no purpose. Of greater importance, is her ability to take the schemata of human anatomy and apply it to novel situations. When is the heart enlarged? Why is the appendix

inflamed? And she must understand that not every like situation will respond to the same treatment. The student must be taught that she is not only learning the facts of her trade (or the elementary facts of grammar and arithmetic), but that she is internalizing skills that will provide her with tools to address novel problems flexibly. She must also recognize that her greatest resource is her peers, her collaborators. Learning to improvise means not only learning the skills the expert requires, but that true knowledge is distributed and that problems are best solved collaboratively.

Lobman shows that an understanding of improvisation can improve leading, redirecting and listening techniques of teachers working with small children (Lobman, 2003; 2006). Techniques of agreement facilitate an ensemble activity, where teachers and children engage much more closely leading to emergent understanding on all parts. Other researchers have shown a measurable difference in creative thought between students who have been taught improvisational techniques and those who have not (Koutsoupidou & Hargreaves, 2009; Koutsoupidou, 2005). Burnard worked with 12-year-old students improvising musically in groups. She observed social structure emerging in the process of interactions, with roles negotiated and learned through the dynamic development of communicative gestures (Burnard, 2002, p. 167). Likewise, Hedricks observed the genesis of mythic structures through improvisational play and—in the process of group interaction—an understanding emerged.

> After two months of myth-making, the children had defined their own explanations for the world around them, had created ideal worlds, destroyed them, and rebuilt them again. They had explored a range of established myth cycles and were startled that their own myths so closely resembled some of the established myth cycles. The children's improvisation and role-playing . . . provided the means for discovering the human situation and how people attempt to deal with it. (Hendricks, 1973, pp. 229-230).

Of course if improvising leads to new knowledge, and if experts are master improvisers within their knowledge domain, it follows that teachers, as experts in pedagogy must also be master improvisers. “Conceiving of teaching as improvisation emphasizes the interactional and responsive creativity of a teacher working together with a unique group of students. In particular, effective classroom discussion is improvisational, because the flow of the class is unpredictable and emerges from the actions of all participants, both teachers and students” (Sawyer, 2004b, pp. 12-13). Teaching becomes less about imparting wisdom or the transference of fact, and more about mutual engagement with novices in the construction of their own knowledge. The structures that teachers provide are the scaffolds that allow students to build knowledge in a guided manner (Towers, Pirie & Martin, 2006). Curricula are no longer proscriptions against creativity, inscribed in textbooks and enforced by the regime of standardized assessment, but guide maps for exploration within the bounds of shared objectives. “Viewing [classroom] interactions . . . as collectively improvised, provides the . . . opportunity to explicitly consider the relationships not only between classroom actors but also the intersection between those actors, the curriculum, and . . . norms and values” (Gershon, 2006, p 129). Borko and Livingston demonstrate that expert teachers work from a general outline of their lesson plans, adapting their performance to the responsiveness of their audience in order to achieve more effective instruction (1989, p. 483). Teachers must have the freedom to explore the generative capacity of the learning community in their classrooms (Rush & Fecho, 2008), to confront the shortcomings of societal ills, family problems, learning disabilities, and the general

malaise of many educational institutions. Many no doubt embrace the challenge, but are hamstrung by policies that often penalize creativity.

Institutional Ethnography

In conducting this research, I have attempted to explore institutional change within the field of power by focusing on the actions (in word and deed) of individual agents. This method of inquiry shares many features with the approach sociological researchers call institutional ethnography. Because of the many close similarities, I have adopted this designation in describing my study, although there are a number of distinct differences between my approach and the institutional ethnography literature. The most striking similarities are as follows: an ethnographic perspective taken from the actualities of individual lives; the dialogic nature of the data as a product of participant-researcher interaction; the institutional context of organized social hierarchy; and an emphasis on textual source data in the analysis of power. The differences lie in the theoretical grounding, with this research product firmly rooted in practice theory embellished by social improvisation, and institutional ethnographers claiming an atheoretical stance, preferring to focus on the ontology of the social as a frame for analysis (Smith, 2005). For the purposes of this study, I find that such an approach lacks a satisfactory explanation of the social mechanisms of power within the logic of a particular field. Such power structures cannot be merely the products of institutional organization, but must be durable and reproducible irrespective of localized social relations. Therein lies the explanatory power of field, habitus and forms of capital.

Institutional ethnography has its roots in the Marxist feminist work of Dorothy Smith. She describes her project as a method of inquiry that “relies . . . on accumulating

the work knowledges of individuals and assembling them to display how they are coordinated, particularly in the medium of texts" (Smith, 2005, p. 220). These texts can provide maps of the complexes of ruling relations that govern individual lives at the local level as well as in Western society writ large. While viewing her subject through a Marxist lens, she takes pains to separate her sociology for people from the "objectified subject of knowledge of established social scientific discourse" (Smith, 2005, p. 10) and declines to adopt a preconceived conceptual framework. "It doesn't begin in theory but in the actualities of people's lives with a focus of investigation that comes from how they participate in or are hooked up into institutional relations. This is what is called the problematic of a given study" (Smith, 2005, pp. 206-207).

McCoy adopts the IE approach in her study of accounting practices in Ontario community colleges (McCoy, 1998). She conducted her fieldwork at a time when government resources were dwindling and college deans were being held more closely accountable for the types of academic programs they chose to support. She analyzes the everyday activities of participants and their relation to accounting in order to explicate how actors realize and enact the process of change. Accounting practices are established in official policy texts that then shape the discourses surrounding institutional decision-making.

> Accounting, rather than being a simple matter of neutral record-keeping after the fact, plays an active conceptual role in setting the terms in which organizational activities can be thought, discussed and evaluated. At the interface between organizations, accounting categories work to align one organization's work processes with those of others (funders, creditors, customers). This is especially prevalent in relations of accountability, where grant recipients, state funded agencies, and company subsidiaries report on their activities through documents prepared using accounting categories and procedures imposed by the more powerful organization (McCoy, 1998, p. 396).

McCoy's field site was undergoing the implementation of a new accounting procedure called program costing, in which operating costs are calculated in direct relation to the educational products they support. Administrators, such as deans, are then held accountable for the fiscal health of their academic programs through a process called responsibility accounting. Through a series of interviews and textual analysis, McCoy uncovers how college administrators adjust to the new institutional accounting regime, and develop programs that are "more entrepreneurial, more customer-oriented, and more efficient" (McCoy, 1998, p. 415).

Similarly, Nichols and Griffith describe how new educational accountability practices influences the everyday discourse and activities surrounding to work of education for parents and principals (Nichols and Griffith, 2009). The Canadian Province where they conducted their research had implemented standardized performance measures which in turn impacted teacher's assessment practices. In their view, this managerial turn has reduced the practice of instruction to baseline data collection and measured progress towards achievement targets. Parent involvement in turn, becomes oriented to school achievement targets. Thus, local experience is standardized according to the ruling relations of educational institutions and the state. The researchers start their analysis by exploring parent and principal conversations are shaped around, and oriented to the various texts of the provincial Accountability Framework, and thus indicate how participants activate texts in their activity and discourse. "The 'extraordinary consistency' across the province happens in the standardization of people's actions as they are oriented to the institutional texts of educational reform" (Nichols & Griffith, 2009, p. 253).

Institutional ethnographies like these exploring power as it arises in the textual coordinating of institutional work. But, according to Smith, this focus "is not meant to deny, by implication, the existence of powers that arise in other forms of the social. It is meant rather to make social relations and organization based in or mediated by texts ethnographically observable" (Smith, 2005, p. 199). However, Smith takes direct issue with Bourdieu's analysis of power as manifest in forms of capital and symbolic domination. Smith prefers to emphasize the micro-social, by exploring the coordination of inter-subjectivities between agents, thereby opening an ethnographic window into "dimensions of organization that are presupposed in the kinds of communicative encounters Bourdieu envisages" (Smith, 2005, p. 185). Gerrard and Farrell prefer an approach to their research in curriculum policy that combines institutional ethnography with Bourdieusian field analysis.

> [By] mobilising the concepts of field, capital, habitus, alongside institutional ethnography's texts-in-action and intertextual hierarchy, policy sociology can attend to the ambiguities and complexities of the everyday practices of policy production and at the same time retain focus on the ways in which these are coordinated and framed by wider social and power relations (Gerrard & Farrell, 2013, p. 15).

Similarly, in this study I hope to cast institutional ethnography and practice theory in dialogue. It is a study that is oriented at the level of practice, that is, what people do in their everyday work. It is the knowledge generated therein that is my major resource. But these are experiences in which I am intimately involved, as a participant and researcher. Thus, I am part of the story, the ruling relations, and the subjectivities generated in the social dynamics that unfold. These dynamics and the greater social context, the field, are the object of the study and not the study participants. As Smith states, in institutional ethnography "[t]he ethnographer isn't studying the people she or

he talks to. She or he is establishing a standpoint as the starting point of investigation of the institutional process" (Smith, 2005, p. 207). And by incorporating texts, I am able to expand the study to higher levels of organization and explore the nature of power and the dynamics of the field as new approaches to instruction are addressed. In the next chapter, I discuss the ethnographic approach I have employed here, including the importance of collaboration in the research process in establishing a standpoint for the study. The standpoint of the study provides a way to view the dynamics of power within the field from the perspective of everyday experience, in the process of work within the context of the university.

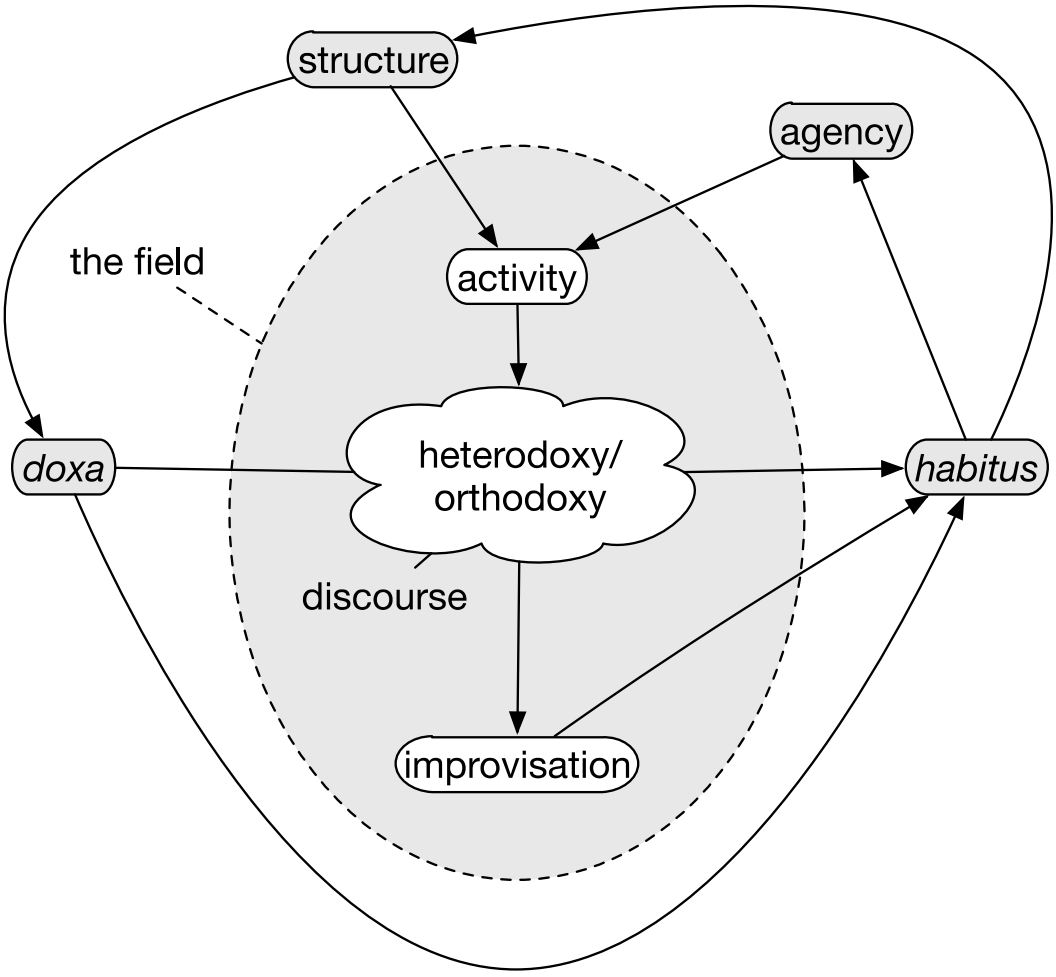


Figure 2-1. Major concepts in Practice Theory

CHAPTER 3
RESEARCH METHODS

The Ethnographic Paradigm

The document that this dissertation has become is an emergent object—a product distilled through interaction, collaboration, debate and tension among agents, participants, theories, thoughts and analytic instruments. The research presented does not presume to follow a tidy path of proposition, exposition and hypothesis testing by one heroic author. It will reflect the result of an intense collaboration. Not a collaboration on the document per se, but a concerted effort by agents in a field engaged in the design and development of new technologies, instructional practices, institutional scaffolds, and entrepreneurial machinations—the transformation of the University of Florida into an online institution. I am a member of this community, observing and participating in the shouts of encouragement, the differences in opinion, the struggles for influence, and the interdependence of action as we look for our line down the face of the breaking wave of disruption. My writing and its voice are a product of this collaboration. My research is the attempt to capture the bits of “data” that swirl around the collaborative process and have a putative impact on decision points and outcomes. My methods lie in social science—ethnography as thick description supported by analytical instruments such as thematic network analysis.

This research has been conducted during some of the most disruptive institutional challenges that the University of Florida has faced in recent history. Through this institutional ethnography, readers should be given a sense of how rapidly the disruption came to be as a prerogative of the political leadership of the state government and university administration. Ongoing and historical efforts within the

university to adjust to technological disruption in education are framed as the foundation on which the university can rise to the challenge. Through this research I hope to address the possibilities for large public institutions to adapt to a rapidly evolving landscape in higher education. However, this research has been conducted “on the ground” by directly engaging the actors who are confronting this new reality and seeking ways to adapt their own practices, create new opportunities, and develop their professional identities. These include faculty, administrators, political leaders, and those who operate behind the scenes as consultants, staff and entrepreneurs. Each of these actors has a part in the story I hope to tell, a piece of a bigger picture that will emerge as the study unfolds. I will focus on this picture through the lens of teaching and learning, and the tensions fraught in the development of new systems as the developers confront the pitfalls and promise of entrenched ideas.

The Role of the Ethnographer

Ethnography is complicated. I write this as a student of cultural anthropology for the past quarter century. Ethnography is what anthropologists do — it is what makes an anthropologist (Geertz, 1973; Clifford, 1988). The complication arises from the fundamental tension between the privileged researcher and the often-marginalized subject. Power and status are part of the equation. This is an inconvenient truth for ethnographers, as we are ostensibly committed to the emancipation of our subjects from the tyrannies of empire, exploitative capitalism, bigotry and discrimination (Marcus and Fischer, 1986). At the same time we reside comfortably in the structures of institutional privilege and other trappings of empire, capital and conquest (Clifford & Marcus, 1986; Fabian, 1983).

At the very least, this is an awkward situation. A generation of critique has left us painfully aware of our privilege. Our genre has been carefully crafted to simultaneously project authority and obscure subjectivity (Clifford & Marcus, 1986). As Lassiter writes,

> [W]e often describe our experience, cast our single voiced texts, or use our narrative devices in ways intended to increase the authenticity of our ethnographic accounts and augment our authority as authors. We deploy particular words, construct our sentences in particular ways, and implement often esoteric, difficult to understand (and thus difficult-to-critique) interpretations in order to keep ourselves at a certain authoritative distance from our readers . . . (Lassiter 2005, p. 120)

What is more, our research has done little to stem the flow of human exploitation and misery. Indeed our analyses have been appropriated by the very forces many had sought to overcome (Elliott & Jankel-Elliott, 2003; Friedmann, 1965; Perugini, 2008; Wolf & Jorgensen, 1970). What are we to do? Should we throw up our hands and walk away from the whole project? Given the ferocity of the critique, this is a tempting proposition. Until one considers what might take the place of ethnographic research.

Ethnography offers an intimate, localized picture of human experience that no other methodology can. That is its strength. Problems arise when we try to generalize from these data. Even two researchers in the same place at the same time may offer wildly different versions of the "truth". Heider's trope taken from the 1950 Japanese film *Rashomon* (Kurosawa, 1950), illustrates the constructivist nature of ethnographic research (Heider, 1988). In the film, various characters provide wildly different eye-witness accounts of the same events. The viewer is left with four equally plausible versions of the truth, which the narrative leaves unresolved. The *Rashomon* effect is endemic to ethnographic practice. Ethnographic truths are subjective, sometimes contradictory, and seldom resolved. For some, this undermines the validity of ethnographic research (Magoon, 1977; Reichardt & Cook, 1979). But for others,

decades of positivist and postmodern critique alike have established an acceptance of the limits of ethnography without completely undermining its truth-value (Carspecken & Walford, 2001, LeCompte & Goetz, 1982).

I believe that the primary consideration should be the practical outcome of the ethnographic research project. That is to ask: What does this study achieve? If the primary ethical objective of cultural anthropology is some form of emancipation for the research subject, then the study should provide some tangible advancement toward that goal. Of course, emancipation is a tricky goal given the aforementioned institutional privilege of the researcher. It is difficult not to be downright cynical about the disproportionate benefits to the researcher of his project, over his subjects. Projects are often funded by universities, government agencies, and private foundations that constitute webs of power and privilege in economically dominant states (Brenneis, 2004). Academics use the research to advance their careers within these institutions. Furthermore, they create products that are consumed by their peers in stratified status hierarchies (Bourdieu, 1988b). They climb the ladder of success on the backs of their research subjects.

The practical outcome in this scenario is unethical. It is exploitative. But I recognize that, at least for now, it is unlikely that ethnography would be done in any other context. In order for us to have researchers with the appropriate resources to be able to think about, write, teach and conduct research as time-intensive as ethnography, institutional privilege must exist. Universities, agencies and foundations provide the scaffolds necessary for this work to be done. However, I do not accept that the work precludes an emancipatory practical effect. Rather, it is imperative that the researcher

recognize the need for positive practical outcomes for her subjects (LeCompte et al, 1999). I don't believe that abstract benefits would suffice either. Rationalizations that the specifics of a particular study will help us understand larger problems are insufficient. We must have an understanding of how our work will have a real and immediate impact on our interlocutors. And to do that, our relationship with them must be collaborative.

Collaboration in the context of a structural power dynamic is fraught with tension. There is no use in feigning equal status amongst participants. Such pretense is disingenuous and risks undermining trust in the process, and trust is the key to a successful collaboration. Study participants, while recognizing that they are not vested with the institutional authority of the lead researcher, should be able to grasp the immediate benefits that the study presents for them. Often this means that they have input into determining the research question, selecting other participants, providing feedback as the process unfolds, and reviewing the manuscript before publication. The lead researcher must also be able to trust the process when participants become partners in research (LeCompte et al, 1999). This does not require that the lead researcher relinquish all control. Rather, she must be an adept improviser within the unfolding social process of knowledge construction.

Improvisers respond to activity as it unfolds, and their responses in turn help to shape subsequent actions by others (Sawyer, 2003, pp. 41-42). Experts in a domain are able to improvise with little conscious effort, as their expertise has become internalized and automatic. Experts working with novices in any knowledge domain must adjust their improvisational flow to help scaffold novice actors in the new domain. The novices are legitimate peripheral participants in an apprenticeship with the expert. Thus the

collaborative ethnographic research project can be seen as an improvisational apprenticeship with the lead researcher in an expert role (as researcher) and the research partners in the novice role. However, when considering the contexts of the study, the roles can just as easily become reversed. The lead researcher may be a novice in the culture or practices of the research partners, where the subjects are the experts. The lead researcher gains her privilege in the process of production; i.e. the ethnography as product. The research partners gain their privilege as natives — expert improvisers within their cultural milieu.

Two ethnographic projects serve as illustrative examples in the collaborative process. The first is Jean Lave's (1977; 2011) work with tailor apprentices in Liberia. The second is Luke Eric Lassiter's (2004; 2005) work in Muncie, Indiana. Both approaches present strengths and weaknesses. Lave's work is decidedly ethnographer-centric, with relatively little direct voice given to her subjects. She works diligently to represent them, and to correct her own ethnographic practice as her subjects challenge her assumptions in the process of participant observation. But ultimately the reader must trust Lave as the mouthpiece for her Liberian interlocutors. Lassiter privileges collaboration in the production of his text. His project, *The Other Side of Middletown*, a corrective to the whitewashed 1929 study painting Muncie as the prototypical American town, is co-authored by residents, undergraduate students and scholars.

The most striking difference between the two approaches is the level of prose. While Lave's writing reads like thoughtful scholarship—dense, reflexive, unsparing in detail; Lassiter's book has the feel of a collection of college-level term papers. It is easy to understand why this would be the case. Traditionally scholars such as Lave have

written mainly for an audience of their peers, and must anticipate deep skepticism of their work, both epistemologically and methodologically. Accordingly, the written argument must preempt critical strikes by constructing a rhetorical breastwork of empirical shields, explanatory scaffolds, and theoretical banderoles. Lassiter's work, on the other hand, places the title of expert on the cultural insider, thereby allowing for writing that is simply explanatory (Lassiter, 2005, pp. 120-121). The goal is to allow for the native's truth to be explicated for the outside world—it may be contested (or contestable) but that fact does not undermine its validity, thus obviating the need to provide rhetorical defenses against external critique.

Indeed the stated objective of *The Other Side of Middletown* is that of counter-narrative, a corrective to the 1929 ethnographic work, *Middletown: A Study of a Modern American Culture* by Robert and Helen Lynd. According to Lassiter et al., Lynd and Lynd (unwittingly) portray the white population Muncie as synecdoche of American culture by systematically ignoring the town's small "foreign-born and Negro population" (Lassiter et al., 2004, p. 1). Thus the dominant culture of Muncie becomes mainstream US culture, while others are marginalized or made exotic. This simple ethnographic trope can serve as a means of rationalizing white dominance and oppression by naturalizing white experience. The insidious effects of the Lynds' work were amplified by its popular embrace.

> Although the Lynds warned against casting Middletown as an "average" or "typical" US place, that is exactly what eventually happened, especially in popular and journalistic accounts, reviews, and commentaries. In 1937, for example . . . *Life Magazine* published a photo essay revealing Muncie as "the Great U.S. 'Middletown,'" which, the magazine proclaimed, represented "every small U.S. city from Maine to California". And in the photos, boasted the essay, "set down for all time, you may look at the

> average 1937 American as he really is" (Campbell & Lassiter, 2010, p. 371).

Effectively, the Lynds created a portrait of the average American as a middle-class, white male, erasing black experience completely.

Other scholars have recognized this in subsequent critiques of the Lynds' work since its publication (Cf. Rottenberg, 1998; Huang, 2000), but Lassiter et al. are the first to attempt to redress this injustice. The research team consisted of Luke Eric Lassiter, Elizabeth Campbell, Hurley Goodall, and Michelle Natasya Johnson. Lassiter was an associate professor of anthropology at Ball State University at the time. He and his graduate assistant, Michelle Natasya Johnson, brought to bear the resources of Muncie's local academic institution. Hurley Goodall, a local community leader in Muncie's black community, provided the drive for social justice and an *emic* perspective. Goodall experienced firsthand what he termed "academic and literary genocide" as members of the dominant culture constructed a narrative of middle America that did not include the story of his parents and grandparents (Campbell & Lassiter 2010, p. 372). The research team's solution was to send out teams of college students to conduct ethnographic studies in partnership with community members. The studies would cover the same social anthropological categories as the Lynd's original work (Campbell & Lassiter, 2010, p. 374). The result is a document that reflects, in substance and in style, a community-based collaboration with apprentice ethnographers undergoing their university training.

Jean Lave's analysis of the apprenticeship of Liberian tailors has provided a lasting impact on the field of education and the importance of context to learning. Her work shows that even the most abstract of academic concepts such as mathematics

can be learned in “informal” settings. Liberian tailors and, in another study, California nuns (Lave, Murtaugh & De La Rocha, 1984) were capable of complex arithmetic operations in the context of their practice, though less successful with problem solving in a traditional academic mode (Reed & Lave, 1979). Not only does Lave undermine ethnocentric prejudice against learning outside of Western systems of education, but she exposes weaknesses in the approach to instruction of abstract concepts within that system. She demonstrates that learning is contextual—and that cognition is situated—to the cultural practice in which it is embedded (Lave 1982; 1988). Her work on apprenticeship in the 1970s and 1980s, and her development of the concepts of legitimate peripheral participation and communities of practice (Lave & Wenger, 1991) have done much to invigorate social theories of learning in the social sciences (Illeris, 2008).

There is no doubt that Lave’s work has made an important contribution to the scholarship of education and, by extension, policies that have an impact on educational practice. It is harder to see how her work had a lasting or immediate impact on her ethnographic subjects, where tailoring has been washed away in the surging tide of globally and mass produced textiles (Lave, 2011). We are left wondering what has happened to the boys who spent their childhood learning to ply an extinct trade. Is their situated understanding of mathematics adequate for entry into the urban Monrovian workforce? Or have they been forced to return to the interior of Liberia and eek out a living as subsistence farmers? In Lave’s defense, given the violent history of Liberia since her fieldwork (Utas, 2008), these questions are perhaps unknowable. But to her Liberian interlocutors, the fact that their trade is dead must hold greater significance

than the satisfaction that their culturally bound approach to mathematics was as an effective means of problem solving as any other method. One would hope that Lave's work has given at least a fraction of the benefit that we have gained in the social sciences to her Liberian subjects. But wishing for indirect benefits has been the empty promise of much academic research. In hindsight, a simple collaboration with the Monrovian tailors in determining how best to acquire and generalize their mathematical skills could have proven invaluable.

Both Lassiter and Lave are exemplars but for different reasons. Lave for her scholarship and contributions to social theory and Lassiter for his commitment to collaboration and social justice. Lassiter opened the door to a partnership with the community members who were and are most directly affected by the products of his and his predecessors' ethnographic projects. Goodall, as community leader and Lassiter's research partner, helped to set the agenda and attempt to redress the wrongs of past ethnography that erased black experience from Muncie's history. Of course, as one would expect from a project that addresses social justice and racial intolerance, Lassiter et al. did unearth lingering resentment in the white community (Campbell & Lassiter, 2010, p. 377). An earlier collaborative project at Ball State caused some conflict amongst participants over historical events surrounding the Confederate flag (Lassiter, 2005, pp. 134-136). In other words, what might be a cathartic process for some, could prove troubling to other members of the community. Thus, intimately involving the community in the ethnographic process could lead not only to varying interpretations, but to unpredictable and unintended consequences. One could imagine that had the Middletown project been conducted in the thick of racial conflict 40 years ago, the

outcome could have been a less harmonious process between white college students and African American community members. The historical distance from such tense race relations that Lassiter et al. enjoyed during their research, may have afforded them the luxury of greater participation by community members and novice ethnographers. But just as we cannot know whether a more collaborative ethnographic process would have proven beneficial to the practice Lave's Liberian tailors, it is uncertain a traditional ethnographer-centric research design would have been more appropriate in 1970's Indiana. Ultimately both projects could benefit a little more by borrowing from each other's strengths: scholarly analysis on the part of Lassiter et al. and participant collaboration on the part of Lave.

Virtual Ethnography and the Interpretation of Texts

The last two decades have seen an explosion of digitized and readily accessible data for social research brought by the ubiquity of computer mediated communication (CMC). Social researchers have mined these data since the inception of the Internet, World Wide Web, and other pseudo public forms of social intercourse. These modes of communication have allowed for social groups to form around various nodes of identity from the banal to the obscure, even deviant and subversive. Such social phenomena naturally draw the interest of social theorists and researchers interested in the dynamics, power and expression of culture. Anthropologists, sociologists, social psychologists, and cultural critics are now able to engage the vast expression of human behavior and interaction from the comfort and convenience of their personal computers.

Of course social researchers from these disciplines, especially those of the qualitative tribe, have a long and storied tradition that privileges human interaction, participant observation, and researcher field experience. For ethnographers this is

especially true. Such techniques were developed in response to armchair theorists and gentlemen scholars who imagined elaborate theories to explain and justify European male hegemony (Clifford, 1988). Ethnographic research has demonstrated that much of what we perceive to be true is culturally determined. Thus to overcome ethnocentric biases, researchers must insert themselves into an exotic culture and try to understand the worldview from the internal logic therein. In order to do so, the ethnographer must be confronted by the immediacy of everyday life, with its material limits, social practices, linguistic forms, and symbolic meaning. It is perhaps no wonder that ethnography of CMC culture is still a nascent field in an area so rich in accessible ethnographic data.

A New Source for Social Research that Calls for Ethnographic Analysis

The first challenge ethnographers of the CMC realm must face is the perception that what they are studying is not 'real', i.e. the virtual connotation carries the stigma of invented culture, propagated and maintained by corporate, entertainment and governmental interests. Furthermore, ethnographers of virtual space are confronted by challenges to authenticity that arise from social distance (technological dissociation) and a culture of anonymity. Garcia, Standlee and Bechkoff point out that CMC can also confound the collection of accurate demographic data such as race, class, gender, or sexual orientation (2009, pp. 68 - 70). Sade-Beck asserts that the social space of the Internet presents complexities that make identifying a research population challenging (2004, p. 47). Crichton & Kinash point to the difficulties in conducting text-based online ethnographic interviews, which include a lack of nonverbal cues such as emotion or empathy; difficulties in interview pacing presented by asynchronous and CMC technologies; alienation from subjects; and a general lack of visual data (2003).

One way that researchers address these challenges is to pose online ethnography as part of a research design that should include a face-to-face component (Garcia et al., 2009; Crichton & Kinash, 2004; Sade-Beck, 2003). Garcia et al. go a step further by suggesting that any contemporary ethnographic work should include an online component. They assert:

> To continue to effectively explore some of the main and enduring concerns of ethnographic research (such as the nature of specific social worlds and subcultures; the construction of identity; the beliefs, values, and world views underlying human action and social life; and the experience of everyday life) ethnographers must incorporate the Internet and CMC into their research to adequately understand social life in contemporary society (2009, p. 53).

Sade-Beck also supports a dual-approach incorporating online and offline modes for research. She posits that the Geertzian ideal of ethnographic thick description cannot be achieved without a connection to the "real world" (Sade-Beck, 2004, p. 48). However she also seems to imply agreement with Garcia et al.: as CMC technology becomes integrated into the domestic self, the self becomes both "real" and virtual simultaneously, emphasizing the importance of CMC to contemporary culture and ethnography. Androutsopoulos argues that conversation analysis can be done via textual interpretation of online communications, but admits that this may not be ethnography in its fullest sense (2008). Crichton and Kinash advocate for the online ethnographic interview as a source that may be more data-rich than face-to-face interviews in some instances (2003).

Ethnographic Methods Must be Adapted to the New Medium

Researchers seem to be in agreement over the need for new methodologies in online ethnography. For Garcia et al., online cultures present data to researchers in new ways that challenge traditional ethnographic methods. Ethnographers must become

adept at textual interpretation as well as gleaning information from visual data including photos, avatars, design elements, webcams and video recordings of subjects (2009, pp. 62-64). Crichton and Kinash argue that textual interpretation is especially important in conducting online interviews using written questions and responses. Furthermore, they assert that the written word has strengths that can help to empower research subjects in ways that traditional ethnographic interviews cannot. These include allowing the informant to author her own story; given the subject ownership of her words; allowing time for reflection by informants; and nonverbal distractions are minimized or eliminated (Crichton & Kinash 2004).

Androutsopoulos also promotes textual interpretation in what he terms discourse centered online ethnography (2008). His analysis, however, is not limited to log files. Rather he attempts to expand the ethnographic frame to include the discourse units that comprise the online interaction as well as the greater "field" of inter-related virtual spaces through which actors move and interact within (2008, p. 5). In this context, the ethnographer must become adept at cultural observation within a technologically mediated space. This requires skills in observation and understanding of how to use extra-linguistic data such as frequency of forum posting, popularity of participants based on responses from other members, and the ability of the researcher to search for key terms, etc.

Data Sources

This ethnography includes data sources derived from both computer-mediated communications and face-to-face interaction with research subjects, as well as electronic documents including Web pages, public records, and periodicals. Study participants include instructional designers, teaching faculty, administrators, and policy

makers who are deeply involved in the transition to online education. Some are driving change as organizational entrepreneurs. Others are responding to change with varying degrees of enthusiasm or consternation. Data has been collected from these sources using semi-structured interview techniques, electronic correspondence, documents produced by subjects in the course of their work, and public information such as press articles, government reports and legislative work products. Semi-structured interviews captured the personal, ideological stance of subjects in a context where they were asked to articulate attitudes and perspectives on change vis-a-vis their relative position of power in the academic field. Computer mediated communications and electronic documents provide cultural artifacts for analysis as evidence supporting or contradicting attitudes and structural posturing expressed in the interviews. The key elements that are captured in the data are the field and the ideologies of the subjects therein.

Defining the Features of the Field.

These artifacts and interactions will be cataloged as cultural products of the academic field in higher education. The field is taken for granted as a fixed feature of social reality, while at the same time dynamic, contextual and ever evolving. The constitutive elements of the field are both subjective and objective. Objects of position, structure, institution and office can be relatively fixed compared to the subjects that move through the structure of the field in both position and time. The data for this study represent a snapshot of the field as it was in research and higher education in a particular set of locations from Novemeber 2012 to August 2014. Even within this compressed series of cultural moments, the game on the field was rapidly evolving with an uncertain outcome. The rules of game, both arbitrary and misrecognized, allow for a state of play where rank and privilege confer advantage without guarantee of victory.

Thus, it is critical that this study capture the relative positions of power among the players, the rules that provide opportunity to advance, and the contextual moves that expose vulnerability. Elementary social network data provide this perspective.

These data suggest that economic, social and cultural capital variously employed allows for movement in the field by players as they stake their ground. Political leaders manipulate the instruments of appropriations and legislation that serve their interests or the interests of their constituents. However, while their credentials may gain them audience with the university president, the politician's voice within academic discourse is mute to the ears of faculty. The professoriate utters the language of discovery and didacticism, with little patience for the prosaic matters of state policy and funding. And yet, while academicians imagine themselves in a universe of pure knowledge, they are no doubt inextricably linked to the governing class by the rules of the game—a political economy of elites struggling for control of the means of knowledge production. We should also add another strata of contestants to the field: the professional staff who populate the bureaucratic machinery of state and school. These actors operationalize the play. They make it happen. And while they play the backfield, without explicit capital to display or unequivocal power to flex, their influence on the outcome can be deeply profound.

Ideology of the Player

The power struggles in the field—the jockeying for position, the conflict and collaboration, the alliances and enmities—expose for the players glimpses into the arbitrary nature of the rules of the game. This *doxa*, obscured by the unconscious operation of the *habitus*, upon exposure and arising to the consciousness of the player, takes its place along an ideological continuum. For those whose privilege is threatened,

it becomes the rhetoric of orthodoxy, the defense of the status quo; for the underdog, the revolutionary language of heterodoxy. Thus, this study relies upon the language of the research subjects as key evidence for identifying the source of struggle, the strategies of play, and the implications of change. The focus of the analysis is subjective meaning, context, implication, and practical outcome. That is to say, the pragmatics of the field. The data sources for the resulting thematic analysis are speech acts in semi-structured interviews, computer mediated communications, and interactions among interlocutors.

Data Collection

These wide ranging and various data sources, from speeches and policy documents, to interpersonal communications and semi-structured interviews, are meant to provide a glimpse into an ethnographic moment or series of moments situated in time and place. The collection process varies widely, as the cultural moments on the ground afforded the researcher an opportunity. The research process is ad hoc as well as systematic, improvised as well as carefully planned. No doubt, the limitations to access have as much to do with my position in the field as they do with any observer's personal subjectivity and the inability to have comprehensive powers of observation and reflection.

The data collection process was an intimate affair, as I worked closely with study participants as collaborators and colleagues doing the work of the institution. These participants occupy varied roles within the institution, engaged in the work of education. They include the following: instructional designers (12); technologists and content developers (8); instructional faculty (12); university administrators (5); state officials and politicians (3); consultants and entrepreneurs (3). As I discussed in Chapter 2, these

participants were not the object of study, but provide data for an exploration into higher levels of organization and broader structures of power within the field. Some of the texts produced in the process of research are the product of semi-structured interviews—mostly conducted with administrators and instructors who were deeply embedded in the process of creating UF Online. Many hundreds of email communications were collected over the course of the 18 months of study. These texts provide a record of the discourse surrounding the ideologies of instruction as articulated by study participants. Legal documents, business plans, official communications, and policy speeches proved a framework for the greater ideological frame that characterizes the discourse of disruption. Most importantly, these data were collected in the process of doing the work, an activity in which I was closely involved.

Data Analysis

The primary analysis of data sources will consist of developing analytic coding frameworks that are mapped to a relational network (Cf. Attride-Stirling, 2001). The purpose of the thematic analysis is to expose patterns in the qualitative data set (Lioness, 2001). The thematic network abstracts the pattern of relations between concepts within the thematic frame and ideally, the webs of significance (Geertz, 1973) within the cultural moment that the ethnographic source-text encapsulates. This analytic method follows the thematic network analysis devised by Attride-Stirling (2001). Attride-Stirling systematizes data extraction through structured code hierarchies, with basic themes at the granular level, organizing themes at the meso-level, and overarching global themes that unify the sub-categories. “These are then represented as web-like maps depicting the salient themes at each of the three levels, and illustrating the relationships between them” (Attride-Stirling, 2001, p. 388).

The first step in thematic network analysis is to develop a coding framework that follows the tripartite hierarchy. My coding framework follows Bourdieu's forms of capital (Bourdieu, 1986) as a means of exposing the power relations within the academic-bureaucratic field. For Bourdieu, the concept of capital is an analytic instrument that illustrates the means by which power is accumulated and exercised. He takes the concept of economic capital—with its objective implications of materialism, control of the means of production and social stratification through classic Marxian class dominance—and adds the concepts of social and cultural capital.

> [C]apital can present itself in three fundamental guises: as economic capital, which is immediately and directly convertible into money and may be institutionalized in the form of property rights; as cultural capital, which is convertible, in certain conditions, into economic capital and may be institutionalized in the form of educational qualifications; and as social capital, made up of social obligations ("connections"), which is convertible, in certain conditions, into economic capital and may be institutionalized in the form of a title of nobility (Bourdieu, 1986, p. 16).

In the coding framework sample below (Table 3-1), these global themes are further articulated into organizing and basic themes to illustrate how the thematic analysis functions under these rubrics.

In this thematic analysis, cultural capital is reduced to the organizing themes of embodiment, objectification and institutionalization, following Bourdieu's typology (Bourdieu, 1986, p. 17). Embodied cultural capital is part of a long and enduring process of inculcating dispositions, habits, ways of thinking and modes of being acquired as a member of a culture. Embodiment caries with it the rights and liabilities of the status that it communicates. It other words it is a marker of class that cannot be easily masked or altered. For purposes of thematic coding, I have further articulated embodiment into disposition, comportment, skills and communication. Inherent qualities of mind and

character are a means of assessing and displaying family and educational background. Likewise, bearing can be an immediate marker of status. Expertise and facility with language reveal an accumulation of cultural experience and its concomitant status. Cultural capital is objectified in the form of artifacts, media, instruments, and other technologies, the possession of which confers status upon the possessor. Ownership can be the result of inter-conversion of economic capital—objects can be bought—but legitimacy of ownership results from embodiment. Since my analysis is situated in the academic field, objectification includes categorical knowledge (knowledge as object, without application), knowledge products (books, articles, and other media), and taste (capacity to discern the legitimacy of an object within the field). Finally, institutionalization is a critical form of currency for cultural capital as illustrated by type of degree, awarding institution, history of employment, field of study, and the legitimacy of work products within the infrastructure of the field (e.g. publications in high-status journals).

Social capital reduces to the organizing themes of the social network, group membership and group reproduction. Social capital within the social network is expressed in the currencies of proximity and network size. The value of proximity is determined by the distance of ego to high status members within the network (degrees of separation and strength of ties). The size of the network also translates to value, depending on the degree of access that ego has to other nodes. The value of group membership is determined by ego's status within the group (endogenous status), the relative status of the group to outside groups (exogenous status), and the length of membership in the group. And the final determinant of value is measured by the

capacity of the group to reproduce itself as evidenced by the group's exclusivity, history, precedence and likelihood of persistence. These last features might be encapsulated in terms of the group's cultural and historical *relevance*. Of course, economic capital is an indispensable source of power in the academic field, but the conditions of its power typically lie in the control of institutional resources and the capacity for economic development. That is, the traditional sources of economic capital in the form of personal and family wealth find value in the academic field only insofar as they are convertible to institutional resources, such as infrastructure, personnel, salaries and other expenditures. In other words, personal wealth must be redistributed by the mechanisms of bureaucracy (see Figure 3-1).

Verification

This ethnographic document is a reflection of an improvised collaborative discourse—a shimmering and somewhat distorted picture of an historically situated series of events as captured, processes and analyzed by an imperfect and biased observer. As such, the verisimilitude required to confer the status of research to this product can only be achieved through a reflexive process of corroboration with the research subjects themselves. As noted above, this process can be achieved in a number of ways, including collaboration on the document production process as well as negotiating the research paradigm. I have chosen to maintain control of both the research design and authorship of the document, if for no other reason than to conform to the rules of the game: I am producing a dissertation in partial fulfillment of the requirements for the degree of doctor of philosophy. As such I must develop a research design, collect data, undertake a process of analysis, and produce a written report as a means of illustrating my capacity to conduct original research. However, in the spirit of

modern ethnography and reflexive social science, my research project and analytic process must remain transparent to my subjects. In so doing, the process becomes open to critique and counterargument by those who would otherwise be passive data sources for the researcher. Member checking can be built into the process as a matter of course, especially given the status of many of the subjects who are power-brokers within the field, trained in the arts of research, or both. This open discourse within the research process introduces a high degree of uncertainty with respect to the internal cohesion of the research question. But as Tanggaard points out, such an approach mimics more closely the outcomes of natural science research.

> [I]f interview researchers were to imitate the natural sciences more realistically, they would have to find the very rare situations where humans/interviewees happen to object to the question posed to them in an interview. One could say that it is precisely when the objects of study are interested, active, disobedient, and fully involved in what is said about them that a field of social science (and not just interviewing) begins imitating the novelties of natural science. It is a reminder that a complete control of data or of the relationship between interviewer and interviewee is counter-productive for the exploration of a field or for getting to know new things about the theme of research. (Tanggaard 2008, p. 17)

Study participants will be given the opportunity to object, interject, and substantiate both during the data collection and analysis.

Ethical Considerations

Ethnography is complicated. Power and status are part of the equation. In this research project, the tables may be reversed, as this is partially a study of leadership and personalities who may have direct power and influence over my success and livelihood. Critics may rightfully judge my analysis to be tentative when it could present a challenge to those in power. To them, I would counter, that part of an ethnographer's job is advocacy for his collaborators. Furthermore, plenty of ink has been spilt in

critique of administrators, bureaucracies and faculty privilege. While these issues may naturally arise as part of the analysis, censure and opprobrium are not the missions I seek to undertake. I am genuinely invested in the success of the online venture, and the subjects of this study are my peers and collaborators as well as superiors and direct reports.

Ethical Concerns and Practical Challenges for Virtual Ethnographers

Online ethnography also poses some ethical concerns introduced by the very nature of CMC. Researchers seem to disagree about the ethics of "lurking" by researchers, i.e. silent participation in and observation of online activities without participants' explicit knowledge. This is further confounded by forthright self-identification of researchers, which may limit participant interaction or cause suspicion. Garcia et al. also point to ethical concerns when researching online communities where boundaries between public and private activity are often blurred (2009, p. 73-74). Furthermore, anonymity may be the norm in some online communities, which complicates validity of research by undermining the authenticity of subjects. Also forthright self-identification in such communities may violate norms and undermine the research project. Such issues can complicate research where IRB protocols require informed consent. The key for mitigating these concerns is the appropriate level of participation:

> As in offline ethnography, learning the norms and communicative practices of the people being studied will be helpful to the researcher, but because of the different boundaries between public and private, and the opportunities for unobtrusive observation provided online, it may be difficult to learn these norms and practices without taking the plunge into the online world (Garcia et al., 2009, p. 77).

As ethnographic practice enters the second decade of the 21st Century, Computer Mediated Communications will play an increasing role in its development. New research methodologies will need to be developed to address the dynamic virtual communities that rapidly form and evolve. Such methods will require appropriate technical skills on the part of the researcher as well as an understanding of how online communities function. Researchers will also have to be wary of ethical concerns that arise during rapid technological change. Often ethical guidelines based on institutional research policies cannot keep pace. Thus ethnographers have a continued responsibility to be sensitive to the cultural contexts in which they are conducting their research.

A Reflexive Approach

> Social scientists are… situated near the dominated pole of the field of power and are therefore under the sway of the forces of attraction and repulsion that bear on all symbolic producers (Bourdieu & Wacquant 1992, p. 39).

According to Bourdieu, there are three types of biases that may influence sociological analysis. “This fist is the… social origins and coordinates (class, gender, ethnicity, etc.) of the individual researcher…” (Bourdieu & Wacquant 1992, p. 39). The second is the bias linked to the position that the analyst occupies in the academic field. “The objective space of possible intellectual positions offered to him or her at a given moment” (Bourdieu & Wacquant 1992, p. 39). This system of positions also has a relation to the broader field of power. The third bias is what Bourdieu calls the scholastic gaze. This bias represents a researcher’s tendency to de-historicize her point of view, divorcing the production of knowledge—by a series of abstractions converting facts into theoretical concepts—from the application of practice (Bourdieu, 1990b).

The strategies employed in focusing the scholastic gaze involve the artificial disarticulation between theory and method. The methods employed in this study are an attempt to erase, at least partially, this separation. It is a study of the university in a historical moment when the academic field is experiencing perturbations that will potentially impact the structural relations of power and corresponding systems of classification that give these structures their symbolic legitimacy. As an agent in this field, invested in the play of the game, a study of this scope requires a reflexive approach on the part of the researcher. This study is presented largely in the first person, but it should not be construed as an auto-ethnography. It is not about me. Rather the fact that I occupy a position within the power structure of this field and have engaged in ideological struggles over the symbolic power therein, offers an empirical perspective of the dynamics of the field. Further, it would be impossible to offer an analysis that was divorced from this context. I would be committing the error of the scholastic gaze, attempting to sanitize my analysis from my engagement with the practical logic of the field.

Table 3-1: Forms of capital coding framework

Global Theme	Organizing Theme	Basic Theme
Economic Capital	Personal Wealth	Salary
		Savings/Investments
		Property
	Institutional Wealth	Grants
		Budgetary Control
		Development
	Family Wealth	Inheritance
		Indirect access
		Combined net worth
Cultural Capital	Embodiment	Disposition
		Comportment
		Skills
		Communication
	Objectification	Artifacts
		Categorical knowledge
		Taste
		Knowledge production
	Institutionalization	Educational Degree
		Educational Institution
		Field of study
		Status of product (e.g. peer reviewed journal)
Social Capital	Social Network	Proximity
		Network size
	Group Membership	Endogenous group status
		Exogenous group status
		Length of membership
	Group Reproduction	Conditions of membership
		History of group
		Likelihood of group persistence

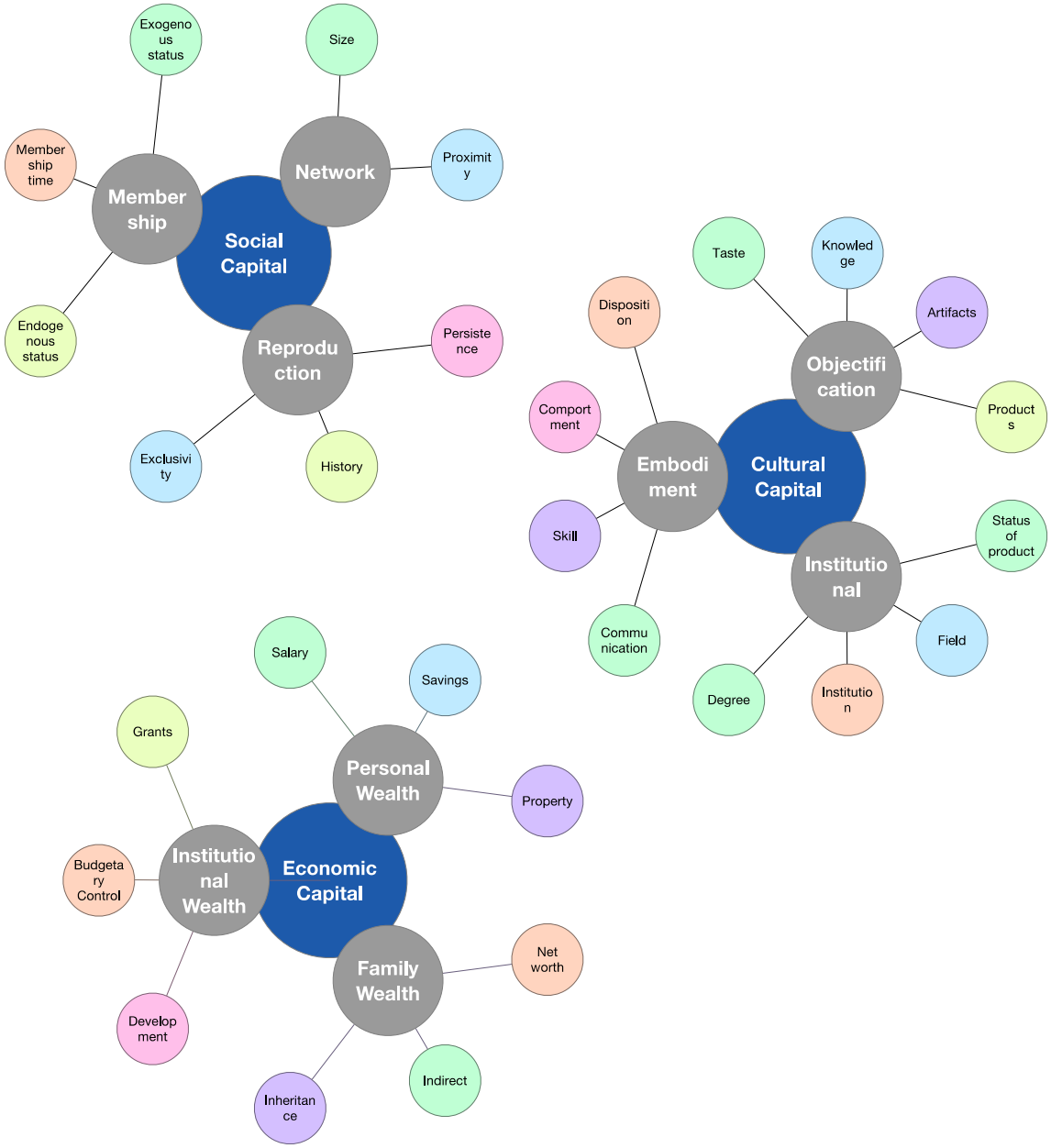


Figure 3-1. Forms of capital thematic network

CHAPTER 4
ULYSSES: THE GENESIS OF AN IDEOLOGY

This chapter starts by establishing a standpoint for this investigation, an analysis of the work surrounding the planning of an online dual enrollment program.

> The concept of standpoint becomes in this context a methodological device. It opens up research from a position in people's everyday lives, from within people's actual experience, aiming to explore what lies beyond the scope of an ordinary knowledge of the everyday into the social relations that extend beyond us and catch us up in organization and determinations that we cannot see from where we are (Smith, 2005, p. 206).

This standpoint includes several university employees, but maintains a particular focus on one local entrepreneur who, in this study, embodies the discourse on disruption in higher education, the ruling relations of the university field, and the forms of capital (and lack thereof) required to effect change. The standpoint that I cover sits on the margins of the academic field with ambitions to disrupt the practices of instruction through a project called Ulysses—a vision for a learning platform that would harness the power of new technologies to liberate the educative processes from the antiquated practices of the industrial age. Ulysses was caught up in the discourse on disruption as part of a broader plan for commercialization, technology transfer and the commodification of the products of knowledge. The foundation for this ideological stance is articulated in a work product created by the Ulysses group in order to establish the entrepreneurial potential of the enterprise in a spin off company called Utrinsic. The Utrinsic spin off and the Ulysses platform are intimately linked. As such, references to the Ulysses platform may appear variously as the "Utrinsic Learning System", the "ULS", and the "Universal Learning System" in the source data used here.

Dual Enrollment in the Year of the MOOC

At the time of this writing, I was leading the Office of E-learning, Technology and Creative Services (ETC) in the College of Education at the University of Florida. Our purview included instructional design, online student services, software application development, technical support, business development, and the research and development of educational products and services. The year started with the development of two business plans for the establishment of an online dual enrollment program at the university. Each of the plans presented different options for funding the start up costs of the program. The first proposed that the university provide the start up funds as a grant to the college. The second plan proposed that the college form a private company and would raise capital from investors. The development of these plans was a joint effort of members of the ETC staff, one outside contractor, and one local entrepreneur who volunteered his time.

The genesis for the online dual enrollment program came in the fall of 2012. Higher education professionals were confronting the impact of Massive Open Online Courses (MOOCs), the likes of which were being promoted by some of the nation's elite private universities such as Stanford, MIT, and Harvard. I was struck by the success of MOOCs like the artificial intelligence course offered by Sebastian Thrun of Stanford University. Thrun had secured enrollments of 160,000 students from countries around the world in the weeks between the time the course was announced in the summer of 2011 and its launch that same October (Martin, 2012). Thrun gave the keynote address at the 2012 Sloan-C conference in Orlando one year later (Thrun, 2012). Those of us in attendance were impressed with the production value of the courses and the advances in technology that allowed MOOCs to run at scale (see Figure 4-1). But MOOCs were

missing an intimate human dimension. The contact that students normally have with their instructor or teaching assistant was almost completely absent in the MOOC model. As a member of the College of Education at a university that is able to attract the top students in our state, I was interested in reaching high achieving high school students across Florida using these new technologies in education. However members of the team had experience in virtual schooling at the secondary school level, and argued that the MOOC model was not a viable choice. Consequently we began to develop a model for online course delivery that integrated more intrusive communication methods that we hoped would allow students to be successful (Cf. Lynch, 2011).

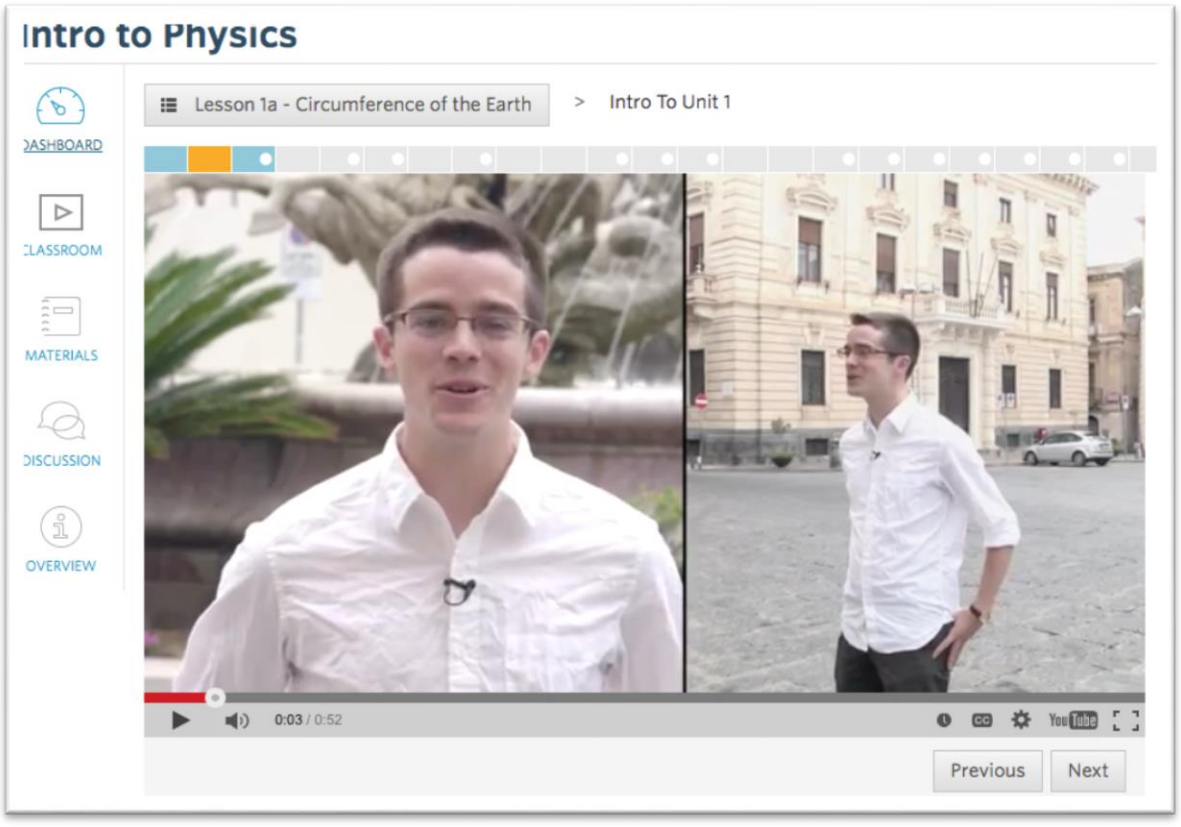


Figure 4-1. Screenshot of Udacity Physics Course

Exploring New Modes of Online Course Delivery

Over the next two months, the ETC team developed plans for an online learning platform designed to deliver content-rich dynamic instruction, seamless adaptive learning with graceful remediation, self-organizing learning communities, and a robust learner support infrastructure. We called our platform, “Ulysses”, with design specifications to allow the system to be simultaneously scalable to hundreds of thousands of users while tuned to facilitate just-in-time direct and individualized learner support. The Ulysses concept was intended for flexible approaches to learning capable of accommodating self-directed learners who prefer to move at their own pace; facilitated learning, when tutoring and direct instruction is required; and team-based learning for cohorts and other peer groups. We hoped that Ulysses would be flexible enough for all three approaches to occur simultaneously and would not require the commitment to any particular approach. In other words, the team believed that learning should be personalized.

> We believe that the solution to this perception is both simple and elegant. Our goal is to create not just an online medium for content, but rather a gated community. Utrinsic’s platform allows for a social learning environment that is safe for young students. Furthermore, Utrinsic is not content agnostic. We view our instructional design and content creation methods as being as important as our dynamic data-driven, adaptive learning platform. By maintaining a strict commitment to quality and innovation and enforcing these standards in all of our courses, we will deliver a highly effective experience for students. While other educational technology companies provide a delivery framework for whatever content an organization can produce, we will actively work with instructors and content developers to ensure that we always produce courses that engage, entertain and educate our customers [Utrinsic business plan, February 2013, p. 10].

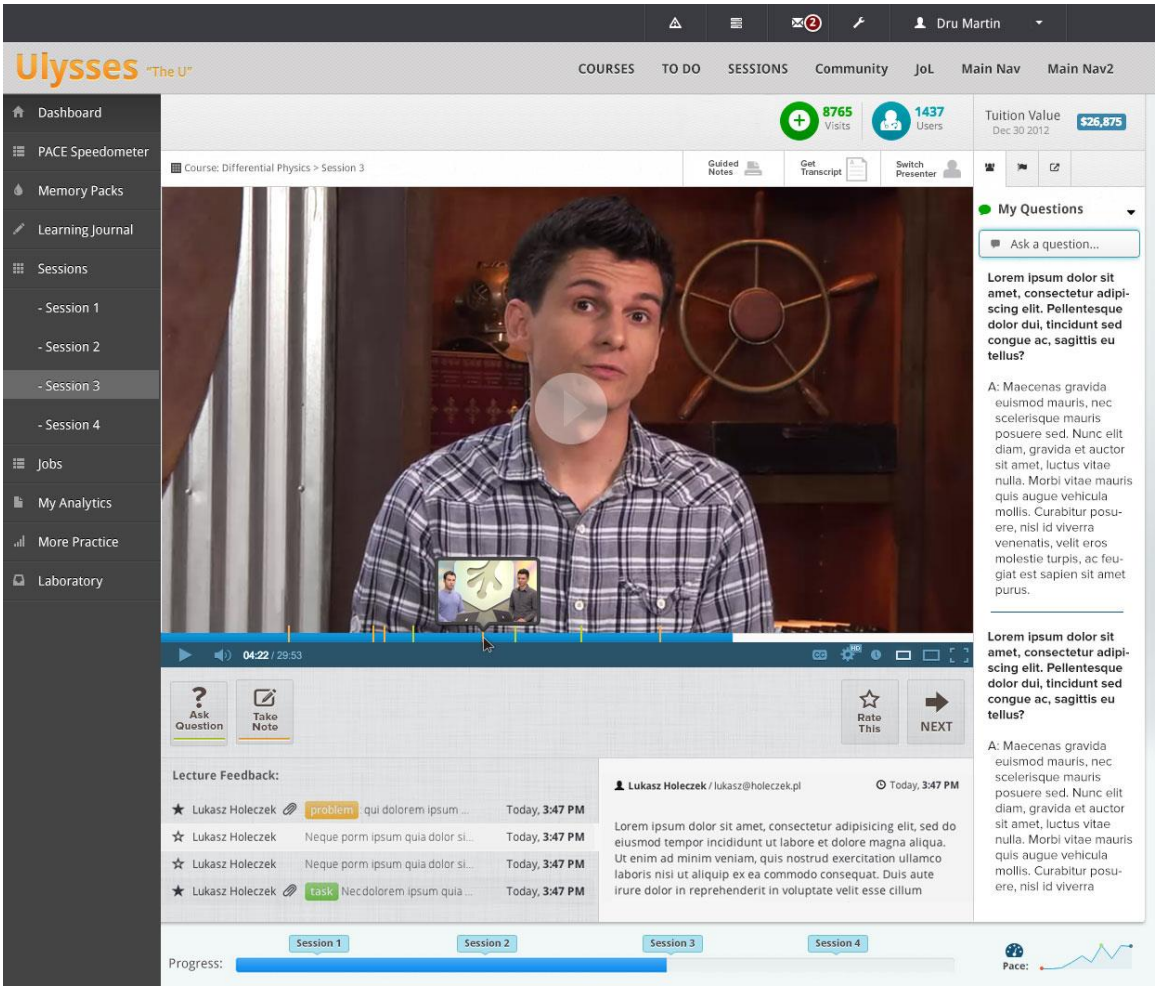


Figure 4-2. Ulysses Learning System conceptual mockup.

We imagined that if a member of a cohort finds that she can learn a particular subject faster than her peers, she should be able to adopt a self-directed approach without having to leave the course that she started with the group. On the other hand, learners should have opportunities to connect with peers who have similar interests, challenges and proclivities throughout their learning experience. That is, learners might be introduced to one another through spontaneous learning moments as they are challenged by their subject, or experience an epiphany that inspires them to share with others. Through such sharing, they can form their own ad-hoc cohorts centered upon specific topics or problem areas. Ultimately, the team imagined Ulysses as able to

incorporate learning analytics that illuminate particular trouble spots for students and inform the further development of instructional content and assessments. More importantly, these learning analytics would allow for the presentation of alternative instructional material that can remediate students who are having trouble without interrupting progress through the course.

> The Utrinsic Learning System is based on the ideas of mastery learning where instruction is reduced to an elemental form and each element can be assessed and the learning path adjusted based on subtle feedback from the student. When a student is having trouble grasping a concept, graceful remediation feeds related concepts to him and as he picks up on them, he is steered back to the problem concept with a fresh perspective. In extreme cases, the ULS alerts a live facilitator to the student's needs and a direct tutoring session is initiated. While the high tech, high touch approach supports the student's learning, Utrinsic's high quality engaging video content provides a foundation for that learning and keeps them interested in the course. All of this is driven by a highly scalable software platform based on a revolutionary nodal data network system. This nodal network instantly provides extremely detailed information on metadata relationships, allows for self-organizing communities, and regulates activity with transaction-level security [Utrinsic business plan, February 2013, p. 19].

Ulysses was meant to be adaptive, personalized, social and scalable. Many of the team's ideas were borrowed from trends in online education such as the MOOC and growth of K12 virtual schools.

Controlling the Means of Production

The team in ETC recognized that developing Ulysses with features such as those developed by our colleagues at the university, as well as other approaches that have emerged in current educational trends like MOOCs and K12 virtual schools, would require significant resources. Those of us with experience in higher education understood that universities typically do not invest their own resources into large and complex projects without external support from the legislature, government agencies or

private foundations. However, we viewed these conventional approaches as potentially unsustainable due to associated restrictions placed on personnel and fiscal management. In order to develop Ulysses and serve the population of high achieving high school students we had hoped to target, we felt that we needed the flexibility of an entrepreneurial enterprise—to shift course as needed, employ highly skilled technology and media production personnel at market rates, and to invest future revenue in product development and organizational infrastructure. While there are a few private foundations that might accommodate such an entrepreneurial approach, such as the Bill and Melinda Gates Foundation, the process by which these organizations solicit proposals is not amenable to entirely autochthonous ideas. In other words, these foundations usually have identified the type of project they would like to fund before they ask for proposals. As such, we saw only two viable options for procuring the funding to support our start-up activities. The first was to look for resources within the university budget, and the second was to develop a business plan and solicit the support of external investors.

Utrinsic

At the time that we were developing these ideas in the Falll of 2012, we did not have a member of our team who could advise us on the process of raising investment capital. I knew a local tutoring service that was successful in attracting not only struggling students, but high achieving ones as well. An old high school friend had worked for this company briefly and had described to me the enthusiastic approach that its tutors took to instruction. He indicated that the University of Florida students who attended his lectures were discerning customers, and would promptly exit the lecture if they felt the instructor was not on top of the material. I was also impressed with the work

of the Lastinger Center at the College of Education, capturing lectures in this style on video and disseminating them via the social networking site Facebook. The ETC team asked the founder of this company, Matt Hintze, to advise the group in developing a business model that would incorporate high-quality content targeted to high-achieving students. The following passage of the Utrinsic plan reflects the impact that Hintze's approach had on the group's thinking.

> Utrinsic is built to provide significant returns to all stakeholders; employees, instructors, investors, legislators and the general public. Most importantly it is built to provide significant returns to our students. We believe that online learning as developed by Utrinsic will truly change education. Graceful remediation and student-centric adaptive learning mean that no child will be left-behind. With our focus on instructional design, adaptive learning platforms and engaging, entertaining content we will inspire students and better prepare them for life success [Utrinsic business plan, February 2013, p. 6].

The Revenue Model

As a result of this collaboration, we developed a business plan that proposed the establishment of an online academy offering dual credit courses to high school students at a distance through the University lab school, P.K. Yonge. We called the proposed company Utrinsic. While this plan was never more than a proposal, the implications of the public-private partnership that formed the basis of its revenue model posed a potential conflict of interest that caused concern for myself as well as other members of the team. In Florida, financing for public secondary education is managed by the Florida Department of Education through a mechanism called the Florida Education Finance Program, known by the acronym FEFP. The amount allocated by FEFP depends on a variety of factors, including the particular school district, the needs of the student, and whether the instruction is delivered online. Each school district is allocated a specific amount per student known as the Full Time Equivalent (FTE). An FTE is expected to

provide for instruction, materials, overhead and transportation for a full time student over the course of a year. In the 2013-14 school year, roughly $7000 was allocated per FTE for P.K. Yonge.

Our business plan proposed that P.K. Yonge would collect a proportion of FTE equal to the proportion that the dual credit course represented of the overall student course load. In a typical scenario at a public high school in Florida, a student is expected to complete six course credits per year. Each credit represents a yearlong course, or two half-year courses. For example, an Algebra course is worth a full credit and an economics course is worth one half of one credit. In the FTE model, P.K. Yonge would collect 1/6 of the total FTE per student for the Algebra course, and 1/12 of the total FTE for the economics course. We found precedent for this approach with the Florida Virtual School (FLVS), a fully online public school in the state of Florida. FLVS had grown it's enrollments to over 300,000 and it's revenues to over $100 million, since its inception in 1998. We projected much more modest growth for our dual credit program, with under 40,000 enrollments and $30 million in annual revenues after 5 years. In order to be successful, the business plan required that the University contract with Utrinsic to develop courses and provide support services such as advising, enrollment and fiscal management. Our plan was complicated by the fact that while we were proposing to develop a private firm, many of us were also university employees.

A Conflict of Interest

To mitigate against legal and ethical risks of such an arrangement we sought the guidance of the University Office of Technology Licensing (OTL), whose mission is to provide support for the transfer of university intellectual property from the public to the private sector. OTL had its offices based in the Innovation Hub, a technology business

incubator located just a few blocks away from the College of Education in an area of Gainesville that was targeted for redevelopment around entrepreneurial activity. The staff at OTL advised those of us who were employees of the university on the policies and procedures regarding conflict of interest and intellectual property. We felt secure that our activity was in full disclosure to our employer and according to established policies. We started the process of incorporating Utrinsic in the state of Florida, and declared our intent to license University of Florida technology. Once the company was in place based on UF technology, we could open a company office in the Innovation Hub.

A Question of Equity

With our business plan fully developed and our company nearly official, we were ready to begin the process of raising investment capital. But before we could start setting meetings with potential investors, some members of the team felt that it was important to establish equity ownership in the company. It was at this point that our plans started to unravel. I was astonished at the level of consternation and personal vitriol that this episode provoked. Weaknesses in the constitution of the team were exposed and interpersonal tension and animosities came to the fore. Even in the context of this incipient and inchoate plan, members started jockeying for status, power and imagined wealth. I found this to be discouraging and a possible threat to the entire enterprise, but I also recognized that I sat at a position of relative privilege to other members of the group. Hintze and I had positioned ourselves as core members of the executive team. Others had a more tenuous position within the group. What we were observing in our colleagues was a struggle for capital in the Bourdieusian sense—symbolic, cultural and economic. The following quote from a Utrinsic group email

communication, indicates that at least one member is willing to consider legal action in retaliation for a less than equal share of a company that did not yet exist.

> Frankly, and there is no responsible way to avoid the subject, we need to be concerned about lawsuits. People in on our group have relied on earlier assertions and commitments to equality. There could be a legal aspect to the reliance. We need to be concerned even if people smile and pledge to "move on". . . . What bothers me, from a loss prevention standpoint, is a possible bait-and-switch pattern of deception, secrecy, and denial. I think it would bother a jury, too, and we cannot avoid thinking about loss prevention and horrible PR. I want to be delicate here, but what further complicates matters is that some might accept an unfair position now, and later claim they were under economic duress given where they work. . . . As far as I am concerned, a deal struck in some secret meeting with half the team members absent is void on its face. The default position is still equal equity for everyone on the team [Utrinsic group email communication, Febbruary, 19, 2013].

Things Fall Apart

As we began to imagine the group as a private entity, with an impetus for the accumulation of capital, these tensions began to come to the fore. While some members strongly asserted their right to prominence within the group, represented by title and equity, others questioned the equal value that each member contributed to the enterprise. These tensions grew to outright enmity between some of the group members. Hintze and I decided to intervene. By this time, however, it appeared that our efforts were too late to maintain group cohesion, and the tension had spread throughout the group. Hintze's outsider status was also called into question, other resentments were shared concerning leadership status and equity, and the intellectual contributions of some group members. When the dust settled, three members had withdrawn from participation. We eventually established Utrinsic as a limited liability corporation with four of us listed as managing members. However, the higher education bill presented

before the state legislature that spring would eventually render the Utrinsic business plan moot and the LLC was dissolved within the year.

UF Online

The higher education bill presented to the legislature in 2013 contained language that would eventually lead to the establishment of the University of Florida as the sole public institution in the state to offer online baccalaureate degrees. Additionally, the bill would designate the University of Florida and Florida State University as preeminent institutions, encumbering additional funding to help raise the stature of these two universities by expanding their capacity to produce original research. Overall the University of Florida was awarded $35 million to develop its online programs and $15 million to raise its stature amongst peer institutions. There were, not doubt, some fairly high stakes negotiations between the university and members of the legislature that lead to these funding mechanisms, negotiations that Hintze and I found ourselves as somewhat awkward interlopers.

A High-level Advisor

Months before the legislative session, Hintze had been invited to advise lawmakers on the expansion the online postsecondary education in Florida. His invitation came from Will Weatherford, a state representative from the Tampa area who was beginning his two-year term as the Speaker of the House. The Speaker invited Hintze on the strength of a TEDx talk that Hintze had given on personalized online learning called “Choose Your Own Adventure” (Hintze, 2011). Weatherford also sought the advice of a former aide to Florida Governor Jeb Bush. Hintze and I had the opportunity to visit both Weatherford and his advisor in their offices at the State Capitol building in Tallahassee. While Hintze and I were interested in discussing our ideas

around the dual enrollment project, Weatherford and his aides were focused on the establishment of the online university. Hintze and I discussed our vision for an approach to online learning based on content produced specifically for online delivery: using the best in production techniques; on screen instructors who were both subject matter experts as well as charismatic; adaptive learning technology that automatically adjusts to the student's mastery level and is able to remediate in context; and the importance of a robust student services apparatus tuned to the online learner. The conversation led the Speaker to suggest that we share our ideas with University of Florida President, Bernie Machen.

Lunch with the President

The next day, we found ourselves sitting down to lunch with Machen, UF Vice President Jane Adams, and Associate Vice President Marion Hoffman. Admittedly, Hintze and I were out of our element dining at the posh Governor's Club, a private and exclusive establishment reserved for the elite political class of the state. (At one point during our meal, cable news personality Joe Scarborough walked past our table.) The conversation was cordial and engaging, with President Machen expressing interest in our ideas and thanking us for our input. Ultimately, however, we would find it difficult to insert our ideas into the implementation plan for UF Online. Two days later, Hintze sent Machen an email thanking him for the lunch meeting and reiterating Speaker Weatherford's interest in our involvement in the planning for UF Online. Machen's response might be summarized as a polite thank you, but that the Office of the Provost has everything under control. Hintze interpreted the last line of Machen's email, in which he wishes Hintze best of luck in his future endeavors, as a lack of interest in Hintze's involvement in the development of UF Online.

That Entrepreneurship has Sailed

At this point, developments at the University and in the State Legislature were starting to overwhelm our plans to establish an online dual enrollment academy at P.K. Yonge. We realized that if the University were to invest significant resources into the development of online courses in the general education curriculum, this may obviate the need to raise investment capital for a company with a similar purpose. We decided to continue to push our ideas, and to float the business plan with potential investors, in keeping inline with our original strategy of pursuing multiple fronts to garner resources for the purposes of course development and delivery. At around the same time as our meeting with Speaker Weatherford and President Machen, UF Associate Provost Andy McCollough asked me to join with a group of university colleagues to start planning course production for the UF Online initiative. Our charge was to select courses from the general education curriculum and the majors that were to be included in the launch of UF Online, for which our respective units would have the responsibility of producing. I saw this as an opportunity for my college, the College of Education, to create the same type of exemplary online courses that we were planning for dual enrollment. The benefits of which would be available to both dual enrollment and UF Online students.

Conflicting Loyalties

This pursuit of multiple and simultaneous strategies, introduced tensions into these collaborative endeavors: the P.K. Yonge online dual enrollment academy; the Utrinsic entrepreneurial spin-off; and UF Online. Each had competing as well as overlapping interests, and it was not always easy to differentiate between these interests. Furthermore, the entrepreneurial approach of Utrinsic presented a deeper entanglement by implicating our educational mission with an explicit profit motive—a

motive that often stands in stark contrast to the *modus operandi* and the *opus operatum* of a public institution of higher education. These were tensions that I had to manage in my various roles, maintaining the primacy of my college, the upper administration of the university, and my course production colleagues, while simultaneously advocating for the business plan developed by the Utrinisic group. Adding to these tensions were the relationships I had developed with Weatherford and his advisors, whose vigorous advocacy for an online alternative to the sprawling UF campus was not granted unanimous support by university faculty and administrators. While Weatherford and McCollough had each expressed support for the dual enrollment initiative, UF Online was the clear priority for both. I concluded that the best approach was to serve the UF Online cause first, and advocate for courses and support services that could be offered in a dual enrollment context.

The End of Utrinsic

This shift in focus sealed the fate of the Utrinsic business plan. The university was reorganizing to be better able to produce online courses using a combination of internal resources—those of my colleagues and myself—and private partners such as the textbook publishing giant, Pearson. This climate made it difficult to advocate for a spinoff company with a similar role. By late spring of 2013, the team was discussing the dissolution of Utrinsic, LLC and vacating the office space at the Innovation Hub. In the summer of 2013, the dual enrollment program launched as an internally funded UF project.

Ulysses as Counter-Hegemonic Ideology

> all distinctions between workers and intellectuals…must be obliterated
> — V.I. Lenin, *What is to be Done?* (1987, p. 137)

> One of the most important characteristics of any group that is developing towards dominance is its struggle to assimilate and conquer “ideologically” the traditional intellectuals, but this assimilation and conquest is made quicker and more efficacious the more the group in question succeeds in simultaneously elaborating its own organic intellectuals.
> — Antonio Gramsci, *Selections from the Prison Notebooks* (1971, p 10).

In the final years of his life, before his untimely death in 1935 brought on by the conditions of his imprisonment by the Italian Fascist regime of Benito Mussolini, Antonio Gramsci produced his *Prison Notebooks*. Arguably, his ideas on cultural hegemony and the socially situated role of intellectuals were his greatest contribution to social theory from these writings. Gramsci was confronting some of the more mechanistic determinisms of classical Marxist thought: that domination was purely a materialistic phenomenon, with cultural and ideological systems that reflected the class structures of industrial society. Gramsci’s analysis added social, historical, and cultural depth and, in a turn that preceded Bourdieu by a generation, a symbolic system of dominance that operated below the level of individual consciousness. Hegemonic systems maintained their dominance by the uncritical consent of the dominated. It was up to intellectuals from the dominated groups (so-called organic intellectuals) to articulate counter-hegemonic structures through the development of spontaneous philosophies. These ideologies have the potential to overwhelm conventional wisdom and become the established order.

> Our mission is to create an experience that is better than live. Students have willingly accepted an inferior product because it is convenient, and it allows them to learn at their own pace. Utrinsic is built to seize the opportunity to achieve profound learning experiences through the combination of an adaptive learning platform, superior instructional design and highly engaging and entertaining content. Utrinsic students will learn more because we will help them want to learn more [Utrinsic business plan, February 2013, p. 13].

In a sense, in developing the dual-enrollment proposal, my colleagues and I were attempting to articulate a counter-hegemonic ideology to the established practices of our institution. The articulation of our vision was in itself a radical positioning, given that the particular logic of the academic field demands that such an intellectual undertaking is reserved for the traditional intellectuals of the professoriate. Furthermore, in light of the potential for disruption that current trends in technology represented to the educational process, our proposal could be viewed as for advocating the overthrow of the established order. We were pushing for substantial changes to approaches in instruction, student support, outcomes measures, and the role of the post-secondary institution. Our ideas were rooted in contemporary discourse surrounding Massive Open Online Courses (MOOCs), disruptive innovation, the entrepreneurial turn in higher education, and a renewed emphasis on learning for mastery. Our ideas were also developed organically, out of the direct experiences of members of the group, such as an emphasis on packaging the most dynamic and engaging instructors for dissemination. Other ideas were derived from close colleagues within the University of Florida who had taken advantage of new technologies to address challenges in education posed by standardization, collaboration over distance, or meeting student needs at scale within a limited budget.

Outsourcing the Lecture

In the fall of 1996, sitting in an Austin Texas coffee house, Mark Dinsmore found himself engaged in a lively discussion on the impact of outstanding instructors. His interlocutors, Dan Heath and Amy Bryant, agreed that the best instructors made the most difference. Austin was a heady place in the technology boom of the 1990s, and the trio was soon devising a business plan that took advantage of new web-based

technologies to deliver high quality educational experiences at scale. Their business idea to outsource the lecture was realized in the educational technology startup, ThinkWell. Their first courses, produced in 1997, were developed with talented instructors who were not only adept in teaching their subject areas, but also possessed a flair for the entertaining. The videotaped lectures were peppered with silly jokes, supporting props, and humorous side comments. Their pitch to investors and potential customers was to promote their video content as a replacement for in-class lectures, freeing the in-person instructor to provide differentiated instruction as well as other class management responsibilities. Dinsmore was in charge of technology development, and developed a system to manage the course production process to maximize efficiency and maintain quality. ThinkWell raised $23 million in investment capital and developed 16 courses by the time Dinsmore left for the University of Florida in 2003. Dinsmore's thinking and approach to course production played a central role in the development of Ulysses.

Dynamic and Engaging Instruction

As a graduate student at the Warrington College of Business Administration, Matt Hintze discovered he had a knack for teaching. While he was an undergraduate at UCLA, Hintze had worked in his spare time as a private tutor in the tony neighborhoods that surround the campus, preparing the scions of Los Angeles for college admissions tests such as the SAT and ACT. At the University of Florida, he transferred this skill into work for the Athletic Association, scaffolding young amateur athletes to the academic rigors of higher education. Hintze was a funny and engaging instructor, with boundless energy, supreme self-confidence, and a clear facility with his subject matter. He soon discovered that he could fill a lecture hall with students seeking supplemental instruction

in the days before a high stakes exam. He charged a modest entry fee to his exam reviews of economics, finance and accounting, and before long had built a burgeoning and profitable business. The founding and success of Hintze's business, TutoringZone, rests on three principles: energetic instruction, interpersonal dynamics with the instructor, and the cascading effect of perceived advantage in a competitive environment. The TutoringZone innovation is not that the company has a monopoly on these principles, but that they have been concentrated into a business plan, offering students in supplemental instruction the characteristics they seek in the most popular professors on campus.

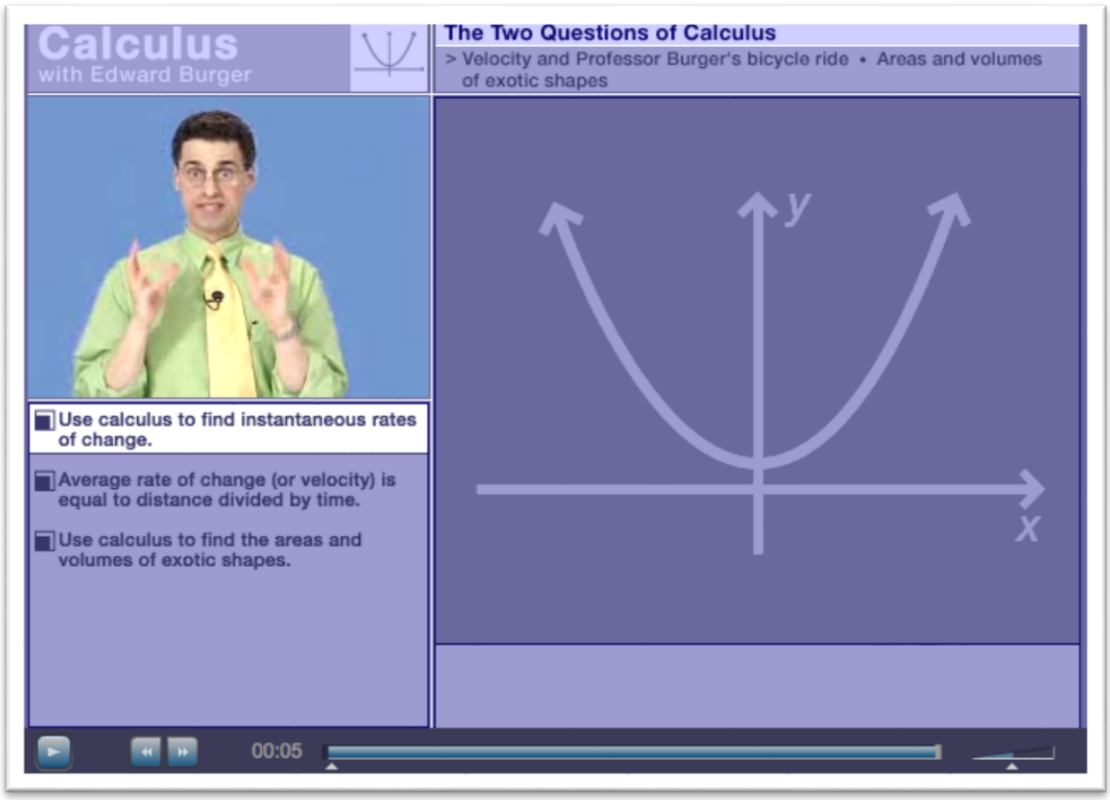


Figure 4-3. ThinkWell Calculus Course ca. 1997

High-touch, Scalable Student Services

As the Director of the Counseling and Wellness Center, Sherry Benton had a significant challenge: she needed to provide effective counseling services to a population that exceeded 50,000 students. She had a large and effective staff that was adept at handling acute cases, as well as the infrastructure to absorb a major crisis. But according to recent studies, nearly 1 in 5 college students suffer from a diagnosable mental health concern (Mowbray et al., 2006). Many of these cases, including non-acute anxiety and low-level depression, could be addressed in a handful of counseling sessions and guided exercises. Even with her relatively large staff, the demand for such services had outpaced the capacity of her qualified mental health counselors. An expert in Cognitive Behavioral Therapy (CBT), Benton had seen her colleagues in the field launch successful online CBT-based therapies in Europe, Australia and New Zealand. While such online approaches were not widely accepted in the United States, Benton believed that the right type of treatment—with appropriate privacy protection and an adequate amount of online contact with a counselor—could be successful in addressing the needs of her student population. Her innovation is to develop a high-touch, scalable student service that addresses non-acute mental health concerns. Treatment for anxiety and depression can have a positive impact on academic performance and the quality of student life.

Distributed Collaboration and Creativity

James Oliverio is a composer by training. He has written symphonies, television and film soundtracks, and orchestral arrangements for Jazz works by Wynton Marsalis. But his career sits squarely at the intersection between the arts and engineering, especially in the technologies that make for immersive and collaborative experiences

that are unencumbered by distance. As a composer, he understands the importance the emergent qualities of performance and collaboration. Creativity is the crux of learning, like the epiphanies one has in a classroom or laboratory after weeks of reading and lecture. Ideas and bits of data coalesce into an understanding, internalized as knowledge, and solidified as a potential analytic tool for future discovery. These moments are like those in performance, when the orchestra locks into synchrony, or the ensemble strikes a groove. They are peak moments, to be savored and relived—motivators for when rehearsal and study seems like pure drudgery. Oliverio has spent more than a decade in pursuit of such moments in learning using technology, collaboration and creativity. He has done so with real time performance, distributed across seven continents; immersive virtual reality both with large projection systems and consumer technology; haptic feedback technology for exploring the world at the nano scale; and serious gaming approaches that applies methods devised for entertainment in the service of pedagogy and scholarship. The development of technologies that capture performance, collaboration and creativity in the act of instruction are an important innovation that could potentially restore much of what has been lost in the transition from the classroom to computer-mediated learning.

High-level Peer Interaction and Co-learner Support

In the summer of 2012, Donald Pemberton had his sights on an alarming trend. Florida high school students had just posted a dismal performance on the Algebra 1 End-of-Course exam. This exam was developed in conjunction with the state's most recent reform efforts to be implemented as part of the replacement strategy of the unpopular Florida Comprehensive Assessment Test (FCAT). The students' statewide pass rate averaged 41 percent, presenting an obstacle to graduation for many.

Pemberton, an experienced educator, reformer and philanthropist, knew that the best way to increase learning outcomes and prevent a crisis in high school graduation rates, was to give students and their teachers the help they needed to pass the end of course exam. Pemberton and colleague Boaz Dvir turned to a local entrepreneur who understood how to effectively prepare students to pass high stakes exams. Ethan Fieldman was a former business partner of Matt Hintze who had started his own company with a focus on the electronic delivery of tutoring services. In Fieldman, Pemberton and Dvir found a partner that could help them reach all of Florida's struggling math students both in the classroom and using the social networking site Facebook. Together they developed *Algebra Nation*, and end of course exam preparation service that is free to students and teachers. It was developed to be available both online and using a computer application developed for mobile devices such as the iPhone or Android. This solution developed by the Lastinger Center provides scalable, dynamic instruction with a high level of peer interaction and co-learner support.

A Market Approach

Many of the ideas of our immediate colleagues shared a market orientation. Approaches to course production and dynamic instruction as developed by ThinkWell and TutoringZone, were designed to maximize the durability and effectiveness of a product. Benton's online counseling platform has been commercialized by the university's Office of Technology Licensing. And the University of Florida has licensing agreements in place with Fieldman's company, StudyEdge, for the commercial release of Algebra Nation. A market orientation is a critical foundation to the Ulysses ideological

posture. The Ulysses design team adopted this approach from the outset, with a view of education as product, students as consumers, and the university as a brand.

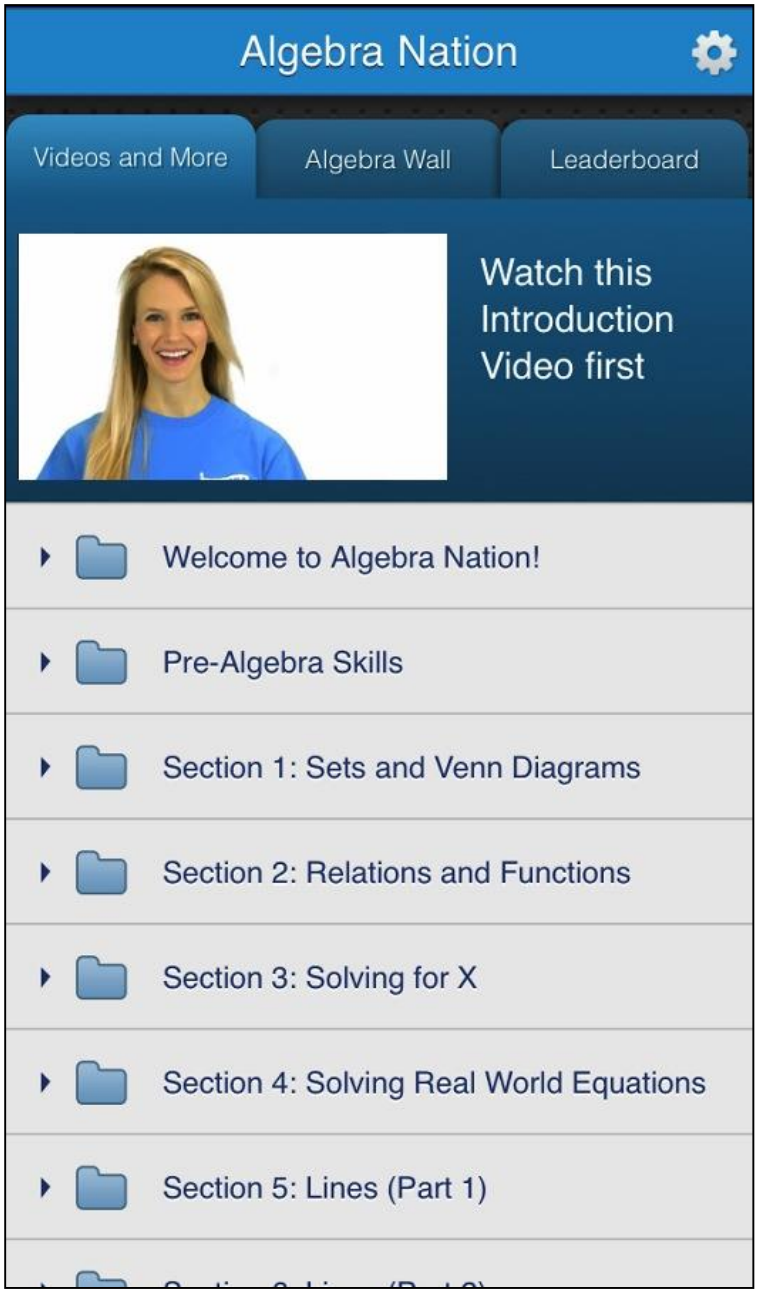


Figure 4-4. Algebra Nation Android Application

The University as Brand

The University of Florida has widespread, nationwide name-recognition in the field of higher education both for its academic programs and athletic teams. Admissions

to the university is highly competitive for incoming freshmen students, where successful applicants for the 2013 academic year had a grade point average of 4.0 or above and standardized test scores above the 80th percentile (source: http://www.admissions.ufl.edu/ugrad/frprofile.html). The university can select such high achieving students from an applicant pool of 27,000 high school graduates. Such statistics indicate a high demand for access to an exclusive and high-status institution. The university also has nearly 350,000 alumni (source: http://www.ufalumni.ufl.edu/about/) as well as athletic teams that regularly rank amongst the best in the United States. The members of the Ulysses team subscribed to the premise that such strong positive associations with the University of Florida would be beneficial to the expansion of the university curriculum into an online format.

> 26,000 students apply to UF. Only a fraction is admitted. This 26,000 is a potential self interested and highly motivated population. This does not include the thousands that could satisfy a General Ed. requirement and receive credit from a prestigious institution. If we do not do this now, we will be applying to the institutions that will [Utrinsic group email communication, November19, 2012].

Theories of Learning and Instructional Practices

> The question that I think is incumbent upon all of us. If we're gonna talk about creativity, if we're gonna talk about curiosity we have to ask the most fundamental question of all. Can online education change the way that we teach as well as the way that we learn? . . . If you look across institutions of all size, right, from small colleges to large colleges we are doing this all ourselves. Right? Somewhere between 60 and 85% of all training is done internally. So let me see if I got this right. People that hold the product in contempt are training the next generation of online instructors. Is that right? How does that work, right? How does the brain that created the problems come up with the solution for that same problem, okay? And I think that part of the problem is that we treat teaching online exactly the same as teaching to a live classroom, all right? [Hintze, “Choose your own adventure,” TEDx transcript, February 11, 2012.]

The development of our ideology required the self-conscious assertion of a superior approach to instruction: one that was ‘student-centered’ and liberated from the arbitrary customs of the institution. Ironically many of our ideas would find their roots in an approach designed after the behaviorism of the 1960s, implemented in military and industrial contexts to improve the automatized and uncritical repetition of tasks. In our position as ‘organic intellectuals’, we further crafted a narrative of privilege rooted in our structural relation to the College of Education—as the source of legitimacy for knowledge on the reproduction of knowledge (i.e. learning). But our position vis-à-vis technology and entrepreneurialism, in our minds, also freed us from the shackles of the traditions of the field of education. Thus our spontaneous philosophy constituted a bricolage of learning theories mixed with a logic of capital that transmogrified knowledge and credential into tangible commodities.

> The student support side is also key in reducing costs. Student registration, student monitoring, and reports to institutions will need to be effective and efficient through [the system]. In addition, a self-regulation and self-monitoring system will be a major deliverable that assists learners in obtaining a sense of how they learn. These metacognitive skills empower the learner to become aware of whether the material has been mastered or not. Lastly, learner motivation is essential. It turns out that people can be convinced and happy to learn almost anything if they feel that they are making progress and can "do something" at the end of the instruction. Good instruction feeds learner motivation. On a practical note, most courses and instructors often fail to reiterate why the material is important or how this knowledge can save lives, save money, improve opportunities and prestige. To address this, instruction is tied to examples that have real world examples and little 2-3 minute vignettes or interviews of successful practitioners in a field are inserted throughout the course. These vignettes can also be selected to represent a wide spectrum of backgrounds and cultures. Listening to a professor who has never done anything except teach and research does not carry the impact as those who have learned key skills and moved on to high impact professions.Could the Utrinsic system be integrated with professional development and career development where students can learn something about various jobs, salary level, job prospects? I see a far more

integrated school experience than what exists today. I look forward to saying goodbye to the subterranean educational world from which the student departs after four years with little grasp of either the object of study or a sense of how to apply these experiences in the outside world [Utrinsic group email communication, December 8, 2012].

Figure 4-5. Matt Hintze, “Choose your own adventure,” TEDx, February 11, 2012

Mastery Learning

Instructional design (ID) constitutes one of the core services of the office of E-learning, Technology and Creative Services (ETC). As a result, many of the staff members in ETC have a background in instruction, educational technology and ID methods. One of the foundational theories behind ID is based on the ideas of Bloom and others (Bloom, 1968; Block & Airasian, 1971; Gagné, 1988) that most (~90%) students can learn to the point of content mastery if provided quality instruction, appropriate time, frequent assessment, and varying degrees of corrective exercise. While mastery learning has been difficult to implement in settings based on group

instruction, the concept has found new favor in the current disruptive moment. New technologies and the popularity of MOOCs have renewed enthusiasm for approaches to learning for mastery. In this context, we established mastery learning as a guiding design principle for Ulysses. Constant feedback and correction would be given to every learner until a score of at least 90% is obtained at each level of a particular topic. Following the behaviorist model of operant conditioning, instructional units would be reduced to their most elemental form in such a way that for every learning outcome, there would be a corresponding formative and summative assessment, testing whether mastery of the particular unit has been achieved.

Adaptive Instruction and Graceful Remediation

For the members of the Ulysses design team, the corollary of mastery learning was corrective remediation and practice. Following the ideas of personalized instruction (Keller, 1968; Keller & Sherman, 1974; Sherman, 1974), the Ulysses team viewed student error as natural and to be embraced as a vital component of learning. As students progress through instruction and exercises, we hoped to provide them with lively and animated explanations of the problem recently attempted. If the student correctly responds, she would advance to a higher-level question and progress to the next level of the course. If the student incorrectly responds, she is provided a similar type of question. The Ulysses team called this process “graceful remediation” as it was designed to give students the opportunity work through gaps in their understanding without interrupting the flow of instruction. This process was to be realized through the systematic tagging and categorization of each assessment according to difficulty, relevance to key objectives, and importance in overall course goals. This categorization process was to be carried out through the application of Item Response Theory and a

qualitative review of question sets by internal and external subject matter experts. These metadata were viewed as useful in determining which items should be used in the process of learning mastery and graceful remediation.

Personal Tutoring and Facilitation

In Bloom's approach to mastery learning, individual attention from tutors and small group work play a key role (Bloom 1973; Bloom 1974; Bloom 1984; Block & Burns, 1976). While Ulysses was designed to be scalable by providing every learner with a prescribed and customized dosage of automated instruction and practice, the design team sought to make accommodations for learners who may need more personal attention. While it was expected that the student might request accommodations, the team hoped that Ulysses could be designed to anticipate such requests and initiate a change in the learning path. In such cases, an appointment with a course facilitator might be scheduled to discuss a question or issue in a synchronous session. The facilitator provides direct tutoring to the learner and also gathers qualitative data concerning specific problems with instructional content. These data, in turn, guide redevelopment efforts to improve course quality. Learners also have an option to seek assistance from a highly developed online community designed around specific topics and areas of interest.

Although Ulysses was designed to allow the learner to contact a facilitator via email, chat, telephone, and videoconference at any point, the design team was not willing to assume that learners would actively reach out to their instructors or seek assistance. Ulysses would provide alerts to facilitators concerning learners who are falling behind, who appear to have abandoned the course, or who are struggling with course material. In our analysis of the industry, we could find no major learning

management system that uses data to direct facilitators to carry out a specific task such as making contact with a struggling student or a missing learner. Such direct contact with the student would theoretically help to address attrition, which could lead to higher completion rates and lower institutional costs.

In order to increase the efficiency of direct tutoring services and address problems of scale and overall cost, the team designed Ulysses to facilitate labor by directing tutoring services to learners through a constant analysis of individual learning and performance behaviors. For example, a facilitator may be assigned by Ulysses to contact five struggling students, provide direct tutoring to three students, and make formal contact through email and telephone contact with three students have who not logged into the course in two weeks. In other words, the Ulysses learning system would act as a catalyst where the learner and the facilitator are brought together to address learning deficiencies and keep the student on track to mastery.

Community and Gamification

The design team envisioned Ulysses as a complex adaptive system. The Ulysses blueprint featured social tools designed to facilitate self-organizing and self-perpetuating learning communities. Game-like features such as points, badging and peer-leveling (grouping learners by similar levels of achievement) were envisioned as a means to encourage learners to pay attention to the progress of their peers. Those peers who achieve high status in a particular subject would be seen as more knowledgeable and therefore encouraged to offer peer learning support and advice. The network theory logic underlying the data design can be used to connect learners with similar interests, shared learning goals, complementary strengths, or geographic location. Learners and facilitators would have access to multiple channels of

communication, both situated and general. Messaging, conferencing and targeted discussion board features allow for immediate ad hoc conversation. The Ulysses design also included ubiquitous contextual commenting, journaling and micro-blogging. These features would allow for conversation to arise in situ, as learners interact with course content. Users may then choose to broadcast their ideas to the larger world through social media channels such as Facebook or Twitter; or keep their thoughts within the confines of the Ulysses secure system. Ulysses users would have the option to maintain a reflective journal that is completely private, shared with a facilitator, or disclosed to select peers.

Intelligent Exam Preparation

Ulysses was designed to track student performance in such a way that the learning system generates personalized study guides and practice problems based upon individual performance. The Ulysses model assumed that students must demonstrate mastery in a proctored and high stakes testing environment. Therefore, once core instructional exercises had been completed, learners were prepared to sit for examination through an individualized study regimen prepared through the learning analysis engine. Areas of the subject where the student had demonstrated weakness would be addressed along with a focus upon topics that are more central to the learning objectives.

Self-Regulation and Intrinsic Motivation

The Ulysses design team believed that it is critical for students to develop the necessary metacognitive skills to plan, check, monitor, select, revise, and evaluate his or her own understanding. Ulysses plans incorporated features that were designed to develop metacognition through prompts that ask learners to analyze the causes of error

and the extensive use of learning journals. Such tools were hoped to encourage students to identify larger patterns of success and error in within their own learning. The team also subscribed to Self-Determination Theory (Deci, Koestner & Ryan, 1999), believing that the best learners are self-motivated students who find intrinsic value in the discovery and sharing of knowledge. However, team members were willing to concede that students need gentle encouragement from time to time in order to stay on task through difficult or challenging material. Contemporary approaches to motivation had convinced the Ulysses team that elements of game play, such as reward points, badges, and friendly competition, could be effective in certain contexts. The design concept behind Ulysses attempted to walk the fine line between "gamification as motivation to engage" and "transforming the learning experience into a game." Self-Determination Theory research had shown that extrinsic motivators in the classroom have the opposite of their intended effect. The Ulysses design team hoped to avoid this error by leveraging targeted game elements designed to reinforce existing motivators rather than shape new behaviors.

Ubiquitous Learning

The Ulysses team believed that the instructional paradigm of the next decade would be based upon ubiquitous learning, where opportunities for instruction will not be limited to the classroom or a networked desktop appliance. As such, the design team believed that the development of Ulysses should focus on mobile first, adaptable to the personal computer, rather than the reverse. Learners should be given the opportunity to learn as their situation demands: watching a video while sitting on a bus, listening to the audio track of a lecture while driving to work, engaging in academic discussion using a smartphone, or organizing their notes in the moments between work, school, family or

social obligations. The purpose of enabling this approach was not for mere convenience. Aside from the ineluctable transition into a technologically mediated existence that finds many busy professional adults consulting their personal electronic devices consistently throughout their waking moments—technology provides the opportunity for instruction beyond the sterile context of the classroom, virtual or otherwise. The team envisioned a system that supported learners' ubiquitous access to education both as consumers and producers, allowing them to relate the concepts they learn from their instructors to the contexts of their lived-in world. The mobile device would maximize the potential for capturing learning moments in situ, as they unfold.

Figure 4-6. Ulysses Mobile Platform

Peer Feedback

In the traditional classroom environment, students do not practice or discuss new learning in isolation. The Ulysses team believed that the most engaging learning opportunities are experienced with our peers. To recreate this organic, social learning phenomenon, Ulysses was designed to offer many points in a course wherein students may collaborate on ideas and on assessments. Although some writing assessments would be individualized, students may share their work with others in the community. Peers might offer feedback according to an integrated rubric. This sharing and responding on the part of students would not go unrecognized. In the team's vision, each time a student shared or responded to a project or a written response, they earned participation points, automatically generated and added to their own graded assignments.

Euporia

In all social fields, systems of domination are not vested in individual actors, but in the positions those actors occupy in social space and time. In effect this means that neither privilege nor submission can be prescribed between actors without understanding the specific contexts in which these relations are expressed. That is to say that social fields are dynamic and that systems of domination exist only *in potentia* as carried in the *habitus* of the actors who inhabit the field. In contrast, many software systems attempt to establish security protocols, user rights, data privileges, etc. using explicit rules that assume a direct relationship between an actor and her privileges within a system of transactions. For example, a course instructor, systems administrator, or student advisor in a university context would be given explicit rights to access student data such as home address, university identification number, and

course grades. However the systems administrator, for example, may also be enrolled in a course at the university as a student giving her an *aporetic* dual role that creates a contradiction within the rules of the field. In this case the system administrator *cum* student may have software privileges that allow her to monitor and change grades within the course—a source of power reserved for the course instructor by university policy. The software design allows for such an *aporia* by creating a false equivalence between the actor, her presumed role, and the power vested in this role by the logic of the field. But the social fluidity of any field allows for actors to pass from one set of power relations to another, depending on time, context, and the specific logic of the field.

Members of the Ulysses team developed a system for governing transactions within the learning platform based on the contextual relationships between individual users, attempting to mediate the *aporia* that conflicting roles, rights and privileges can present. The design incorporates elements of Network Theory to dynamically generate a snapshot of permissible interactions based on context. It does so by intermittently constructing a hierarchy of rights derived from explicit and implicit associations amongst nodes in a network. This hierarchy is maintained in system memory and available for instantaneous access as transactions occur.

Intellectual Property and the Legitimacy of Product

The genesis for this project and subsequent patent application (Dinsmore & McCoy, 2013) resides in work developed by Dinsmore at the University of Florida, College of Medicine. In 2006, Dinsmore and I were working to develop the College of Medicine's enterprise data system for student, course and class management, dubbed Common Objects for Research and Education (CORE). There were several software

modules that plugged into the CORE system. These included MedCore, a systems for providing tools for managing courses and student records; StudyCore, a learning management system to handle the support of teaching and evaluation; FindCore, a directory system that provided contact, demographic and professional information; CommCore for communications; and DateCore, a calendar system. Dinsmore developed IDCore as an identity management tool based on professional status and relationships of CORE users within the College of Medicine. “IDCore is responsible for knowing who everyone is and what they can do within the COREs system” (Dinsmore, 2006, unpublished documentation). IDCore was partially developed as a corrective to the multiple access control lists maintained by various staff members across the college, a situation that created unreliable, error prone, outdated and duplicative data. Dinsmore’s challenge was to develop a system that allowed access to highly sensitive contextual data that was protected by multiple federal and state regulations. A single, explicit access control list that was centrally controlled would have been too unwieldy to maintain and would have likely proved to be a security risk. So he developed a system that analyzed key data points surrounding a user’s status, role and relationships within the university, using canonical data where possible and manual exceptions where necessary. In developing IDCore, Dinsmore discovered that a small amount of information could be extrapolated into a much larger and more detailed network.

By 2012 Dinsmore’s thinking around the concept of a dynamic network of rights that was instantiated in a single transaction had matured significantly. Adding to his design thinking, the Ulysses project revealed a significance to the software project that was heretofore unimagined. The team was confronted with new systems of

classification presented by both the academic and entrepreneurial fields. The planning, design, and computer programming that signified the work behind IDCore, performed as labor under contract with the University of Florida, transformed the *opus operatum* of IDCore into intellectual property to be transferred to the commercial sphere as product. This transmogrification imbued the ordinary process of work with the magical, fetish-like qualities of innovation to be hammered into licensable product through the grueling process of business incubation and start-up. Dinsmore and I embraced these logics of the fields, and set forth establishing IDCore as property *cum* product by seeking state legitimacy through the United States Patent and Trademark Office. Much of the following text on this subject is derived from a whitepaper we produced to accompany our patent application. But it also represents a foundational ideology of the Ulysses team, as an explicit recognition of the arbitrary, contextual, and emergent rules of a game based on power, context, and legitimacy. Our re-imagined IDCore became Euporia—a title meant to reflect the inherent contradiction that rights and roles can present when considered out of context.

Loyalty to the Regime: Regulatory Compliance in Complex Systems

Our first task was to lay bare the arbitrariness of the structures of the institution—a compliance regime that demands obedience of its subjects under threat of termination and prosecution.

> Members of UF's workforce who fail to comply with UF's privacy policies and procedures or with the requirements of the state and federal privacy regulations will be disciplined in accordance with UF's normal disciplinary procedures, up to and including termination of employment and/or expulsion from UF (University of Florida, 2013, source: http://privacy.health.ufl.edu/policies/hipaamanual/opguide/PP-OG-GEN-Violats.pdf).

> Under federal law, FERPA violations may result in the loss of federal funding for UF. Under state law, both UF and you personally may be sued. Any breach of confidentiality could lead to disciplinary action, including the possibility of termination of employment (University of Florida, source: http://www.registrar.ufl.edu/staff/ferpastaff.html#4).
>
> There are serious civil and criminal penalties for HIPAA noncompliance. A violation of the HIPAA Privacy and Security Regulations can result in fines up to $250,000 and can also result in imprisonment for up to 10 years. Additionally, you can be sued personally for violating a patient's privacy. Other risks of noncompliance include increased exposure to lawsuits for breach of confidentiality, negative publicity, potential loss of accreditation (i.e., ACGME, JCAHO), HHS audits/investigations and harm to business interests. Additionally, committing a violation may result in your termination of employment and/or dismissal (University of Florida, 2010, source: http://www.hscj.ufl.edu/resman/manualpdfs/HIPAA.pdf).

Workers labored under the threat of punishment for transgressions that included security lapses in electronic data, such as patient and student information. This compliance regime was further complicated by the complexity of the institution, which included multiple governance structures. These structures—e.g. academic research, instructional curriculum, clinical operations—created multiple, overlapping roles that had the potential for their expression in single actors, such as medical doctors who conducted research, provided patient treatment, and taught classes to medical students. Dinsmore's vision for Euporia was to address user interactions within software systems at the level of a single transaction in the context of a large public education, healthcare and research institution. His single biggest challenge was the provisional and contextual nature of the possible combination of rules that could govern any transaction. The large number of potential users of the system, a number in excess of 50,000, provided further complication. Users interacting with software systems within this vastly complex institutional context may assume multiple and various roles simultaneously. Each role may have restrictions and rights that govern transactions with other roles.

Each potential transaction for in such a system may have an associated regulatory compliance regime with respect to privacy, confidentiality, disclosure, etc. Furthermore, there may be temporary ancillary dimensions added to any transaction that are idiosyncratic to individual users or ephemeral user groups. For example, users may be given an opportunity to review and assess the work of their peers in an academic context. Advanced graduate students may be charged with the instruction of undergraduates, while simultaneously being observed by faculty. Faculty themselves are periodically reviewed by peers and administrators. In short, given the complexity of large institutions with multiple missions, elaborate regulatory compliance requirements, and whose members have wide and varying roles, the rules that govern individual transactions within systems cannot be easily prescribed. They must rely on algorithms tuned to recognize role and context interpreted by implicit and explicit rules and associations. These algorithms—software approximations of the practical sense of the field—were the bases for our patent application.

The Machines Know: Limiting the Human Dimension

In our observation, administrative staff members within such a large institution have a limited view of the potential regulatory requirements of any single transaction. Our administrative colleagues tended to be specialists with expertise in a particular area (e.g. academics, patient care or research) with limited overlap. For example, the medical doctor referenced above might typically rely on different offices for support in her teaching, clinical practice and research and would trust those staff to advise her on compliance with the various regulations and rules in those particular areas. We foresaw problems arising in complex systems, where roles and contexts are dynamic and shifting. It was inadvisable, in light of the punitive compliance regime of the institution, to

rely on human intervention in every possible transaction—compiling massive access control lists, providing explicit access to bodies of data. Euporia was designed, instead, on canonical data from central systems, well-structured data curated by compliance experts, and exceptions that cannot be predicted by these data. The latter might be considered a carefully controlled “fudge factor”. It then, in principle, extrapolates the rules for any transaction based on those data and the context in which the transaction occurs. Due to the provisional and contextual nature of the transaction, compliance experts may not explicitly understand these rules. Thus the rules for the transaction may be implicit and misrecognized.

Privileging Position: Identity and Rights Networks

An identity network represents the undirected ties between nodes as determined by the shared attributes between the connected nodes. For example, Dr. Patel has a network of affiliations based upon the shared attribute "faculty". She has another network of affiliations based upon the shared attribute “College of Medicine”, and a sub-network therein based upon the shared attribute “Department of Pathology”. She carries her other attributes into each of these networks such as “tenured faculty”, “associate professor”, “chair of the curriculum committee” or “co-principal investigator” for a major federal grant. Her identity represents the sum total of the attributes she carries throughout her various networks, plus some optional attributes that may be unique to her (e.g. the sole recipient of an endowed chair). The attributes that constitute her identity may exist within contextual hierarchies distributed across her various networks. For example her “associate professor” attribution has a hierarchical position relative to categories within the institution, e.g. Employee -> Faculty -> Associate Professor. The Associate Professor attribute is an explicit identifier with the attendant implicit attributes

of Faculty and Employee. The purpose of this data model is to leverage implicit associations in the construction of the identity of a node with minimal manual effort. The distinction to be made is that identity networks are fluid while the attribute hierarchies they leverage are fixed.

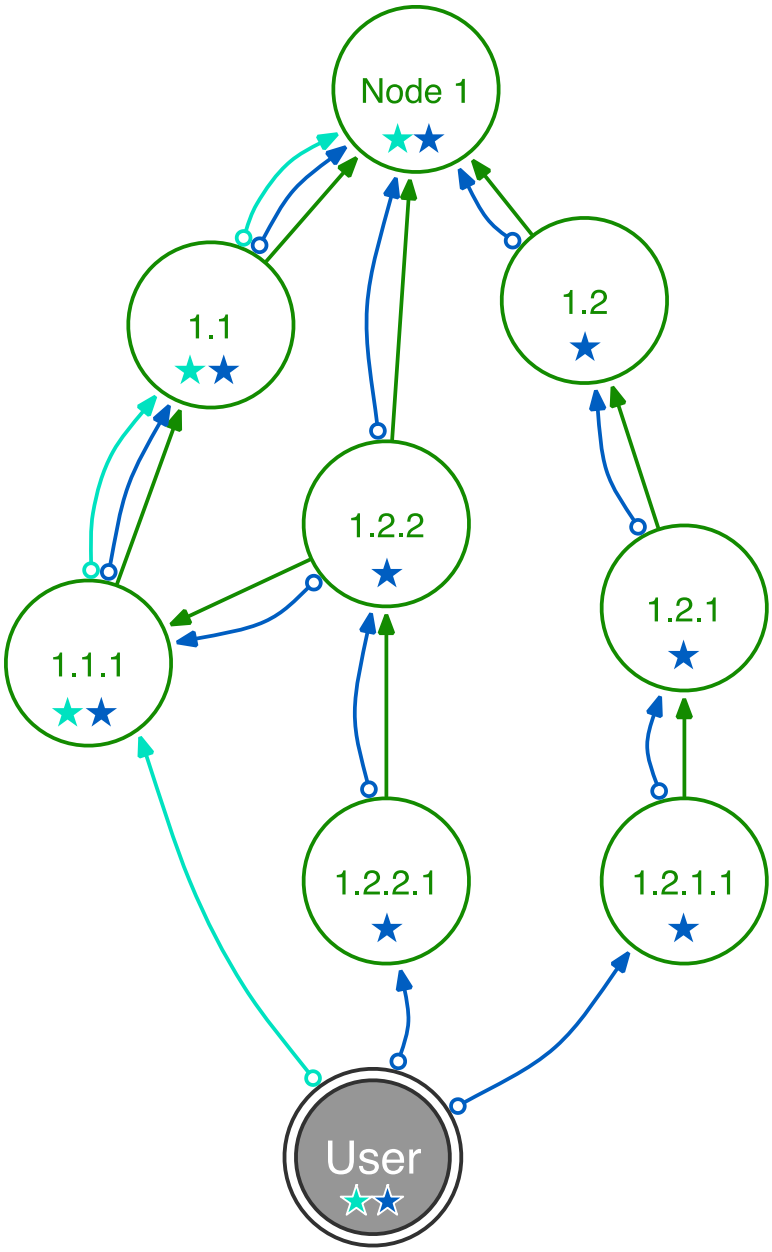


Figure 4-7. Example of a Simple Identity Network.

A rights network represents the directed ties between nodes, that is, the actions nodes may take in relation to other nodes, or be subject to by other nodes. For

example, Dr. Patel is the Course Director of General Pathology and Immunology. The students of this course are given a particular assignment for which they will receive a grade. Mary is a student in the course and is authorized to submit her assignment through the system. Dr. Patel has privileges necessary to assess her student and provide a grade. Mary, in turn, may submit an evaluation of Dr. Patel's performance as Course Director. Each then has the privileges to interact with the other based upon their explicit association within the context of the course. The rights network illustrates that the potential for these actions exist, and if one or the other node so chooses to take one of these actions under the appropriate conditions, the system will permit them to do so.

Euporia constructs a rights network based on explicit and implicit associations in identity networks. Compliance experts and system administrators assign attendant rights to the attribute hierarchies in identity networks. Nodes inherit rights from the attributes that rank higher in the hierarchy. However, the attendant rights in an identity network that are based on explicit associations have precedence over rights inherited through associations in the attribute hierarchy for a particular node. When explicit rights compete, and the attributes for the attendant rights hold equal position in the hierarchy, the rights that are least restrictive take precedence. Otherwise, the rights with the closest proximity to the referencing node in the hierarchy take precedence. In other words, the attendant rights that are closest in the hierarchy and that grant the most privileges, are the expressed rights for a particular transaction.

Docility and Automaticity: Exceptions, Ghosts and Polymorphism

An exception is a means of inoculating a node against a particular attribute. This method allows for managing special cases that occasionally occur where the general rules do not apply. Associations in an identity network may implicitly create other

associations with attendant rights that are not applicable in a small number of cases. This may occur, for example, when a student who is a member of cohort that normally has a concurrent schedule of courses is able to opt out of one or more of those courses. The exception allows the use of the cohort attribute to assign students to a course, but blocks all rights and identity attributes from passing through the excepted node.

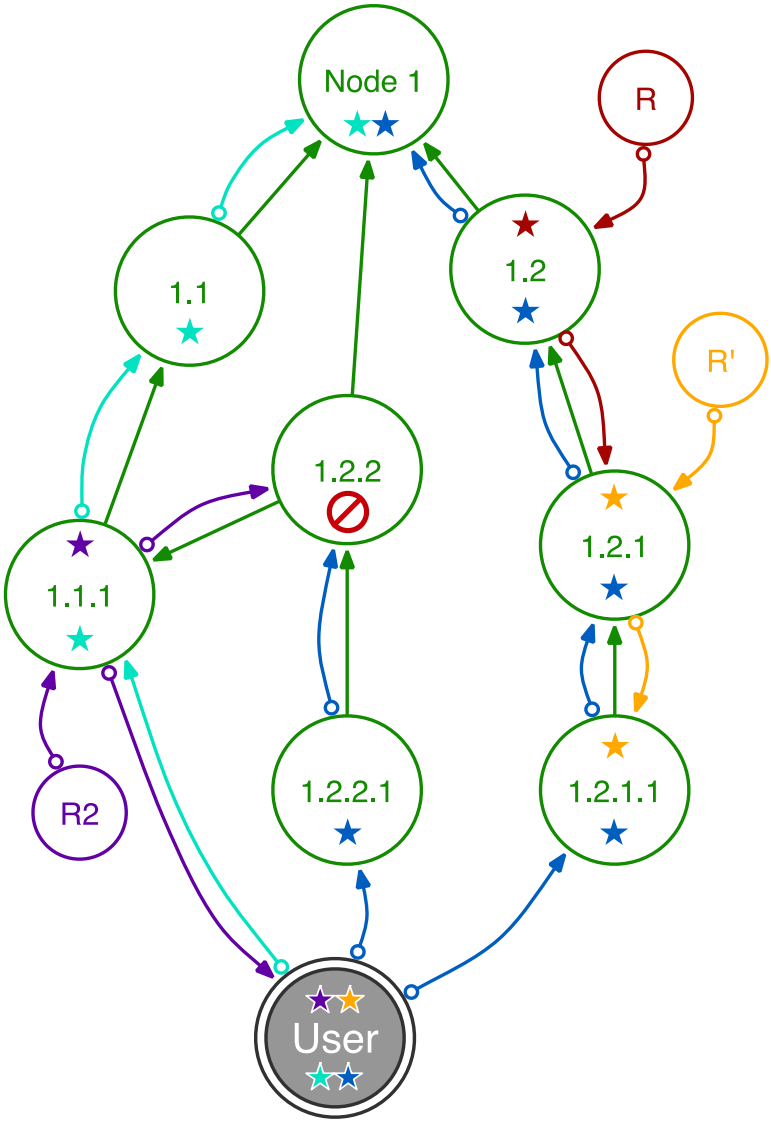


Figure 4-8. Example of Rights Network

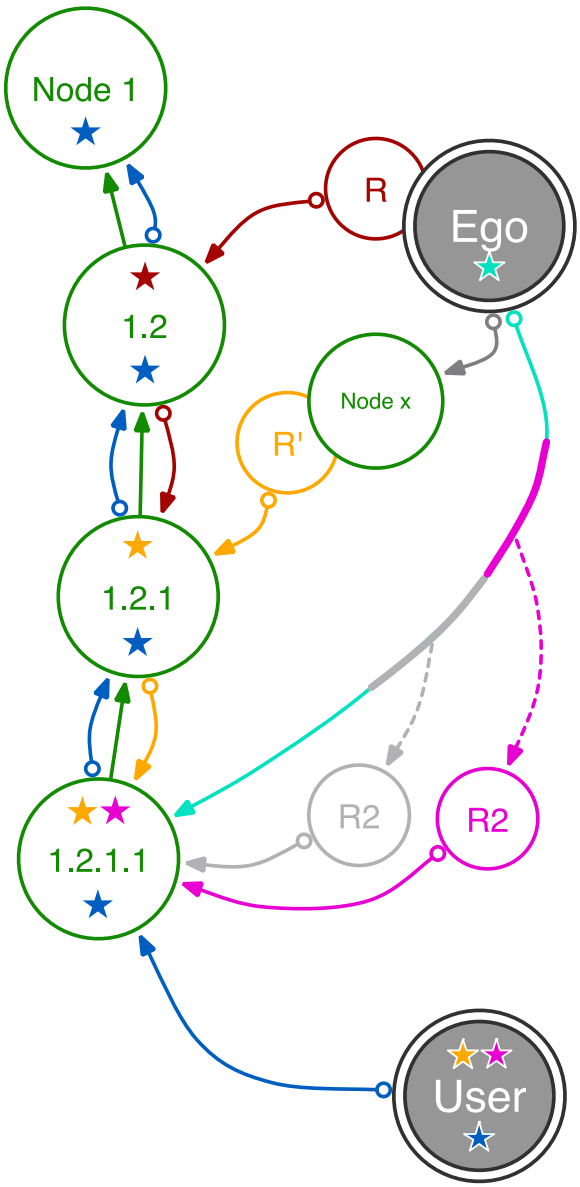


Figure 4-9. Example of Polymorphic Control

A ghost is invisible to an identity network, but has privileges where the identity network overlaps with the rights network. In other words, it is a means of granting rights without an associated identity attribute. For example, all nodes with the identity attribute “faculty” have privileges to view restricted contact information for nodes with the identity attribute “student”. This is the case even though the nodes may not have any overlapping identity networks and therefore no implicit associations that may grant rights. The practical effect is that certain nodes may be given explicit privileges based

on institutional rules rather than relationships, creating a directional tie that is hidden to the receiving node.

Virtual Groups represent identity networks based on two or more shared attributes between nodes. For example Dr. Patel is a member of a virtual group consisting of nodes with the shared attributes “faculty” and “Department of Pathology”, creating a network of “Department of Pathology faculty.” No additional human effort is required to maintain this network other than the initial designation of the original two attributes, but this network can be operated upon just as any other network within the system.

A “role” in Euporia does not have a technical definition that could be operationalized programmatically, because the roles that are defined by statute could be fundamentally different than roles that are defined by the institution (e.g student, teacher, student-teacher, etc.). A user may not be given a role in the system per se, but a compliance expert may establish identities and rights based on their understanding of an institutionally defined role. The rights inherent in these institutionally defined roles may be expressed in certain contexts, while laying dormant in others. For example, the role “student” in a course may have no practical impact until and unless there is a course in the process of being taught. Furthermore, the rights expressed by that role may change over the span of the course. Students may have the rights to submit assignments periodically throughout the course, and are given the ability to evaluate their instructor within a specific time window near the end of the course. Euporia allows for these rights to be expressed programmatically, alleviating the need for manually adjusting privileges and restrictions by instructors and staff.

The End of Ideology

The members of the Ulysses design team believed that we had a unique perspective on the challenges facing higher education. Our views were developed organically, based on our experiences in educational technology, distance learning administration, entrepreneurial initiatives in education, and as members of the university workforce. We perhaps suffered from the conceit that the structural manifestations of the academic field could be overcome by a forceful counter-hegemonic narrative—or in the words of comrade Lenin, that "the differences between workers and intellectuals should be obliterated". In such a view, the tired practices of institutionalized education based on the agricultural and industrial approaches of the 19th and 20th centuries would be cast aside and replaced by rational approaches of the information age that serve the interests of the students and the needs of the economy. The problem with such a conceit is that it fails to recognize that the fundamental structure of the field of power is reinforced and recreated by symbolic systems internalized and expressed in the *habitus* of individual actors. Ideologies are not, as in the traditional Marxist view, distortions of rational thought held in service of the bourgeoisie, but spontaneous philosophies that compete with dominant symbolic systems. Ideologies are, in Bourdieu's model, heterodoxy.

Developing Ulysses was a transgression against the field—the arbitrary rules of academic practices. This transgression put us at risk for retaliation from the outset. We had brought into the game an entirely new set of rules, appropriated from the field of commerce and entrepreneurship. We believed—or tricked ourselves into thinking—that the game had evolved, or that new forms of capital had gained stature. When, in fact, we were marginal voices of heterodoxy in the midst of a struggle for power. While it is

true that there is some upheaval in the academic field, brought on by structural changes underlying the economic, technical and social foundations of cultural reproduction and the legitimization of knowledge, our project represented but a synecdoche of this struggle. While we believed that Ulysses represented general progress for education, it was the *modus operandi*, not the *opus operatum*, that took primacy in the end. It wasn't what we did that was cause for suspicion, but how we did it. Partly this was hubris. We erroneously believed that our stature within the field of power had been enhanced by the social capital afforded by our association with Weatherford, and the symbolic capital of membership in the Innovation Hub, with its shiny luster of entrepreneurial trends in higher education. But these forms of capital were insufficient currency for this level of engagement in the field.

A thematic network analysis of Hintze's Curriculum Vitae illustrates key areas where we collectively lacked the necessary forms of capital that we would require to effect change in the academic field of power. Most of Hintze's capital has been accumulated in the cultural sphere, with a particular focus on skills and categorical knowledge. This is exactly the type of capital Hintze would need to be an effective instructor at the college level. But he and I both are lacking the research credentials required for core legitimacy in the academic field of power. Neither of us holds a Ph.D. from a high status institution (a basic right of passage into the field), nor do we have tenure accruing faculty appointments at research universities. These are critical forms of cultural capital that no amount taste, skill and categorical knowledge can compensate for a lack thereof. I would argue only a significant amount of economic capital—or social capital that can be leveraged to win access to economic capital—can overcome such a

deficit of cultural capital in the academic field. Our association with Weatherford proved to be insufficient social capital, and our business plan did not attract investment capital. Our transgression then, was that we had not been sufficiently blessed by the field with the credentials to undertake the type of disruptive endeavor in which we were engaged.

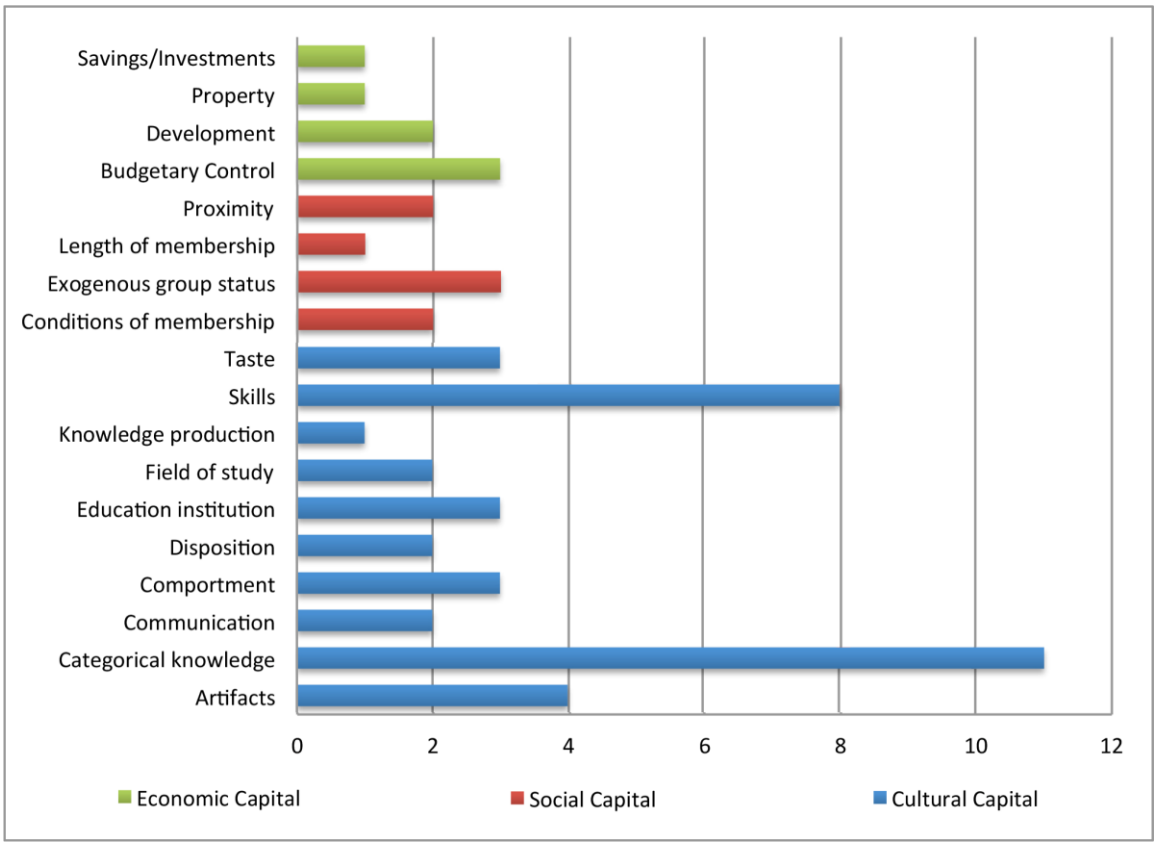


Figure 4-10. Accumulated Capital Represented by Hintze's CV.

Hintze's vita shows concentrations of cultural capital in the form of categorical knowledge, skills, and artifacts. Hintze's categorical knowledge stems from his teaching expertise in college-level courses in the following subject areas: Equity and Capital Markets, Business Finance, Managerial Economics, Debt and Money Markets, Macroeconomics, Managerial Accounting, Microeconomics, Venture Capital, Financial Management of the Firm, Financial Accounting, and Entrepreneurship. He developed the skills reflected in his vita as a manager and as an instructor. Other forms of cultural

capital include taste, artifacts, comportment, communication, disposition, field of study, and institutional affiliation, are all related to his instructional and business activities. They represent cultural capital in Hintze's specialization within the academic field—expertise in entrepreneurship and business management.

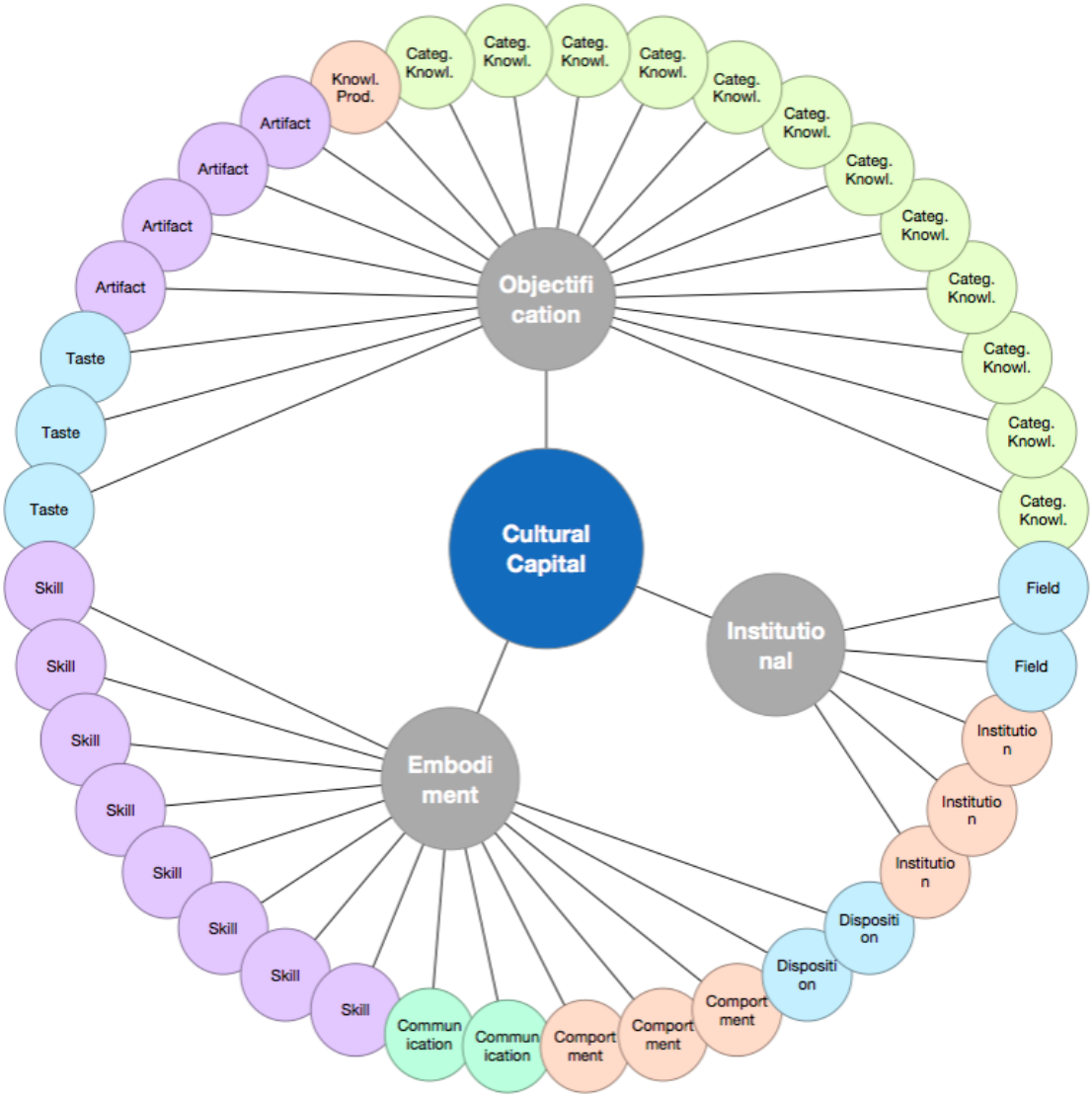


Figure 4-11. Cultural capital represented in Hintze's CV.

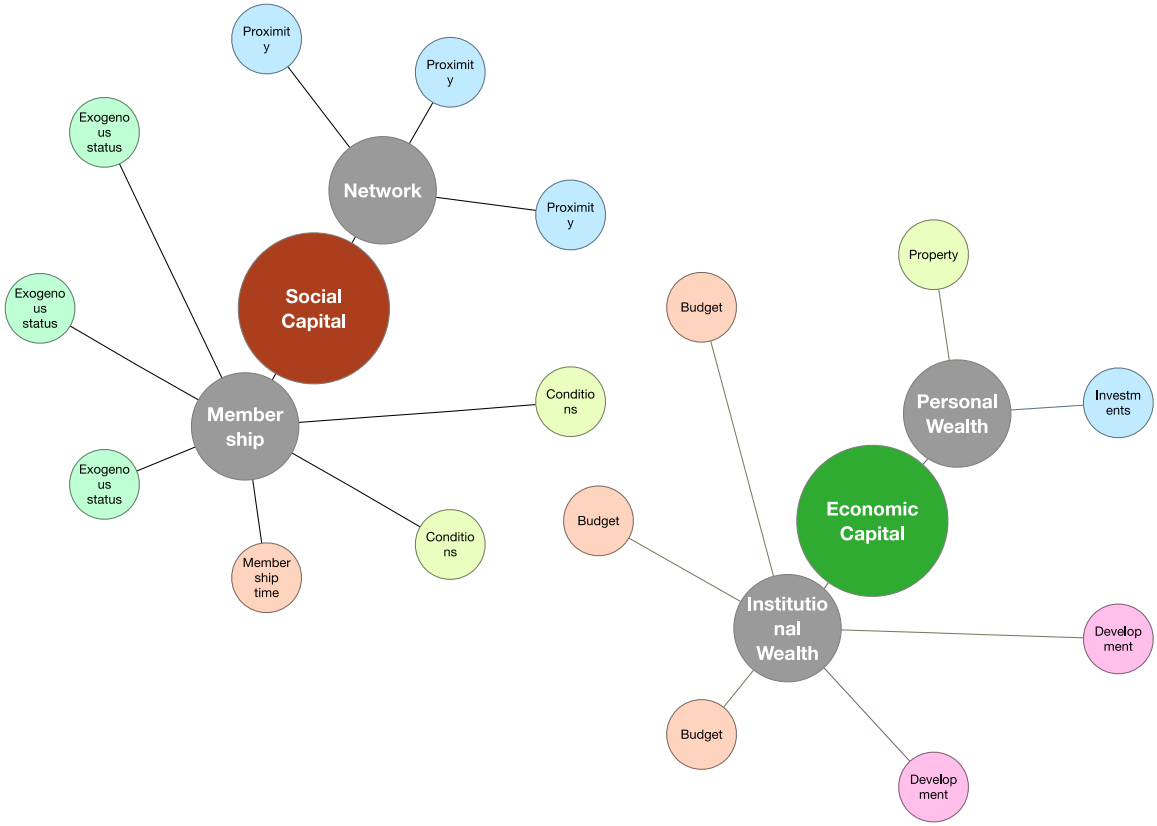


Figure 4-12. Social and economic capital represented in Hintze's CV

The vita also shows accumulated social capital by proximity to high status individuals such as Speaker of the Florida House of Representatives, as well as long-term membership with the prestigious Center for Entrepreneurship and Innovation at the University of Florida. Hintze has accumulated some personal wealth and other economic capital through his business ventures with TutoringZone and other endeavors.

For the sake of brevity, I have chosen not to perform a thematic analysis of my own vita. As something of an expert on the subject, I trust that the reader will allow me to provide an abbreviated emic perspective. The great bulk of my capital within the academic field of power lay with my institutional position as an administrator at the professional staff level. I had no status as a researcher, instructor, or member of the

university faculty. My position did provide some economic capital in the form of budgetary influence and staff supervision. I believe that I was given some credence as an expert practitioner in educational technology. But such expertise would not be generally regarded to be professorial, and therefore lacked the exchange value of the cultural capital afforded by research publications in the academic field of power. In short, our alliance allowed Hintze and the Ulysses team to exploit a fleeting opportunity to penetrate the field of power by combining our cultural, social and economic capital. However, the quality and quantity of our collective capital was insufficient to maintain a position of influence. In the next chapter I describe some of the ways that disruptive heterodoxies confronted, and were confronted by, the orthodoxy of institutional practices at the University of Florida.

CHAPTER 5
DOXA AND A CLASH OF PRACTICES

This chapter presents a narrative of a confrontation of practices—practices that are represented by ideologies that articulate a vision for change on the one hand, and acts in defense of the status quo on the other. This narrative depicts a deeper dynamic of power and privilege under threat by disruptions to the academic field brought on by technological change and a subsequent cultural shift. Ideologies of change are the heterodoxies that challenge the established practices of cultural reproduction within the university, and by extension the role the university plays in the durability of social structures of power. Such heterodoxy was expressed implicitly in the design of Ulysses, but also in the approach that administrators have taken in the implementation of UF Online, as well as methods devised for advising students in the dual enrollment program. Resistance to these ideas of change has been expressed in both word and deed, as acts of non-cooperation, reluctant participation, or full-throated skepticism. But it would be wrong, in my view, to present this discourse as a struggle between factions. It is not a simple case of administration versus faculty, or innovators against traditionalists. Every actor in the field has a stake to claim, including myself. So while it would be tempting to pose my colleagues and I as heroes of the avant-garde, struggling mightily to overcome the reactionary forces of institutional privilege (i.e. university faculty and administrators), it would simply be wrong. Not surprisingly, the field as I observed it, and as reflected in my interviews with informants, indicates a much more complex picture.

UFO: an Alien Invasion

> I can only speak for myself and not the group. However, one of my concerns is that once this course is created online, it is no longer ours and

> we have no control over it. It belongs to UF Online, which seems to be desperate for courses after a rocky start … Why should they pay any faculty for such purposes if they already have the course — and it can be taught by TAs or adjuncts? [University of Florida faculty member, email communication, June 17, 2014]

The establishment of UF Online, in my view, represented a profound disruption to the university on several levels. Perhaps its most significant disruption was its potential to transform university practices of developing curriculum and delivering instruction. Just as my colleagues and I had been observing developments in the academic field led by elite universities such as Stanford University and the Massachusetts Institute of Technology, many University of Florida faculty and administrators were taking note of the discourse surrounding Massive Open Online Courses (MOOCs) in the media. Indeed, by the time the Florida Legislature was considering the bill that would create UF Online, the university had begun producing a series of MOOCs in collaboration with the Stanford University spinoff company Coursera. This process introduced rediscovered approaches to instruction similar to those that had been pioneered by proponents of mastery learning, such as shortened lectures with frequent formative assessments. The Center for Instructional Technology and Training (CITT) at the University of Florida was responsible for the course development and instructional design of the Coursera courses. At the time of this writing, 12 such courses had been produced.

New Technologies, New Ideologies

This work was a natural extension of the work of the CITT staff. The Center had the general charge of supporting online and blended course development for the majority of UF academic departments. As part of this mission, CITT instructional designers were charged with promoting instructional design methods for online course delivery as a means of scaffolding teaching faculty into this new method of instruction.

Their approach is articulated in the Faculty Institute, an online introduction to CITT instructional design and recommended best practices that was mandatory training for UF Online faculty and adjunct instructors. The institute was delivered in nine instructional modules covering the student experience, course design and planning, goals and objectives, assessment, instructional materials and activities, tools and techniques, and course management. The content for the institute conformed closely to the University of Florida Standards and Markers of Excellence (see Appendix D), the online course evaluation matrix developed by CITT.

Figure 5-1. Video still from the UF Coursera Course: Economic Issues, Food & You

The first module, titled simply “Students”, began with an online video produced by the Kansas State University anthropologist Michael Wesch (2007). Wesch and his students created a short video highlighting some of the generational differences for students in the first decade of the 21st century. The central message communicated by the video is a profound sense of alienation that students experience in large survey courses taught in university lecture halls: students attended classes with an average

roster size of 115; 18% of their professors knew them by name; the required reading for courses had little relevance to them, etc. This video is followed by a recorded presentation by the CITT manager entitled “The Student Perspective”. Participants are asked to consider their audience: the age of their students, whether they have full-time jobs, their motivation for taking the class, and other demographic factors. For example, the on-screen instructor asserts that students younger than 25 tend to be less successful online. While successful learners are typically older than 25 and have taken an online course before. Perhaps the most critical lesson that faculty learn from this institute is that established instructional practices of university classrooms are counter productive in an electronically mediated format.

> Most face-to-face undergraduate courses—especially of the freshman and sophomore levels—follow a lecture and assessment model. Usually the students attend a lecture and are given 2-3 major exams throughout the semester. Converting this model to an online setting by replacing the lectures with video and putting the exams into the course management system does not tend to support student success. (CITT, 2013)

Thus, a central tenet of this module (and perhaps the training itself) is to create a rupture between what the teaching faculty accept as common sense—a practical sense that is taken for granted—and what is beneficial to students. The Wesch video shows a student body that is profoundly alienated by an impersonal educational experience. This condition is made worse by directly translating the lecture-assessment approach into an online format. Furthermore, instructors run the risk of creating an even greater distance between themselves and the student body by the misuse of technology with a population that generally has a higher level of comfort and sophistication with digital media and communications.

Lead Me to Your Takers

As the plans for the development of UF Online began to take shape in the late spring of 2013, university administrators were faced with a dilemma. Participation in UF Online was essentially voluntary for teaching faculty. At the same time, state legislators and the governing body of the State University System had specific expectations for the quality and approach that UF Online should take to course delivery. Specifically, the legislation that established the mandate for the online university endorsed flexible enrollments (Fl. Stat. §1001.7065(4)(g)4, 2014) and competency-based programs (Fl. Stat. §1001.7065(4)(i), 2014). The law also institutes an advisory board to provide oversight in the establishment of the online university with fiduciary responsibilities to the Florida Board of Governors of the State University System, the Florida Governor, the President of the Florida Senate, and the Speaker of the Florida House of Representatives (Fl. Stat. §1001.7065(4)(b)3, 2014). In effect, this created a dynamic whereby faculty who chose to participate in UF Online would not necessarily be able to produce courses on their own terms. Rather, the courses they produced would need to meet the expectations of the state advisory board and their sponsors in state government.

In order to garner the funding designated for the online university, administrators were required to submit a comprehensive plan to the state advisory board for approval. The resulting document, the *UF Online Comprehensive Business Plan 2013-2019* (Machen & McCollough, 2013), was approved and presented to the Strategic Planning Committee of the State University System of Florida Board of Governors on September 27, 2013. The document outlines the following aspects of UF Online: the marketing and recruitment strategies; the organizational structure; enrollment management

approaches; the online curriculum and academics; course production and development; institutional infrastructure; revenue and budgets; program evaluation; and research surrounding online learning. At the outset the authors embrace a heterodox approach to higher education, with an explicit intent to transform curriculum and instruction.

> UF Online is committed to its vanguard assignment. We will be an idea generator as well as an idea capture activity, and we will research, test and pilot any and every idea that can contribute to high-quality affordable post-secondary education. The advances we make—and we will make many—will be shared with colleagues in the State University System and Florida College System. Finally, we anticipate that the results from this intensive involvement in online education will be an improvement in pedagogy across all platforms, including the teaching/learning that occurs on our resident campus (Machen & McCollough, 2013, p. 12).

The plan sets specific goals for innovative learning approaches to be established by 2017. These include: adaptive approaches that are tailored to individual student needs; flexible schedules and modular terms; social and collaborative learning; courses designed for delivery via mobile platforms; personalization; and competency-based programs (see Table 6-1). However, the authors do not provide specific detail in either the definition or implementation of these goals.

The plan does outline specific compliance mechanisms to ensure quality of online courses and programs. Annual course reviews and a complete revision every three years are standardized. A quality assurance group is institutionalized as part of the organizational structure of UF Online, and provides “review with appropriate standards at inception and throughout delivery” (Machen & McCollough, 2013, p. 6). Evaluation of online courses is based on the University of Florida Standards and Markers of Excellence developed by CITT. The review process includes two instructional designers from the course production group, an external faculty reviewer, and a representative from the academic department responsible for teaching the

course. Each course is given a standard evaluation by participating students. Further course data will be collected for program evaluation and institutional reporting including student performance data such as time on task, satisfaction, progress, grades, standing, and originality of work (Machen & McCollough, 2013, p. 52).

A Calculus of Orthodoxy

University administrators were faced with the question of how to recruit faculty volunteers into a project that involved a great deal of work and oversight as well as the demand to deviate from the traditional classroom approach to instruction. As a solution, the university offered extra compensation for course development and instruction. While individual compensation rates were negotiated between the Office of the Provost and the academic department of the course instructor, in general these rates were within range of standard summer compensation rates. That is, the amount that a University of Florida faculty member with a 9 month appointment might expect to make for teaching a course during the 3 month summer break. On average this would range from $8000 - $12,000. The UF Online business plan calls for a budget of $19,000 to support faculty in the development of new courses (Machen & McCollough, 2013, p. 57). This amount may have been used to support multiple faculty members, teaching assistants, and part-time or temporary instructors. In order to ensure compliance with UF Online course production standards and rapid timeline, faculty, their academic Department Chair, and College Dean were required to sign a Memorandum of Agreement. This agreement requires that the faculty subject matter expert commit to a rigid schedule and course production process, or forfeit payment for their effort. Responsibilities included the following:

- Meet project deadlines

- Weekly communication
- Course learning objectives as per information outlined in the Faculty Institute online workshop
- Grade book grading scale
- Syllabus
- Exercises, activities, and examinations/assessments to CITT in electronic format
- All content is proofread prior to submission to CITT
- Identify/create textbooks, readings, and resources
- Provide/create appropriate audio-visual presentations
- Identify materials requiring copyright clearance; providing the instructional designer with the necessary information at least 1 full semester prior to pilot
- Course deadlines and due dates delivered to CITT in electronic format
- Instructor and TAs participate in training (through LSS) on use of the course management system
- TAs participate in online TA Institute (If applicable)
- Evaluate course content, activities and assessment with CITT Instructional Designer after pilot

However, in spite of these efforts, faculty subject matter experts in collaboration with instructional designers were not always able to produce courses in the spirit of the UF Online plan or to the letter of the Faculty Institute. In fact, in some cases they might be considered closer to the lecture-assessment model of the traditional large enrollment university course than the mastery learning approach of contemporary online courses such as MOOCs. What follows is a description of the process of creating an online Pre-calculus course for inclusion in the UF Online curriculum. It represents an improvisation within the structures of the academic field, but an improvisation that perhaps does not achieve the vanguard status proclaimed by the authors of the UF Online plan. In essence, the instructor had been charged with generating a new pedagogical performance with a set of instruments that are largely unfamiliar: video-based lectures; frequent formative assessments; and engaging students through an electronic platform. While the direction of the Faculty Institute may seem straightforward enough, it presents

a heterodox discourse that is counter to an embodied system of durable dispositions, and the unconscious rules of the game.

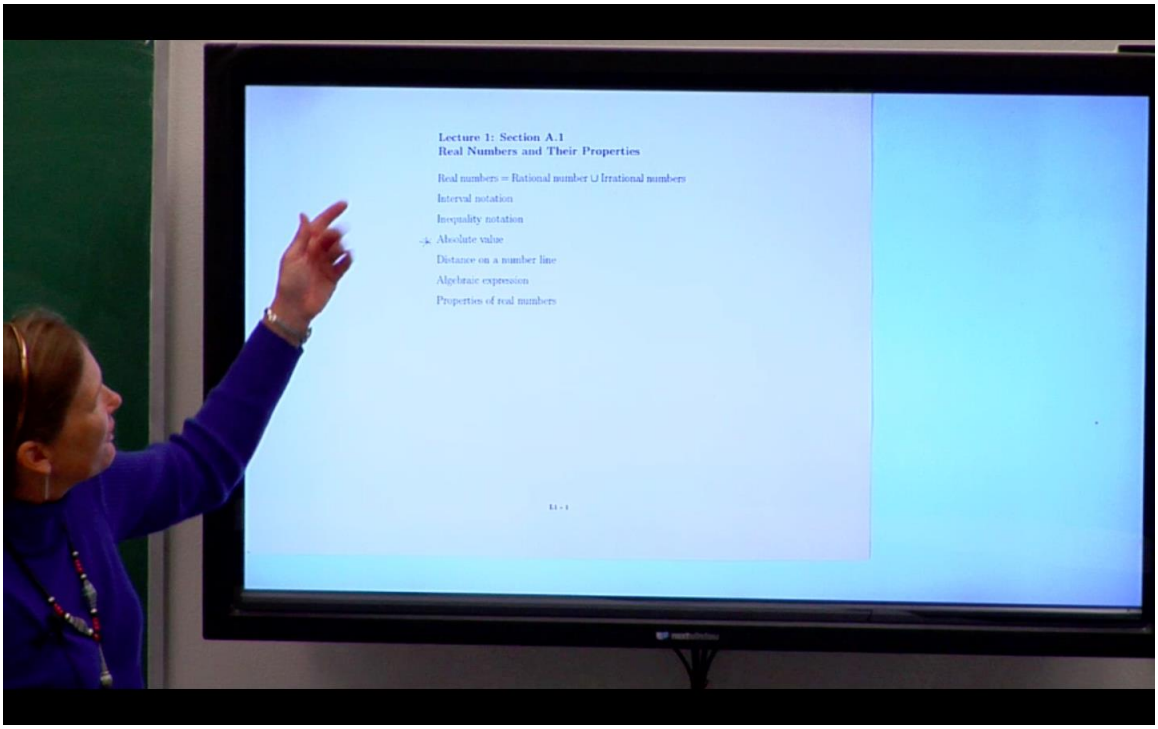


Figure 5-2. Video still from MAC 1147, Module Introduction

It should come as no surprise, then, that the improvisation that produced the UF Online Pre-calculus course resembles more closely the lecture-assessment model of the traditional classroom, than the vanguard of adaptive or personalized learning, or even the transitional models developed by CITT and informed by the Coursera MOOCs. The process for developing the course conformed to the procedures and guidelines set forth in the UF Online plan. The faculty subject matter experts included both a veteran lecturer and recent Ph.D. from the University of Florida department of Mathematics. UF Online administrators selected this course to be among the inaugural general education curriculum for the January 2014 launch. Production was set to start in September of 2013. The course development team had four months to plan, produce and implement the course. The university calendar included several holidays during that period that

would truncate the process even further. Thus the team was set to produce 45 hours of video lecture for a course that was to be delivered in a format that was unfamiliar to the teaching faculty on a condensed production schedule for a high-profile launch of a new venture for the university. This context produced stress on the team that made innovative approaches difficult to achieve.

The instructional designer (ID) assigned to the course initiated the production process by encouraging the teaching faculty to participate in the Faculty Institute, establish a production timeline, and look over the terms of the Memorandum of Agreement (MOA). The following email communication from the ID to the course faculty illustrates the disruptive nature of the process to the established practices of instruction at the university, not least of which is the disruptive nature of the prominent presence of the ID in the course development process—a position that occupies an awkward placement in the status hierarchy of the field and the authority of the institution. The ID acknowledges the status differential by asking permission to address the faculty informally, by first name, but also establishes institutional authority for pushing new instructional practices in the development of the course. The ID ties his authority to the texts of the Faculty Institute and the MOA. (Names have been changed to protect identity.)

> Before we engage in this endeavor just a few formalities. How would you like me to refer to you in correspondence as Sandy and Neel or Dr. Jones and Dr. Patel? . . . I am excited about working on this course for Spring 2014. The University of Florida is breaking new ground with a fully online university. . . . We have a lot to do. As Alicia Noyes alluded to in the meeting, we have to establish a Memorandum of Agreement (MOA) early on in the process to ensure all parties from us up to the department chairs are on the same page. . . . I would also like to steer you to the Faculty Institute Training offered by CITT. Online learning is very different than face-to-face learning. The Faculty Institute is an online workshop that

> guides faculty new to online instruction through the steps necessary to make a quality online course. I will be using much of the material (especially the worksheets) in this workshop to establish the goal, objectives and tasks for the course. [UF Online Instructional Designer, email communication to faculty, September 2, 2013.]

The MOA presented some challenges for the group because of the demands of the production schedule and the uncertainty surrounding the effort required to complete certain tasks. The teaching faculties were discomfited by the contractual arrangement that the MOA implied. The process of selecting a textbook further compromised the production timeline. The following email communication from the ID to UF Online administrators, illustrates the struggle that the ID faced in occupying a role between competing poles of power in the academic field.

> I am struggling with the MOA because Sandy and Neel have not chosen a book or math lab yet. It is still in Committee. . . . I am attaching the final revision I am sending Sandy and Neel for this course. We have been going back and forth on dates. Sandy wants the dates pushed back into December, I am trying to push the dates up into October (especially recordings) because of the limited time and limited availability of recording labs. How set in stone are MOA agreements? Am I trying to establish "good faith" from the instructor or holding them down to each and every individual date? [UF Online Instructional Designer, email communication to UF Online administrators, September 12, 2013.]

Once video production was underway, the instructor had difficulty adjusting to new presentation technologies that the instructional designer felt would make for a better online experience for learners. The instructor opted to use a document camera, which was a close analog to the presentation format that she employed in her classroom lectures.

> I tried the smart board in NEB 201 today and am not sure if I can adjust quickly enough to it. So I would like to try a short taping using the document camera. [Pre-calculus Instructor, email communication to UF Online Instructional Designer, September 26, 2013.]

> I would strongly recommend using the Smartboard. It will be awkward at first, but will get easier. Here is one option we may want to think about. If we just go with the screen capture for most of the presentation. Either Neel or myself could help you drive the presentation with the keyboard. Essentially we would toggle you back and forth between the cursor and the pen so you can just focus on writing on the Smartboard. [UF Online Instructional Designer, email communication to UF Online administrators, September 12, 2013.]

The instructional designer encouraged her to reformat her content to better fit the aspect ratio of the video screen, but the instructor felt that this process would be too difficult to achieve within the production timeline for the course. In order to avoid creating a course devoid of the type of instructor presence that the Faculty Institute advocated, the instructional designer encouraged the instructor to address the camera directly when introducing a new topic rather than teaching solely using the document camera.

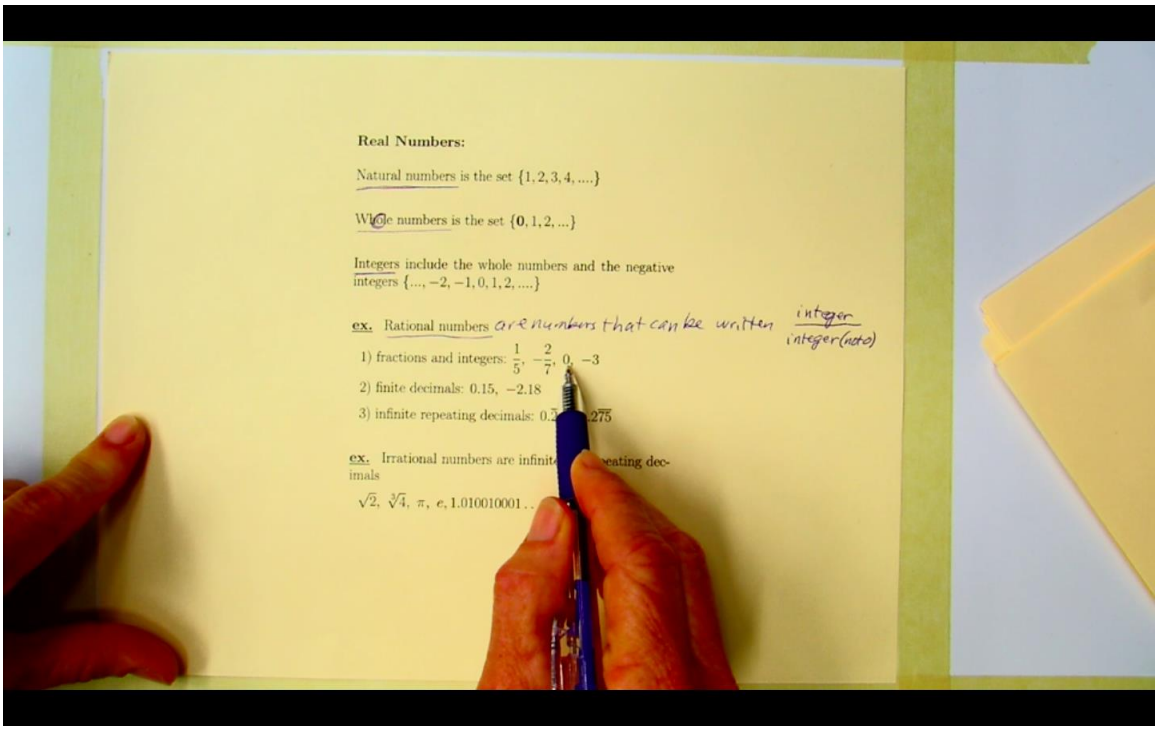


Figure 5-3. Video still from MAC 1147, document camera view of lecture.

Ultimately, the ID chose to advocate for the faculty member's choice to UF Online administrators.

> Sandy Jones and I have been on quite an odyssey to choose the appropriate production tool. We have tried tablets, Smartboards and a document camera. Sandy thinks that the document camera will work best. She was awkward and uncomfortable with the other technologies. We tried a dry run with two different Smartboards last week. Today she tried out the document camera and felt that it fell in line with her normal style of delivery. . . . Before I green light a document camera, I want to check in with you. I know this is not the optimal form of content delivery. Under the circumstances, it may be the best scenario. I would like to give her a decision by today so we can start production this week. [UF Online Instructional Designer, email communication to UF Online administrators, September 30, 2013.]

Faculty resistance to the heterodox approaches advocated by UF Online administrators and instructional designers is understandable in light of the stressful conditions demanded by the rapid timeline established in legislation. These demands were essentially reinforced by a compensation model that rewarded the teaching faculty for extra effort, i.e. beyond their expected duties as paid employees of the university. This was much like a consulting model or teaching as an adjunct instructor. UF Online administrators believed that this approach would give them the leeway to impose new methods of instruction on faculty as they developed their courses. But administrators were caught in a double bind. On one hand the launch of the online university required participation from academic departments that offered courses from the general education curriculum—courses that students are expected to take from a variety of subjects before they are able to enter their major area of study. The instructors in these departments have largely employed traditional methods of instruction designed for large enrollment courses. On the other hand, the administration had a legislative mandate to launch many of these courses in just a few short months—the period between

September 1, 2013 and January 1, 2014. Thus, this effort was left to faculty who embodied the *habitus* of traditional instruction reinforced by the *doxa* of the academic field to produce new instructional media rapidly and voluminously as an optional activity for extra compensation. This is perhaps why the ID for the UF Online Pre-calculus course proposed a modest goal for its production to the instructional faculty.

> Normally we are given more time to develop online courses. This is why the schedule is more urgent than you like. I do get a sense that we all want to deliver this in the most straightforward manner leveraging the resources we have. There will not be a lot of bells and whistles on this course. My goal is to have a very simple and direct course that carefully walks the student through the material. The most time consuming part of this process will be the production of videos. Let's try to get started as soon as possible. I am going on a field trip to the Physics labs with Smartboards that will be available to us for this semester. Next week, I would like to schedule a time to train you on the smart board so we are ready to film. [UF Online Instructional Designer, email communication to faculty, September 10, 2013.]

An Instance of Heterodoxy

Another example illustrates resistance to the kinds of instructional heterodoxy that new online approaches introduced. The Ulysses design was based partly on TutoringZone approaches to dynamic instruction. TutoringZone had talented tutors in math and sciences, including Physics and Statistics. The team developed a plan that included courses offered by the University of Florida as general education requirements in these subject areas. The Office of E-learning, Technology and Creative Services (ETC) at the College of Education contributed to the launch of UF Online by providing instructional design and course production services for the development of parts of the general education catalog. In tandem, the college worked to put in place a companion dual enrollment program that would give high-achieving high school students access to the new online course catalog. From the onset, we saw student retention and course

completion as among our greatest challenges and decided to tackle these challenges on multiple fronts. Our basic strategy lay with establishing robust and assertive advising practices, including mandatory orientation and frequent contact with students. But the potential for high enrollments also presented problems for instituting such high-touch advising at scale. We planned a strategy for intervention based on the acute need of students who showed signs of struggle or waning interest in the course. This required an approach based on a learning analytics that captured not only student online activity, but also an adequate level of understanding of the course material and a learning progression that coincided with the course calendar.

During the design phase of Ulysses, the team had hoped to be able to take advantage of the teaching talent that had helped to make TutoringZone a viable business in supplemental instruction for UF courses. Physics and Chemistry tutor Michael Underwood was available and willing to work with the team to develop a high quality online course. I brought Underwood to meet with faculty in the Physics department. We explained our concept and hope to be use these instructional approaches to reach students in both UF Online and online dual enrollment. Physics was an obvious choice given the talents of our team, the importance of the subject to careers in technology, and the requirements of the general education curriculum. The University of Florida had two course sequences in Physics I and II, each catering to a different major area of study. PHY 2053 and PHY 2054 were considered favorites for students who intended on pursuing medical school after graduation with a suitable bachelor's degree. These courses did not require Calculus. PHY 2048 and PHY 2049 were required for Engineering majors along with co-requisites in Analytic Geometry and

Calculus 2 and 3. Because they are required for popular majors, these courses have high enrollments and a great deal departmental involvement in terms of the design and teaching of the courses. Given our time constraints and the radical changes to instruction that we were proposing, we chose to work on a less potentially contentious course: PHY 2020, Introduction to Principles of Physics. The Physics Department Chair and course instructor, John Yelton, recommended this course. Yelton and his Teaching Assistant, had spent the prior semester creating video lectures and practice problems for the online delivery of the course but were not opposed to the approaches that we were offering, as long as students and faculty saw a net benefit. Further, having just spent a great deal of time on their own developing an online course, they were not interested in redeveloping course material themselves. We agreed that Yelton would provide supervision of our effort to ensure that we were creating materials that fit with his course, but he would not write any new material or provide any new video lectures.

We felt that the approach envisioned by the Ulysses team could help improve the Physics course in several ways. The original design of the course did not require that students demonstrate mastery of the subject, but rather presumed that most would score no greater than 80 on a 100-point scale. We hoped to improve learning outcomes by developing an approach based on mastery learning. We would disarticulate the course content into discrete units that cover learning topics in brief lectures of 8-15 minutes. Each unit would be followed by a formative assessment to measure understanding of the material with data from these assessments used to monitor student progress in the course. This approach would allow for targeted differentiated instruction before the student falls behind. Furthermore, we felt that the production

quality of the video lectures could be greatly improved. This course represented Yelton's first attempt at creating online lecture content. His videos were created at a computer workstation using consumer technology located in a small office in the Physics building. We hoped that our approach would generate more compelling content and engaging instruction using improved production techniques resulting in a more polished presentation. Overall our goal was to create a superior learning experience for students with improved outcomes and a positive association with UF Online.

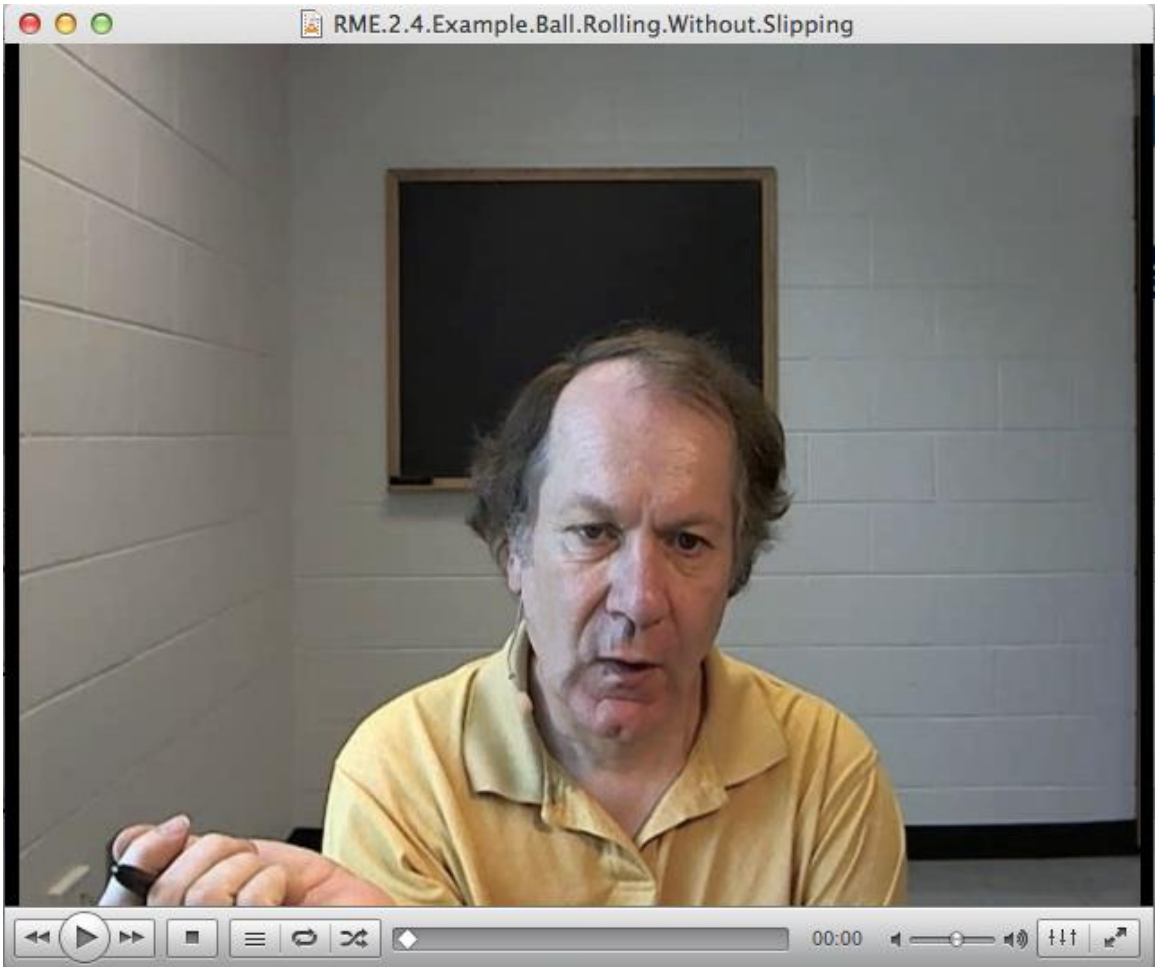


Figure 5-4. Video still from PHY 2020, instructor presence

After shooting and editing a test lecture with Underwood, we shared our vision with Yelton. In general his response was positive, but made clear that the source of legitimacy of the course lay with him and his department.

> I cannot help but be impressed by how good the video is. I do have lots of questions. I am not sure how much time we have to meet because I disappear for an extended time starting Thursday (will still be available by e-mail etc.). . . . As you can see, I am a little worried about losing control here. [Yelton, email communication, June 24, 2013].

Underwood possessed facility with the material based on his years with TutoringZone providing supplemental instruction for PHY 2053 and PHY 2054 at the University of Florida. He also displayed a tireless work ethnic, boundless energy and a physicist's eye for detail. But TutoringZone had a reputation for irreverence, having developed a brand and marketing approach to young adults that was meant to appeal to a college student culture based in Fraternities and Sororities. Many TutoringZone lectures were peppered with crude humor and an overt acknowledgement that the point of the exercise was to get an "A" on the test. Because of this, TutoringZone faced the perception among some of the faculty that I spoke with, that it was a service providing a short cut to good grades by helping students to cram course material for an exam, rather than providing instruction that resulted in deep learning. As Yelton communicated to Underwood during the production of the PHY 2020 course,

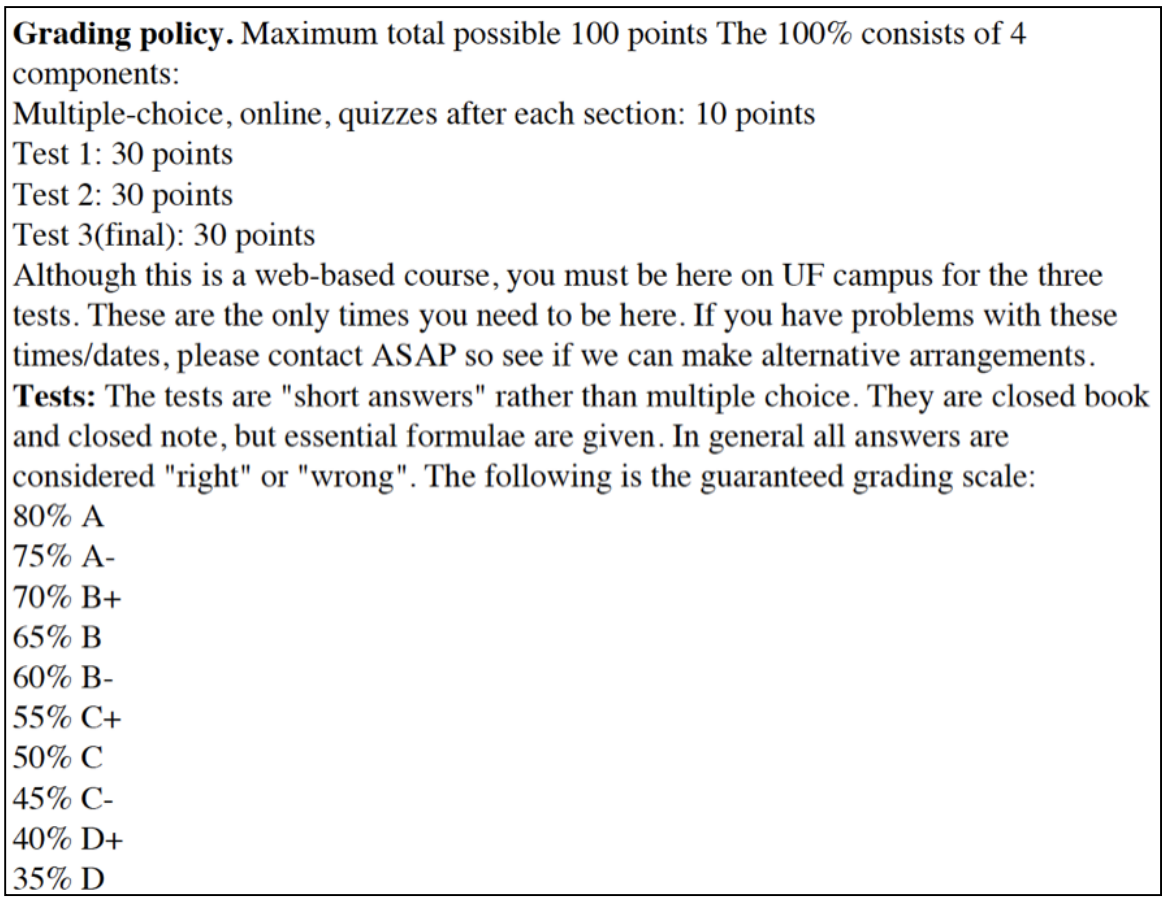
> Please remember your work has changed. It is no longer your job to get the students through the exam; it is our job to teach the students the principles of physics. The principles of physics are not to learn lots of formulas and stick numbers in them. Now, I admit, that realistically there has to be some of that. But we try not to make it is the focus. Learning that skill completely misses the point. We find students in 2053/54 who know more formulas than we do when we teach the course. But they'll forget them. We know a few, and we will remember them. [Yelton, email communication, June 26, 2013].

But the tutors that I worked with were intensely proud of their mastery of the subject that they taught, and expressed regret that many students were more concerned with earning good grades than learning physics, math, chemistry or economics. Nonetheless, Hintze, Underwood and I were sensitive to the perception that we were attempting to create a TutoringZone product rather than a University of Florida course. As a result, we sought a close collaboration with Yelton and his teaching assistants. In an email message to Yelton, Underwood proposed the following process for creating video lecture scripts: study transcripts of Yelton's original video lectures; gather additional examples from various sources; condense both into a script written in layman's language; and add illustrations and animations that support key points. After proofreading the script and checking calculations, Underwood proposed to send the script to Yelton for input and direction. Only after Yelton's comments and suggestions have been implemented would videotaping begin. Comments like the following illustrate Yelton's concern that we conform to the rigor of the classroom-based course that served as the foundation of the online course.

> Well, I'd have to say, that 1 week is 3 x 50 minute lectures. And this really does not seem a lot for 150 minutes. Unlike some other sections where the students have to go and practice how to do calculations etc. this part is more knowledge-based. So I don't really see any reason to cut it back. I was a little worried that the online version of the course covers less than the traditional version. [Yelton, email communication, July 13, 2013].

Over the succeeding weeks during the summer break of 2013, Underwood developed video lecture scripts using this collaborative approach with Yelton. Both were communicating via email, as Yelton was attending to research at The European Organization for Nuclear Research (CERN) in Geneva, Switzerland. This process worked fairly smoothly with Yelton and Underwood able to communicate clearly

concerning the content of the lectures and some of the specificity of the language and use of equations. But the production schedule did get ahead of the script review



Grading policy. Maximum total possible 100 points The 100% consists of 4 components:
Multiple-choice, online, quizzes after each section: 10 points
Test 1: 30 points
Test 2: 30 points
Test 3(final): 30 points
Although this is a web-based course, you must be here on UF campus for the three tests. These are the only times you need to be here. If you have problems with these times/dates, please contact ASAP so see if we can make alternative arrangements.
Tests: The tests are "short answers" rather than multiple choice. They are closed book and closed note, but essential formulae are given. In general all answers are considered "right" or "wrong". The following is the guaranteed grading scale:
80% A
75% A-
70% B+
65% B
60% B-
55% C+
50% C
45% C-
40% D+
35% D

Figure 5-5. PHY 2020 grading scale

process. In order to improve the quality of the video lectures, we enlisted the services of the Digital Worlds Institute at the University of Florida. The Institute housed a full production studio with a professional sound stage and the staff needed for its operation. This arrangement meant that the videotaping would have to be kept to a strict schedule due to the demands placed on the staff on Digital Worlds. The studio could not sit idle while Underwood and Yelton adjusted their script. In some cases this meant that lectures were recorded prior to Yelton's review. And in some of these lectures, Underwood committed minor errors that would have to be corrected later, after Yelton

and his students had taken the time to review the taped and edited lectures. In the end, Yelton concedes that Underwood had developed a sufficiently challenging course.

> In general, I WAS a little worried that you would be tempted to dumb-down the course. On the contrary, I am sometimes a little worried that you are expecting a lot! [Yelton, email communication, July 15, 2013].

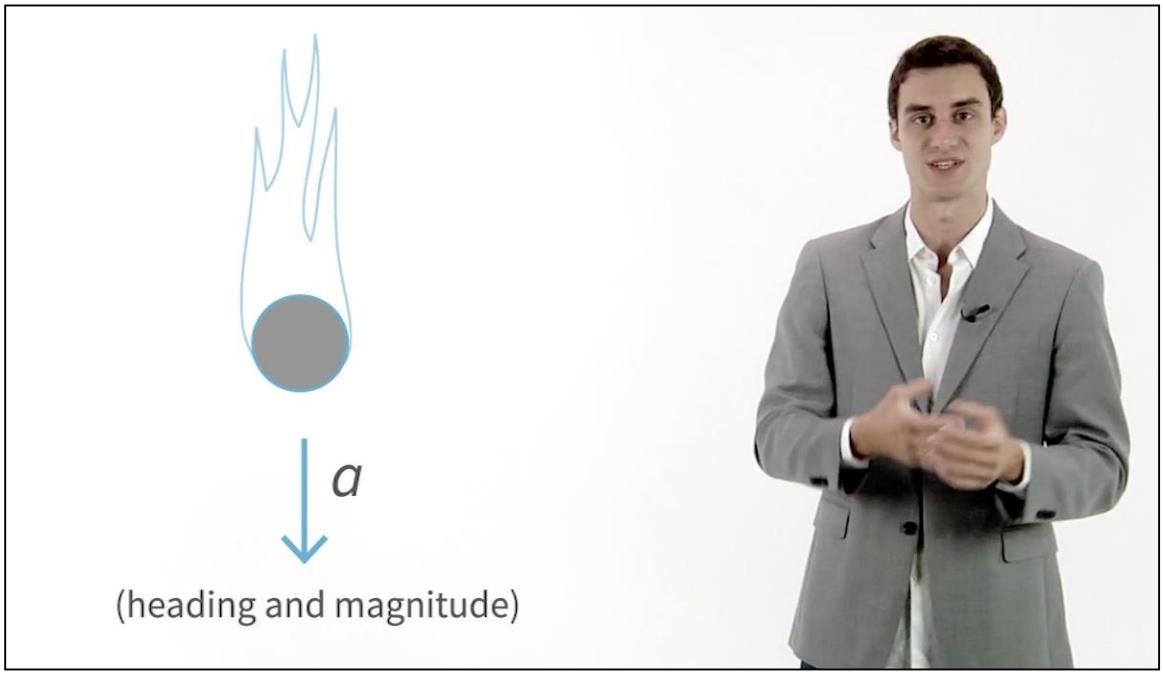


Figure 5-6. Video still from Physics lecture using improved production techniques

At the time of this writing, our vision for this course is close to realization. Several adjustments have had to be made along the way. Because the Ulysses platform did not advance beyond the design phase, we sought an alternative approach to delivering the course using the mastery model. The education technology startup company Adapt Courseware agreed to work with us to incorporate the course into their adaptive learning technology. The Adapt system is designed to deliver short lecture segments along with lecture notes that cover the same material. Each segment is followed by a formative assessment that is designed to reinforce mastery of the content presented by the brief lecture. The Adapt platform includes the option for allowing drag-and-drop,

interactive images, and matching activities that provide more interactivity than traditional multiple-choice and short answer assessments. The assessment writer scores items with a difficulty scale that is used to measure student mastery of the learning objective. We expect to implement the Adapt Courseware version of PHY 2020 in the Spring of 2015, although the teaching faculty from the University of Florida Physics department reserves the right to choose whether to do so.

Student Advising at the Margins

Our original vision for student support in the online dual enrollment program entailed a close integration of learning design and academic support. This vision included the development of learning technologies that would allow for personalized, mastery-based instruction with on-demand academic tutoring. As students progress through a course, they would be given frequent formative assessments that measure their mastery of a particular learning objective. Students who struggle would be given supplemental material to scaffold their understanding, until they demonstrate mastery. If the adaptive learning technology proved inadequate for this task, students would be given the opportunity to contact a live tutor. Conversely, students who master particular subjects more easily are given the opportunity to progress through the course at an accelerated pace. Data on student performance and progress toward mastery would be presented to instructors via a data dashboard. Student advisors would be given access to this data dashboard to monitor overall student progress and to check for signs of trouble. This approach would give advisors the capacity to take a high touch approach with students who are at risk for not completing, without going through the process of checking in with every student in the program. In other words, we hoped that this would allow us to run an intrusive approach to advising at scale.

Admittedly, our technological aspirations were ambitious. Needless to say, although we made progress in realizing our vision, our efforts in developing the program to date have been mainly outside the realm of technology. As such, we have relied upon centrally supported, campus-wide technology to deliver our courses. This has presented significant challenges. Since 2009, the University of Florida has offered Sakai as the institutional learning management system (LMS). However, this platform has many critics on campus, including faculty and instructional design staff. Prior to the UF Online initiative, several colleges across campus—including business, education, pharmacy, dentistry and medicine—proposed a pilot with an alternative platform. Because Sakai had undergone a rigorous selection process (Means, Johnson & Graff, 2013), these efforts were resisted by the university administration. The UF Online initiative brought further momentum to this push for an alternative, and in response, the university instituted an optional LMS for UF Online courses. Thus, we found ourselves in the midst of a struggle between competing learning management systems, which complicated our efforts to simplify the user experience with regards to technology. Given these complications, it has not been easy to observe student progress and intervene when needed. We anticipate further challenges in this regard as we bring the program to scale.

The Confines of Institutional Practices

The challenges we faced with learning technology are in some ways indicative of the organizational inertia of a large public institution. The rapid implementation of our program tested the capacity of the university and school district to adapt to the demands of what we saw as a new college reality. If it were not for resourceful and supportive

administrators and staff members in both institutions, our program would not have survived past the planning stages. Our first hurdle was to establish an Inter-district Articulation Agreement between the school district and the university. This required negotiating the legal terms of the agreement. Once the terms were settled, the agreement was presented to the School Board for a vote. By the end of this process, we had less than a month to recruit and matriculate 400 students. Recruitment involved contacting guidance counselors in 60 high schools, informing them of student eligibility. Eligible students were required to complete a non-degree application with the university, which included proof of residency for Florida students. This presented challenges for those students whose parents may be undocumented immigrants. The process of enrollment was also non-trivial, as we must track dual enrolled students separately from the general student population for accounting purposes. And finally, we were responsible for providing instructional materials to the students in accordance with state law. This is in contrast to the typical scenario, where university students are responsible for purchasing their own textbooks.

Through the many successes of our program there have been several learning experiences. First, we learned where our program falls in the institution's broader goals and what that position provides us in terms of response time, funding, and support. Our ambitious goals and short implementation timeline for the pilot Fall 2013 semester were problematic in the face of competing institutional priorities. We also began to understand fully what students expected from our courses, how they came about those expectations, and the different ways that it became necessary to quickly introduce them to reality. Even after addressing the issue multiple times in orientation and one-on-one

meetings, students and parents responded with comments about the time commitment and rigor of the courses. Finally, our single largest barrier to success is finding effective ways to communicate with young students.

A Cause for Optimism?

In spite of the many challenges that UF Online faced with the implementation of new technologies, instructional practices, and student support, informants who represent voices of heterodoxy were generally optimistic. Two themes stand out: a renewed focus on teaching and learning for post-secondary education, and the recognition that students may no longer be a captive audience. New approaches to content delivery have exposed teaching faculty to a wider realm of possibility beyond PowerPoint and chalkboard based lectures. Several informants observed that exposure to online instruction has had an effect on faculty classroom teaching as well. Most concede that there may be persistent voices of resistance to the online move, but that progress in this direction is inevitable and that they are generally surprised by the positive response to online instruction by many faculty. These informants also acknowledged that faculty should be rewarded for innovative and effective instruction as part of their formal promotion and tenure process, rather than the model of extra compensation established by UF Online. Faculty that I spoke with tend to be concerned with the impact that online instruction will have on their livelihood, and point to trends in budget reduction for higher education, fewer faculty jobs in the tenure track, and an increase in reliance on part-time and adjunct instructors. Many are suspicious that UF Online is an attempt to increase enrollments and cut costs for the university, while further weakening the power of the faculty body.

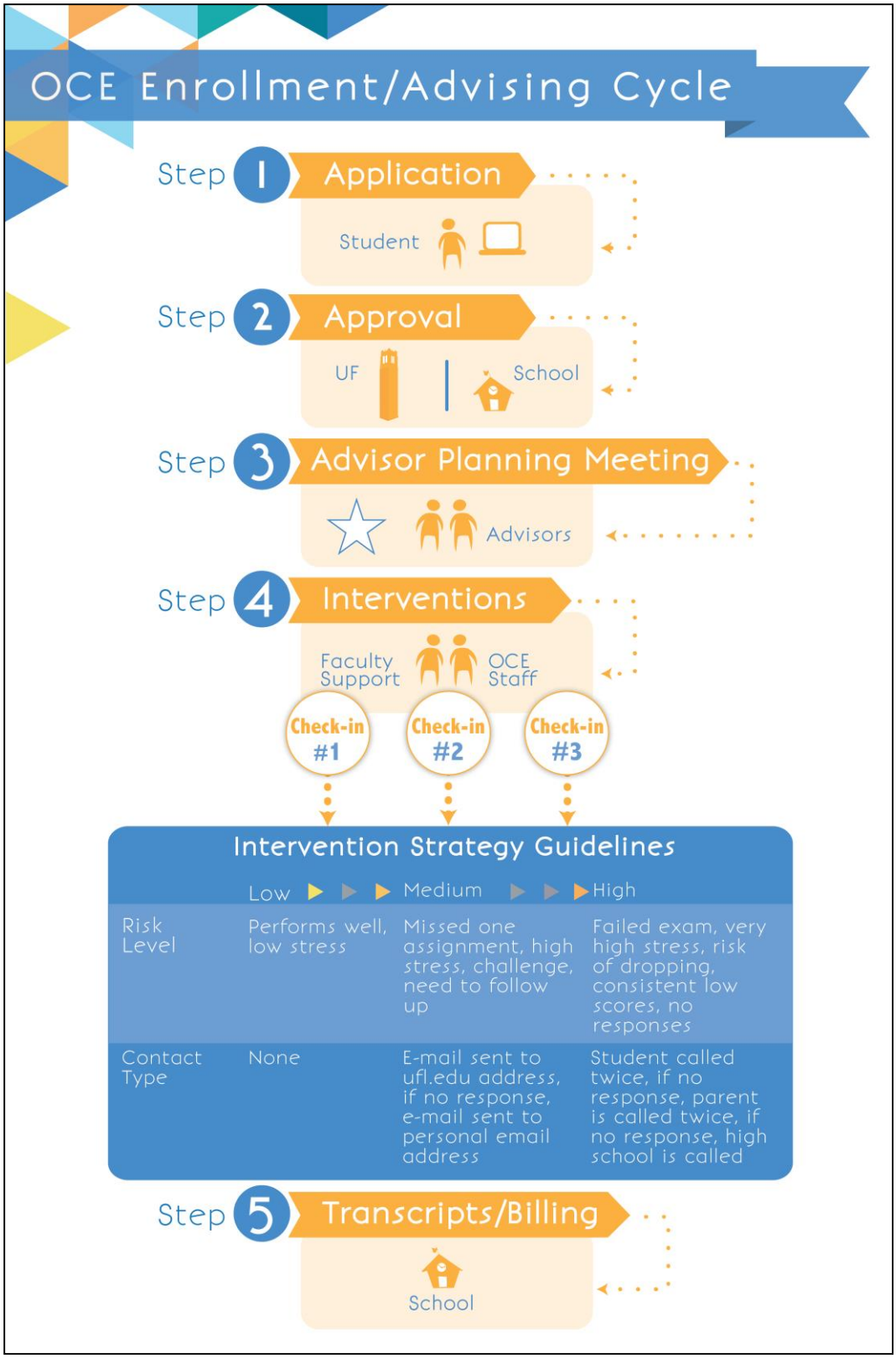


Figure 5-7. The online dual enrollment advising cycle

Table 5-1: UF Online review, testing and implementation schedule for new learning technologies and methods (Machen & McCollough, 2013, p. 14).

	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018
Adaptive Learning	Review/ initial test	Expanded testing	Pilot with select courses	Implement as appropriate	Implement as appropriate
Modular Terms	Review/ initial test	Expanded testing	Pilot with select programs	Implement as appropriate	Implement as appropriate
Social Learning	Literature review	Review/ initial test	Expanded testing	Pilot with select courses	Implement as appropriate
Mobile Learning	Review/ initial test	Expanded testing	Pilot with select courses	Implement as appropriate	Implement as appropriate
Personalized Pathways	Literature review	Review/ initial test	Expanded testing	Pilot with select courses	Implement as appropriate
Competency Based Learning	Review/ initial test	Expanded testing	Pilot with select programs	Implement as appropriate	Implement as appropriate

CHAPTER 6
CONCLUSION AND FURTHER IMPLICATIONS

This ethnography has been an attempt to capture a snapshot of an institution in flux, undergoing rapid change brought on by disruptions in the higher education field in general and the actions of the Florida Legislature and university leaders in particular. The analysis presented here was developed using the analytic tools of the practice theory of Pierre Bourdieu, with an explicit recognition that such disruptions do not simply impact institutions and their economic status vis-á-vis other institutions, but the entire field of power that these institutions occupy. In this case, the disruptions to the academic field are presenting challenges to the structural power of teaching faculty in higher education. But the field of power is a durable and reproducible construct that cannot be easily disrupted.

In Chapters 4 and 5 I illustrate the ideological nature of heterodox discourse within the filed of power. Counter-narratives that question the *doxa* of the field, no matter how well they are articulated, require legitimacy in relation to the practical sense of the field. The Ulysses platform was not an autochthonous product developed by teaching faculty as part of their instructional practices. As such, it represented a foreign concept that would have difficulty finding acceptance in such a short period of time. Even the approaches developed by high-status elites at Stanford and MIT were only gaining slow acceptance, operating at the margins of educational activity outside the realm of credit bearing curriculum. Course production for UF Online and student advising for online dual enrollment effected incremental changes that were resisted by the structural logics of the field manifest in the practices of institutional agents.

Given that fields are durable and reproducible, they should not be vulnerable to episodic bursts of disruption such as the emergence of online modes of course content delivery and instruction. Indeed, as other authors have pointed out, the disruption to higher education is likely a result of other factors, with online education adding to the cumulative impact of political, economic and demographic forces. Selingo (2013) points to the phenomenon he calls credential creep creating a number of effects in education, including an explosion of degree majors, an increase in the number of Americans pursuing a Bachelor's degree, and the related increase in the number of Master's degrees. As the BA becomes the new high school diploma as the minimal requirement for entry into the skilled workforce, families have accepted a higher debt load in order to pay for the college degree. This raises expectations of the university that the degree will pay off in the end in terms of employment and lifetime earnings.

In the meantime, universities are spending more money to attract top students by providing luxury dormitories, advanced student recreation facilities, and other extracurricular perks (e.g. the infamous "lazy river"). This creates a scenario where expenses are outpacing revenues. Public universities are experiencing a decline in state funding and finding fewer students who are willing to pay full tuition. As a result, Selingo predicts that students will demand more personalization in their degree programs, expect the convenience of online education, and spend their academic careers moving between institutions (2013). Christensen and Eyring argue that "the combination of disruptive technology and increased focus on educational outcomes opens the door to new forms of competition, particularly from the private sector" (2011a, p. vii). They posit that universities have placed themselves in an untenable position by

trying to emulate elite institutions like Harvard. They must transcend imitation and master the disruptive technology of online learning.

I place the disruptions that higher education is experiencing into five broad categories. The first is Cost Disease: rising costs, the student debt crisis and the political pressure to keep tuition low. The second is Adjunctification: a shift to temporary, part-time and contingent instructional staff in the form of adjunct faculty. The third is Acceleration: the increasingly blurred lines between secondary and post-secondary curriculum. The fourth is Commercialization: the entrepreneurial turn in higher education as more universities seek alternative revenue streams. And the fifth is Unbundling: new approaches to curriculum that are modular and competency-based.

Cost Disease

Several authors have identified the rising cost of higher education as a major factor driving change in the field (Bowen, 2012; Christensen et al., 2011b; Weise & Christensen, 2014; Ruiz, Sarma & Wilcox, 2014). Bowen describes the phenomenon known as Baumol's disease (Cf. Baumol & Bowen, 1966), or cost disease, as follows:

> …in labor-intensive industries such as the performing arts and education, there is less opportunity than in other sectors to increase productivity by, for example, substituting capital for labor. Yet, over time, markets dictate that wages for comparably qualified individuals have to increase at roughly the same rate in all industries. As a result, unit labor costs must be expected to rise relatively faster in the performing arts and education than in the economy overall (Bowen, 2012, p. 4).

However, as we will see in the discussion below concerning Adjunctification, the cost disease in higher education cannot be readily attributed to increased costs in instructional labor. Selingo identifies other factors that may contribute more directly to rising costs. The first is credential inflation. Data from the United States Department of Education published in 2010 points a 20% increase in the number of majors offered at

American universities over the previous decade (NCES, 2010). Furthermore, the number of people with a Master's degree now is about equal to those with at least a Bachelor's degree in 1960—if the bachelor's is the new diploma, then the master's is the new bachelor's. It is just a matter of time before the doctorate becomes the new master's. As a corollary to these trends, institutions have greater demands placed on their accreditation process. As the number of majors has increased, so has the number of specialized accreditors (Selingo, 2013). Another factor contributing to cost disease at universities is the increase in the number of administrators who have to manage compliance with accreditors, as well as manage the institutional apparatuses that support a growing number of academic programs. The American Association of University Professors (AAUP) asserts that since the 1970's, academic institutions have seen a 369% increase "in full-time non-faculty professional positions, a category that includes buyers and purchasing agents; human resources, training, and labor relations specialists; management analysts; loan counselors; lawyers; and other nonacademic workers" (Curtis & Thornton, 2014, p.8). Much of the increased cost is being passed to students in the form of increased tuition and fees. As states are cutting their support, students are taking on greater debt loads to pay for the degree. In 2013, total student debt had increased more than 50% since the year before and now totals nearly $1 trillion. In addition, a third of recent graduates with debt are more than 90 days behind with their payments. This represents a 75% increase in delinquency since 2004 (Simon & Ensign, 2013). These factors are driving government leaders to pressure universities to keep their tuition low. This no doubt contributed to the legislative mandate that UF Online charge a discounted tuition rate with restrictions on additional fees. One way that

universities are managing their expenditures is the increasing reliance on part-time instructional staff.

Adjunctification

On September 18, 2013, the Pittsburgh Post-Gazette published an Op-Ed column describing the circumstances surrounding the death of 83-year-old Margaret Mary Vojtko (Kovalik 2013). The author Daniel Kovalik, an attorney for the United Steelworkers labor union, recounted the sad plight of Vojtko. The elderly woman had been undergoing treatment for cancer and had fallen behind on her electricity payments, effectively leaving her house uninhabitable during the winter months. And she was a professor. According to Kovalik, Vojtko would often spend her nights grading papers at a local 24-hour restaurant, and sometimes sleep in the office provided by her employer of 25 years, Duquesne University. But Vojtko had an adjunct appointment with the university, and did not qualify for health or retirement benefits. She was hired on a per-course basis, earning between $3000 and $3500 for an entire semester. This compensation structure had left her destitute. In the months before her death, Duquesne had informed Vojtko that she would not be rehired to teach for the university. Her condition became so desperate, that she was referred to adult protective services. In August of 2013 she suffered a massive heart attack on the front lawn of her home. Two weeks later she was dead.

The Kovalik article provoked a nationwide response (Ellis, 2013). National Public Radio and the PBS News Hour both featured broadcasts highlighting the plight of adjunct faculty in American universities (Sanchez, 2013; Solman, 2014). Pundits and observers in popular and social media seemed shocked to see a member of an elite profession die in abject poverty. That she suffered this penury as a direct result of the

conditions of her employment was equally troubling. It was perhaps even more disturbing to learn that adjunct professors have become the norm in academia. According to the National Center for Education Statistics, 50% of all instructional faculty in post-secondary degree granting institutions are considered part-time employees (Kena et al., 2014, p. 186). The AAUP found that when taking into consideration all instructional staff that are full- and part-time faculty members not on the tenure track as well as graduate student employees, so-called contingent faculty constitute the vast majority of university appointments (Curtis & Thornton 2013, p. 7).

> ..the AAUP has calculated that by 2009—the latest year for which national data are available—75.6 percent of US faculty appointments were off the tenure track and 60.5 percent of US faculty appointments were part-time appointments off the tenure track, including graduate-student-employee appointments (Beaky et al., 2013, p. 1).

In it's annual survey of salary data, the AAUP also calculated that average adjunct pay is $2700 per course or $22,000 per year (Curtis & Thornton, 2013, p. 7). The same survey showed the average pay for tenured professors to be approximately $100,000 per year. This economic disparity is further compounded by the general exclusion of contingent faculty from departmental and institutional governance structures (Beaky et al., 2013, p. 2). Because of their heavy teaching loads and precarious employment, contingent faculty are often unable to produce research and scholarly writing, further impoverishing their cultural capital in the academic field.

Thus, in the last 40 years, the academic field has become much more highly stratified with arguably extreme concentrations of wealth and cultural capital in the tenured professoriate and university administration. While the lower echelons of the field suffer conditions comparable with minimum wage laborers. This trend clearly has some of the teaching faculty at the University of Florida concerned. Faculty informants

expressed to me on more than one occasion the suspicion that UF Online was another means by which the university sought to profit by the instructional efforts of its faculty (increase tuition revenues by scaling course offerings), and to continue to cut costs in instruction. These suspicions are further founded in the means by which many high-enrollment introductory courses are offered. College Algebra, Introduction to Psychology, and Statistics are examples of high-enrollment courses with low instructional costs. The university can then redirect the tuition revenue from these courses to fund other activities such as low-enrollment seminars taught by more expensive tenured professors.

Acceleration

However, for the type of students who are matriculating with the University of Florida, these introductory courses are increasingly available prior to admission. High-achieving students who seek to academically differentiate themselves from their peers in the competitive process for admissions to elite universities are driving this trend (Bound, Hershbein & Long, 2009). Examples of this include Advanced Placement, International Baccalaureate and dual enrollment programs (Geiser & Santelices, 2004; Hoffman, Vargas & Santos, 2008). At the end of the 2013 academic year, more than 2 million high school students had taken an average of two Advanced Placement exams. According to data published by the College Board, the number of AP exams taken since 2003 has increased by 227%, with the number of students taking exams up by 218% (College Board, 2013). Dual enrollment programs have experienced similarly explosive growth. In 2011, more than 1.2 million high school students in the United States enrolled in courses in which they earned college credit as well as credit towards high school graduation (Marken, Gray & Lewis, 2013, p. 6). This represents a 180% increase from

nearly 680,000 in 2003 (Kleiner & Lewis, 2005, p. 24). These statistics are indications that the line between secondary and postsecondary education has become increasingly blurred. More high school graduates are entering college with a significant amount of university coursework already on their college transcripts.

These trends are likely to increase as more educational opportunities emerge in the transition to online instruction. It is well documented that online education is on a growth trajectory. In higher education alone, nationwide data show that over 7.1 million students were taking at least one online course during the 2013 calendar year (Allen & Seaman, 2014). This represents an increase of over 411,000 students from the previous year and a 6.1% growth rate for online enrollments that far exceeds the 2% growth in the overall higher education student population. As students complete more of their introductory college course requirements in high school, instructional and curricular demands will change. Students will expect a high-quality online experience, and will not tolerate long lectures in crowded lecture halls. Academic departments will no longer be able to take the revenue that these large courses produce for granted. They will either have to change their funding strategies by embracing a more limited teaching mission, or compete with commercial content providers by creating their own high-quality online courses.

Commercialization

The economic opportunities afforded by increased online access have clearly caught the attention of the financial field. Venture capitalists have invested more than $400 million into education companies in 2011, creating 124 startup companies in the midst of a worldwide economic slump. Such enthusiasm has not been seen since 1999, at the height of the dot-com boom (Selingo, 2013). At the same time American colleges

and universities are run more like businesses than public institutions. As Selingo succinctly states, “they are in the entertainment business, the restaurant business, the recreation business, and, on some campuses, they operate what are essentially professional sports franchises” (2013). This trend is also exemplified in corporate partnerships.

The Starbucks College Achievement Plan was established to help employees complete their college degrees. The plan is a partnership with Arizona State University (ASU), one of the largest public institutions in the United States. Ostensibly, the plan was developed in order to help the 70% of Starbucks employees who are either students or who wish to complete a degree. The company would cover 100% of tuition for students who are qualify for admission to ASU as juniors and seniors. Freshmen and sophomores would have their tuition subsidized. Employees would have no obligation to Starbucks upon graduation. The company claims to have started the program with the recognition that many Americans are not able to complete their degrees because of the heavy financial burden imposed by increasing tuition, as well as work and family obligations. ASU was chosen as the exclusive provider because of its status as a large public university, and a catalog of 40 fully online bachelor’s degrees.

And as the Utrinsic episode illustrates, universities are increasingly becoming incubators for new companies based on the intellectual property of employees and students. Thorp and Goldstein argue that the university should use technology transfer and the mechanisms for converting research into commercialized and licensable technology as a means for retaining its most talented faculty (Thorp and Goldstein, 2013). Successful inventions have a built-in system of rewards through royalties, and

the university can invest in faculty without spending down its endowment. MIT is making moves to commercialize its curriculum based course content created as part of the Open Courseware initiative and the collaboration with the MOOC spinoff EdX.

> Similar to the "Intel Inside" campaign of the 1990s, in which Intel provided the processors for consumer computers, "MITx inside" might serve as the foundation for classes being taught in a blended fashion at colleges and universities around the world. In this model, MIT would provide MITx content to colleges or universities; those colleges or universities would then use MITx as a basis for the tailored educational experience that they develop to meet their students' needs (Ruiz, Sarma & Wilcox, 2014, p. 15).

These trends illustrate that universities are becoming more involved in the creation and selling of education and research as product, rather than the pure arts of knowledge creation and dissemination. This is an indication that the University of Florida cannot promote UF Online as an equivalent experience to an on-campus education, but must confront learning as an exercise in knowledge acquisition that can be achieved without football, fraternities, and the fanfare of fourth year commencement ceremonies.

Unbundling

In the 2014 *Future of Education Report* produced by an MIT task force established to offer a vision for how the institute can transform education for future generations, the authors recommend the unbundling of the MIT curriculum.

> The very notion of a "class" may be outdated. This in many ways mirrors the preferences of students on campus. The unbundling of classes also reflects a larger trend in society—a number of other media offerings have become available in modules, whether it is a song from an album, an article in a newspaper, or a chapter from a textbook. Modularity also enables "just-in-time" delivery of instruction, further enabling project-based learning on campus and for students worldwide (Ruiz, Sarma & Wilcox, 2014, p. 13).

These ideas are most likely find their roots the open education movement exemplified by MOOCs, the Khan Academy and competency-based education.

Open Education

Two years after I attended the Sloan-C keynote address by Sebastian Thrun, much of the hype surrounding Massive Open Online Courses has subsided. In a 2013 interview with *Fast Company* magazine, Thrun lamented the shockingly low completion rates of his free online courses, a figure that rarely exceeded 10% (Chafkin, 2013). The article goes on to quote Thrun, "We were on the front pages of newspapers and magazines, and at the same time, I was realizing, we don't educate people as others wished, or as I wished. We have a lousy product." Thrun's company, Udacity, had retooled its business model to include corporate training in a project called the Open Education Alliance in which Udacity would provide highly technical training to employees and potential hires. The new model is not free to the consumer, and the technology companies are willing to pay.

But the MOOC is far from dead. Udacity has also formed a partnership with the Georgia Institute of Technology to offer a Master's degree in Computer Science at a fraction of the cost of the traditional program using the MOOC platform. And Udacity competitors EdX and Coursera are still going strong. EdX claims 47 member institutions, including elite schools such as the University of California at Berkeley, Cornell University and the University of Chicago. The EdX Web site boasts of over 200 courses, more than 400 teaching faculty, and an excess of 100,000 certificates of completion. The company has also started to offer high school level courses, in part to fulfill a demand for accelerated coursework among advanced students (Atkeson, 2014). Coursera claims 768 courses in its MOOC catalog and 114 partner institutions, including the University of Florida. Although it offers courses for free, Coursera has

started to bring in revenue by charging students for an official certification of completion. These models are modulating the expectations of the education consuming public.

The Khan Academy perhaps provides the starkest example of the capacity for free online education to change the way many people learn. The online resource started as simple tutorials that the founder, Salman Khan, had placed on YouTube for his younger cousin in 2006. Khan soon discovered that many people had discovered his videos and were using them to supplement their schooling. By 2009, he had decided to quit his job as a hedge fund manager in Boston, and devote himself full-time to the Khan Academy. As of 2014, the nonprofit company has support from many prominent foundations and corporations including Bill and Melinda Gates, Ann and John Doer, the Lemann Foundation, and Google. Khan's video tutorials—covering topics that include math, physics, biology and history—have been viewed more than 450 million times and have been translated into 65 languages. The site uses badging and gamification techniques to engage learners and provide them with an unofficial credential to show off their accomplishments. Badging and micro-crendentials point to another trend that some argue will have the most disruptive potential for higher education: competency-based degrees.

Competencies

The Western Governors Association— an organization representing the governors of 19 Western states from Texas to California, and Washington to North Dakota, as well as Alaska and Hawaii—established Western Governors University (WGU) in 1997. The university motto ("online, accelerated, affordable, accredited") represents the institution's mission to provide low-cost Bachelor's and Master's degrees based on competencies rather than credit hours. Students demonstrate competency by

passing assessments with a score of 80% or higher. Degrees are awarded when the student has exhibited competency for all the requirements of the degree. WGU does not create its own courses, but licenses content from commercial education publishers such as Pearson and McGraw-Hill. The university currently has over 46,000 students enrolled with roughly 1,300 instructional faculty. The Southern New Hampshire University has established a similar competency-based program called College for America with a handful of degrees offered in business, health and communications. Christensen argues that programs such as these hold the most promise to transform higher education.

> …online competency-based education is revolutionary because it marks the critical convergence of multiple vectors: the right learning model, the right technologies, the right customers, and the right business model. In contrast to other recent trends in higher education, particularly the tremendous fanfare around massive open online courses (MOOCs), online competency-based education stands out as the innovation most likely to disrupt higher education. As traditional institutions struggle to innovate from within and other education technology vendors attempt to plug and play into the existing system, online competency-based providers release learning from the constraints of the academy. By breaking down learning into competencies—not by courses or even subject matter—these providers can cost-effectively combine modules of learning into pathways that are agile and adaptable to the changing labor market (Weise & Christensen, 2014, p. iv).

Flexible schedules and competency-based programs are specifically mentioned in the legislation that established UF Online. While the university has not been able to implement these features as of 2014, it has a clear expectation by the legislature that it will do so in the near future.

Implications

Hopefully this study has provided some insight into the usefulness of analyzing the university as a relatively autonomous field. I have implicitly attempted to answer the following question: How does what we think about what we do, affect the way we do it?

The answer is not easily apprehended and involves both thinking and not thinking simultaneously. It is dependent on one's location within the network of structured relations of the field; one's accumulation of capital relative to other agents in the field; and the factors that jar one's consciousness into perceiving the aspects of the arbitrary nature of domination in the field. The academic field is currently in a tenuous state, imperiled by numerous external forces. Each of these forces are the result of the generative effects of inter- and intra-field dynamics.

The economic field has agents who seek market opportunities in the larger educational field by appropriating the apparatuses of the school. The school and the university have inter-field dynamics with the state, whereby the actions of agents within the academic field are regulated and legitimized by the bureaucratic field. In the case of the University of Florida, the state largely controls revenues generated by students through tuition and fees. But the inter-field dynamics of the political and economic fields have introduced putative innovations that are arguably designed to serve the interests of agents outside of the academic field. Competencies, MOOCs, micro-credentials and other educational products that may serve to "unbundle" the university create perturbations in the academic field that potentially disempower those agents who have traditionally controlled the means of cultural reproduction through classroom instruction. But these "disruptions" are merely opportunistic tactics to further weaken an already besieged position in the academic field. The "cost disease" of higher education has created a culture of the exploitation of instructional staff through Adjunctification.

The academic field is a dominated field—a field subordinate to the state and economic fields. But it is a field of special interest to agents in the dominant fields,

because the academic field serves to reproduce the class of agents who perpetuate the dominant fields and their position of dominance. Elite schools reproduce the ruling class—the state nobility (Bourdieu, 1998). The disruptions that the management theory intelligentsia has identified may signal a shift in the dynamics of dominance amongst fields. That is from a primacy vested in the state and bureaucratic fields (the welfare state) to the logic of capital (innovation, entrepreneurship and workforce development).

The Future

This ethnographic research study was conducted at a time of an increasing bifurcation in socio-economic status and privilege in the academic field. This is true for both producers and consumers of higher education. Elite students will continue to demand more flexibility, personalization and luxury. Politicians and business leaders will try and influence curriculum to conform to their vision of a productive workforce. University leaders will continue to push for elite status for their institutions, and revenue based on research and commercialization. As a result, faculty who produce funded research and commercializable products will constitute a privileged group, further distancing themselves from instructional staff.

Technologically mediated instruction will play a role in these disruptions, but it is not likely to create an advantage for either greater equity and access, or the complete commodification and mass production of higher education. Rather, new tools of instruction will be incorporated into the personalized curriculum of elite schools as well as the expanding access approaches of MOOCs for the vast majority of students.

The University of Florida is occupying an awkward and tenuous position between both extremes. However, at the current moment the quest for elite status seems to be garnering greater success than efforts in expanding access. The 2014 US News and

World Report rankings of American Universities has increased the status of the University of Florida to 14th among public schools (US News, 2014). The preeminence funding provided by the legislature has netted the university an estimated 120 new faculty hires (University of Florida, 2014). On the other hand, since its launch in January of 2014, UF Online has admitted only 22 freshmen applicants (Straumsheim, 2014). It may prove difficult in the long run for the university to market itself simultaneously as a high status institution and a discount online option. Success in the latter may be especially daunting if the university cannot produce an instructional approach that competes with established private MOOC providers such as EdX, Coursera, and Udacity; and low-cost vanguard online institutions such as Western Governor's University, Southern New Hampshire, and Arizona State.

Tying it All Together

Many university presidents at large public and prominent private institutions, now publicly recognize that higher education is in the throes of an online revolution (Ross, 2012). The question is, are they too late to adjust to the disruption? Given Christensen's case studies in the *Innovator's Dilemma*, it would not be unreasonable to conclude in the affirmative. However, their saving grace may be that universities are not "well-run" organizations. I write this without judgment or irony. Although anyone who has worked in a large post-secondary institution has likely observed poor inter-departmental communication, inefficient bureaucratic processes, persistent conflict between faculty and administration, duplication of organizational functions, and the mysterious process by which fiscal matters are managed. But these may be symptoms or secondary effects (surely not incurable) of an institution that is fragmented by design (Thorp & Goldstein,

2013). A diffuse power structure allows for faculty independence in setting their research agendas around subject areas that may be unfamiliar to administrators. On the other hand, disruptions to the university's instructional apparatus may be perceived as a threat to faculty interests (Kolowich, 2013). These interests include funding for graduate students through teaching assistantships, demands on faculty time that compete with research efforts, and a fear of declining faculty influence at the institutional level.

Perhaps the university's greatest vulnerability to disruption lies in the tendency of such a complex organization towards entropy—a level of disorder that hinders the transference of effort into a productive outcome (O'Connor, 1991). However, there are external stimuli that can orient a complex organization such as the public university towards change (Vogel, 1989; Leifer, 1989). In the case of the University of Florida, those stimuli came in the form of state appropriations and an accompanying legislative mandate. The leadership of the legislature and the university also made a conscious decision to inject these stimuli with a rapid time release—giving the university less than 6 months to launch an online institute with complete degree programs available to both new college students and transfers from other post-secondary institutions (Stargel et al., 2013, p. 121). Thus, while online education follows the path of technological disruption, posing an existential threat to traditional colleges and universities, the leadership created conditions that will provide a shock to the system of higher education in Florida. The aim being to minimize the capacity of an entropic organization to absorb new revenues into its existing structures, and challenge the tendency to shrug off policy change through delay and obfuscation (Weatherford, 2013, personal communication).

Certainly this constitutes a disruption of a different order—one with greater urgency as well as higher risk.

Innovating at the Margins

> Creating an independent organization, with a cost structure honed to achieve profitability at the low margins characteristic of most disruptive technologies, is the only viable way for established firms to harness this principle.
> --Clayton M. Christensen

Ideally, the university would respond to such stimuli as a complex adaptive system, leveraging its internal diversity and systemic redundancy to alter its fundamental character in ways that are beneficial to its long-term survival. Redundant systems such as multiple matriculation processes, distributed advising staff and disaggregated course production facilities can be reorganized and honed for efficiencies surrounding the mission of distance learning. But in the case of online learning, it is argued, the method and delivery of instruction should be fundamentally altered from its classroom-based, faculty-centered modality to meet the needs of learners functioning in an entirely different medium (Oncu & Cakir, 2011; Kim & Bonk, 2006; Paulson, 2002). Classroom lectures do not necessarily translate well to laptop computers, tablets and smartphones (Ally, 2009). Not to mention the delivery of high-stakes exams, class projects, group work and research papers (Webber, 2011). Furthermore, these students are operating under different constraints than the traditional campus-bound student. They may work one or more full-time jobs, have family members under their care, live abroad, or require an accelerated path to graduation (Noel-Levitz, 2011). It goes without saying that a semester-long course load of four to five academic subjects may be suboptimal for this population (Aslanian & Clinefelter, 2012, p. 15). As such, the university *cum* complex adaptive system, will have to seek and develop innovations in

curriculum, instruction, and student support services in order to evolve quickly to the disruption enhanced by the state legislature.

Perhaps fortuitously, large public research institutions such as the University of Florida are designed for internal diversity. Researchers, information technologists, academic program coordinators, administrators, etc. are engaged in a daily routine of short-term problem solving brought on by varying pressures. Raising revenue, hiring qualified and talented staff, recruiting students, keeping up with technology, and adapting to changes in regulation and funding are but a few examples. Many successful university employees might be considered expert improvisers with an internalized adaptive framework, giving them the capacity to generate innovative responses to rapidly changing and potentially adverse conditions. To illustrate internal diversity within the institution and the emergence of heterodox approaches in the context of technological disruption, I have interviewed several such improvisers and innovators in researching for this dissertation. Like all good improvisers, they are also adept collaborators, situating themselves within ensembles of talented, like-minded individuals on a shared mission (Sawyer, 2003). The varying missions of these groups, could potentially provide the adaptive traits that the university needs to evolve quickly. Examples include: high-touch, scalable student services; dynamic and engaging instruction; distributed collaboration and creativity; and a high level of peer interaction and co-learner support. These are also examples of ideologies—counter discursive heterodoxies that seek to impact the newly re-imagined teaching mission of the university.

Institutional Change and the Tension Between Disruption and Tradition

Improvisers and innovators can provide a counter-narrative to the traditional and automatic practices of the institution (Ford, 2008). They give voice to heterodoxy. Innovations that give rise to disruptions may also present a threat to those with a perceived or actual interest in the status quo. In such instances, the defenders of tradition must be able to articulate an argument against disruption. They give voice to orthodoxy. Examples of the ideologies of instructional practice orthodoxy include, the importance of face-to-face dialogue and discussion, the on-campus student life experience, personal contact with professors and mentors, and the benefits of apprenticeship (Kolowich, 2013). To the orthodox, these traditions may be perceived to be under threat and, as a result, present a full-throated defense of the status quo (Cf. Hadreas, 2013). Others resist in less confrontational ways, such as refusing to teach online, or to put forth little effort to explore and use new technologies. Some protest that they do not receive adequate support in the development of their online instruction. Others require additional financial compensation before considering participation. The orthodoxy that informs this resistance to change will also have a significant impact on the instructional practices of the university as it adapts to change.

Ultimately, the actors engaged in the formation and implementation of the online undergraduate curriculum at the University of Florida are operating under a high degree of uncertainty. There are a myriad of forces impacting this large and highly complex organization. While the leadership in state government may be able exercise great influence over the magnitude and timing of the disruptive force through the allocation of resources and institutional review, the collision between heterodox innovation-outliers

and orthodox every-day-forms-of-resistance on the ground may have a greater impact than top-down change management.

APPENDIX A
INFORMED CONSENT

Protocol Title: Attitudes towards innovations in curriculum associated with new learning technologies.

Please read this consent document carefully before you decide to participate in this study.

Purpose of the research study:

The purpose of this study is to investigate the attitudes of stakeholders in the implementation of the University of Florida Online Institute towards innovations in curriculum associated with new learning technologies.

What you will be asked to do in the study:

You will be asked to participate in a semi-structured interview where your perspective and opinions on new ideas and practices surrounding teaching and learning in higher education. You will be asked to reflect upon your ideas around learning, effective instruction, the impact of the Online Institute, and trends in higher education arising from new technologies. Your interview will be recorded and transcribed. The resulting digital files will be stored on a secure and encrypted device in a locked office in the College of Education. The digital files may also be stored on the researcher's laptop, which is encrypted in accordance with University of Florida policy. After transcription and an initial analysis, you will be given an opportunity to review and comment on the data collected by the researcher as well as the write up of the analysis. Your responses will remain anonymous.

Time required:

45-60 Minutes

Risks and Benefits:

We anticipate little to no risk in this study. However, you will be asked to explore personal ideas about which you may be internally conflicted. There is the possibility that this may trouble you. After the interview is transcribed and given a first level analysis, you will be able to review and comment on the analysis and provide corrections and clarification where needed. There are no direct benefits to you for participating in the study.

Compensation:

There will be no compensation for participating in this research.

Confidentiality:

Your identity will be kept confidential to the extent provided by law. Your information will be assigned a code number. The list connecting your name to this number will be kept in a locked file in my faculty supervisor's office. When the study is completed and the data have been analyzed, the list will be destroyed. Your name will not be used in any report.

Voluntary participation:

Your participation in this study is completely voluntary. There is no penalty for not participating.

Right to withdraw from the study:

You have the right to withdraw from the study at anytime without consequence.

Whom to contact if you have questions about the study:

Daniel S. McCoy
Senior Director of E-learning, Technology and Creative Services
College of Education, University of Florida

Dr. Tom Dana
Professor & Associate Dean for Academic Affairs
College of Education | University of Florida

Whom to contact about your rights as a research participant in the study:

IRB02 Office, Box 112250, University of Florida, Gainesville, FL 32611-2250; phone 392-0433.

Agreement:

I have read the procedure described above. I voluntarily agree to participate in the procedure and I have received a copy of this description.

Participant: _____Date: _____

Principal Investigator: _____Date: _____

APPENDIX B
SEMI-STRUCTURED INTERVIEW GUIDE

Each of the following questions are meant to provide avenues for discussion between the researcher and subject in uncovering the ideological dimensions surrounding instruction as practice.

Question 1: *Part of this research investigates the ways our understanding of learning and teaching online influence the design of online programs. What key assumptions about learning and teaching online do you think drove the genesis of UF Online?*

Question 2: *In an ideal world, what are the most effective methods of teaching online?*

Question 3: *In what ways might faculty and others involved in instruction be best supported to learn these methods?*

Question 4: *I would like to talk with you about notions of learning in light of the development of the UF Online Institute (UFO) as well as current trends in online education. One of the interests of the legislators who wrote the law that created UFO is competency-based education. What is your reaction to this approach? How does such an approach jive with practical matters of implementing online baccalaureate programs?*

Question 5: *How might other trends in education that are facilitated by the increased use of technology impact an ideal approach to teaching online? [Probe for adaptive learning, peer-based assessment and gamification.]*

Question 6: *Some scholars have called these trends disruptive. Would you agree? If so, in what ways? If not, what might be some reasons the trends are not disruptive?*

Question 7: *How might faculty, students and administrators react to these trends? In what ways might such trends require a rethinking of the structure of the university?*

Question 8: *How do you view your current role in the university vis-à-vis online teaching and learning? With the launch of UFO, in what ways might you be expected to contribute to its implementation?*

Question 9: *Would you describe yourself as generally optimistic or pessimistic about the launch of UFO? What are you most concerned about? What are you most excited about?*

Question 10: *Is there anything else about teaching and learning with new technologies that you would like to share with me?*

APPENDIX C
GLOSSARY OF TERMS

Aporia: an antinomy or paradox; a problem that is difficult or impossible to solve; any cognitive situation in which the threat of inconsistency confronts us; a group of individually plausible but collectively incompatible theses.

Association: passive component of a relationship between nodes; an undirected tie.

Attribute: a discrete identifier applied to a node; a tag.

Attribute Hierarchy: An explicit relationship of discrete of identifiers created and maintained by compliance experts.

Cascade: system by which privileges or restrictions pass through a hierarchy of rights in a downward direction. (from general to specific)

Chain: linear relationship between attributes in a hierarchy.

Convergence: system by which attributes pass through an identity hierarchy in an upward direction.

Euporia: a solution to the *aporia.*

Exception: a means for preventing rights from cascading and associations from converging via implicit or explicit associations.

Explicit Association: an association between two or more nodes represented by a shared attribute applied directly to those nodes.

Ghost: a set of privileges or restrictions that has no associated identity attribute.

Identity: the sum total of attributes for a given node. The identity of a node is represented at the root of the identity hierarchy.

Identity Expression: when a latent attribute becomes visible for a particular node.

Identity Network: illustrates the undirected ties between nodes. Identity networks can be explicit, implicit, or both.

Implicit Association: an association between two or more nodes represented by attributes that can be inferred through explicit associations.

Polymorphism: an association with a flexible state.

Privilege: a means of increasing rights.

Restriction: a means of attenuating rights.

Right: the active component of a relationship between nodes; a directed tie that is binary or weighted according to privileges or restrictions.

Rights Expression: the point at which attendant rights associated with a particular attribute are realizable.

Rights Network: illustrates the directed ties between nodes. Rights networks can be explicit, implicit, or both.

Role: An attribute with attendant rights that are explicitly understood. Typically roles are defined by institutions or by statute.

Transaction: a discrete interaction between nodes. Transactions are subject to privileges and restrictions.

Virtual Group: an identity network with two or more shared attributes amongst all the nodes in the network

APPENDIX D
UF STANDARDS AND MARKERS OF EXCELLENCE

Course Overview and Introduction	
Standard	**Exemplary**
The instructor starts the course with a welcome and review of the syllabus, course schedule and other important information for the course.	An introductory quiz provides students with an opportunity to check their understanding of the syllabus, course requirements, and required tools and technologies.
The role that the online environment and technology will play in the course is clearly stated at the start of the course. Students are informed of appropriate resources for technical support.	Instructor monitors and welcomes students as they start the course.
In the course site, students are immediately presented with an obvious starting location and explanation on how to navigate the course.	A student survey during the course evaluates students' ease of navigation.
The syllabus, schedule and other important course documents are easily located.	
The syllabus contains all the relevant elements from the UF syllabus policy.	Course materials and aesthetic design are visually pleasing and consistent throughout course, and promote clarity and continuity of course structure and information.
All course deadlines are included in the course schedule.	
Synchronous and asynchronous requirements for participating in the course are clearly outlined.	Instructor facilitates student understanding of how to be a successful online learner.
Instructions for course participation are clearly provided and easily found in the course site. The instructions define how students get started and where to find components of the course.	
Students are provided with information explaining when feedback will be provided, the type of feedback, and mode of communication they should expect from the instructor.	Students typically receive responses within 48 hours.
Students and instructor are provided with space to introduce themselves to each other.	
Students are provided with primary contact information for the instructor. The instructor communicates a willingness to accommodate various accessibility needs.	
Consistent terminology is used for tools referenced in the course management system.	
Online course netiquette is discussed early in the course.	

Course Goals and Learning Objectives	
Standard	**Exemplary**
Overall course goals are clearly stated.	
Overall course goals are relevant to the course purpose/level.	
Learning objectives are measurable and can be utilized as a measure of student performance/success in the course.	Learning objectives are posted in the weekly overviews or sub-sections of the course. These objectives also relate to the overall course goals.
Learning objectives align with the learning activities and assessment activities.	Assignments and assessments specify the learning objectives that are relevant to the task/assignment.
Assessment and Measurement	
Standard	**Exemplary**
Assessments measure the stated learning objectives.	Ongoing, multiple assessment strategies are used to measure content knowledge, attitudes and skills.
Assessments are consistent with the course materials, activities, and resources.	Assignments or project-based assessments encourage students to utilize critical thinking skills.
Expectations and requirements for student performance are clearly provided (guidelines, rubrics, checklists).	
Assessments are given in an appropriate time period after the learning activities have taken place.	
Courses that have more than 50% of the grade from online quizzes and exams use appropriate online security measures.	
Feedback about student performance is provided in a timely manner throughout the course as stated in the syllabus.	Student's achievement of stated learning outcomes is documented and provided to the student as feedback on their learning activities and assessments.

Instructional Materials	
Standard	**Exemplary**
Course materials are presented to students in manageable segments.	Students engage with course content in a variety of ways.
The instructional materials and learning activities support achievement of the learning objectives and are appropriate to the knowledge, skills, and/or attitudes being learned.	Instructional materials and learning activities encourage critical thinking skills when appropriate.
The instructional materials are current.	The instructor uses formal and informal student feedback in an ongoing basis to help plan instruction and assessment of student learning throughout the semester.
All resources and materials in the course are appropriately cited.	
There is a clear distinction between required and optional materials.	
Detailed instructions for student work are provided and clearly outline expectations and requirements (guidelines, rubrics, checklists)	
Access to a wide range of resources supporting course content is clearly provided.	
Interaction and Engagement	
Standard	**Exemplary**
Introductory video or text is provided on the course website to establish the instructor presence in the online course.	
Students are divided into appropriate-sized groups to encourage interaction and engagement.	Student background and experiences are valued and used as part of the course.
The course provides opportunities for students to engage with other students in a variety of communication and interaction experiences.	Students participate in collaboration and evaluation.
The course provides opportunities for students to engage with instructor in a variety of communication and interaction experiences.	Students typically receive response within 48 hours.
Course Technology	
Standard	**Exemplary**
Provisions are in place to allow for potential failures of technology, and are clearly expressed to students.	Faculty have opportunities to develop course content using technology.
Navigation throughout the online components of the course is logical, consistent, and efficient.	Technology use encourages higher level thinking and activity.
The technology tools and media support the learning objectives of the course.	Faculty builds in practice items to teach students technology in course.
The technology used in the course is readily accessible and available to students.	
The tools and media are compatible with prevailing standards and formats.	

Course Design Evaluation	
Standard	**Exemplary**
The learning design is evaluated on a regular basis for effectiveness from both student and instruction perspectives.	The evaluations are part of the documentation of the course.
The results of this evaluation are tied to a plan for continuous review and improvement of the course.	

Accessibility
Standard
The course employs accessible technologies and provides guidance to students on how to obtain accommodation as defined in the UF syllabus policy (use of the sample course syllabus as a guide provides the necessary information).
If PDF documents are used, they can be read by a screen reader (text in the document is selectable).
Text that appears within the course website, PowerPoints, PDFs and other materials is clearly visible against the background.
Avoid using color to convey meaning
The course contains equivalent alternatives to auditory and visual content.
The course uses fonts, formatting, and design elements to facilitate readability by all students and assistive devices.
All course resources and materials can be accessed using the keyboard.
The instructor communicates a willingness to accommodate various accessibility needs.

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BIOGRAPHICAL SKETCH

Daniel McCoy is the Senior Director of E-learning, Technology and Creative Services for the College of Education at the University of Florida. He has worked in advertising, e-commerce, multimedia design and education. Mr. McCoy has spent the last ten years developing learning technology at the University of Florida for the Colleges of Education, Dentistry and Medicine. He is currently coordinating efforts in e-learning, software development, creative services and business development for the College of Education. Recent activities include course production for the newly designated University of Florida Online Institute, business plan development for online dual enrollment, and the production of electronic anxiety treatment for commercial release.

Mr. McCoy has given numerous presentations on the subject of electronic and distributed learning both nationally and internationally. He has worked variously as a software developer, product designer, creative director, editorial supervisor and executive producer for learning platforms developed for dental and medical education, professional development in early learning, mental health treatment, graduate and professional education, and college-level curriculum. His focus in this work has been learner-centered design, usability, high production value, technology integration, and a workflow that matches institutional business rules.

Prior to his work in education, Mr. McCoy worked in private industry developing content and technology for e-commerce and interactive advertising. As Content Director for USA Interactive in Chicago, he oversaw the creative team responsible for photography, graphic design, user interface design and copywriting. In New York City

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