THE DESIGN AND ORGANISATION FEATURES OF TWO ONLINE COURSES: A CASE
STUDY OF THEIR EMERGENCE AND EVOLUTION

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ABSTRACT

THE DESIGN AND ORGANISATION FEATURES OF TWO ONLINE COURSES: A CASE STUDY OF THEIR EMERGENCE AND EVOLUTION

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This study reports the findings of a qualitative case study that examined how elements of design and organization were conceptualized and enacted in two graduate level online courses, and, how these conceptualizations and enactments evolved. Data was collected through interviews and 'think-alouds' with the course instructors and through screen captures of the course home pages. The Community of Inquiry Framework (CoI) (Garrison, Anderson, & Archer, 2000) was used as a lens to analyze the data for the Design & Organization element of the framework's concept of Teaching Presence. The analysis identified patterns in the five features of the Design & Organization element: Setting Curriculum, Designing Methods, Establishing Time Parameters, Utilizing the Medium, and Establishing Netiquette.

The data shows variation in the way most of the features are conceptualized and enacted in the online courses, with some exceptions. These variations reflect the different experiences, expectations, and logic of the two instructors, while the exceptions reflect the influence of external norming agents such as the Learning Management System or institutional guidelines. The results indicate a wider range of possibilities in course design and organization than the CoI framework has been conceptualized to account for, which has implications for the various programs and institutions using the framework as an instrument for their evaluation of online courses.

This dissertation is dedicated to my parents who have always loved me unconditionally and whose good examples have taught me to be humble, work hard, dream big, and treat others with respect.

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CHAPTER 1

Introduction

Online learning has become a staple of American post-secondary education. In 1988, 18% of undergraduates enrolled in some form of online education (Nof & Hill, 2005). Twenty-five years later, 81% have taken at least some courses online (Dahlstrom & Bichsel, 2014). In the late 1980s, no students had taken all their degree coursework online (Dahlstrom, Brooks, & Bichsel, 2014). Today, 6% of undergraduates have taken all their coursework online (Dahlstrom et al., 2014) and 22% of graduate students have taken courses exclusively online (Kena et al., 2014). All projections indicate that the student participation in online learning will continue to grow (Allen, Seaman, Poulin, & Straut, 2016).

The institutional growth of online learning has paralleled the growth of student participation. In 1990, few online degree programs were offered by colleges and universities, but by 2002 34.5% had full online degree programs (Allen et al., 2016); in addition, a full 50% of all private institutions and 91% of public four-year institutions planned to offer, if they were not already, online degree programs (Nof & Hill, 2005). While not all of these institutions were able to achieve this goal, by 2012 62.4% of all U.S. colleges and universities had fully online degrees (Allen et al., 2016). This trend was consistent with the findings of Allen and Seaman (2013) that nearly every institution of higher education in America believed that growing their online degree programs was an important component of their long-range plan.

Given this growth in both online courses and programs, there has been an increased interest in the area of online teaching and pedagogy, with researchers attempting to identify not only the differences between teaching in the different environments, brick-and-mortar or virtual classroom, but also in how to prepare instructors to transition from teaching a traditional course to an online

version. To that end scholars have sought to understand the design principles that maximize the affordances of online courses and programs (Carey, 2015). A segment of the literature in this area has focused on elements that are embedded up-front in the design of the student learning experience (Akyol & Garrison, 2008; Major, 2015).

Such literature, while practical and useful for introducing and describing problems or providing philosophical context for the discussion of those problems, is ultimately limited in its ability to offer either deeper understanding or proscriptive ideas on resolving problems or improving the quality of instruction. This is because without the theoretical framework to provide a measure of foreknowledge about the subject, and its constituent parts, researchers can too easily find themselves caught in the Meno paradox: either conforming the facts to a predetermined answer, or failing to recognize the answer the facts are giving them.

Because the research presented in the following pages seeks to fill some of the gaps in understanding how instructors have developed and evolved an online course through a theoretical lens, the researcher will the use the Community of Inquiry (CoI) Framework as a theoretical/conceptual lens to examine two courses taught online. This Framework, originally described by Garrison, Anderson, and Archer (2000) and later fully developed in Anderson and Elloum (2004), describes online courses that achieve the goal of student learning via the relationship between Social Presence, Cognitive Presence, and Teaching Presence. Building on that original work, numerous studies have sought to better understand each individual element, and this study will follow a similar track by looking at one element of the CoI Framework, Teaching Presence, and exploring its role in the development of online courses.

Teaching Presence, and the elements that make up its substructure, consist of the more practicable aspects of the CoI Framework. These practical aspects include many more tools than

an instructor can use when developing an online version of a course. However, even within the narrowed Teaching Presence component, there remains a significant number of elements to be considered. It is therefore necessary to further refine the scope of this research to one element within the Teaching Presence component: Design & Organization. By using the Design & Organization element of the CoI Framework as a lens to examine the development and evolution[1] of online courses, this study will contribute understandings that help fill the gap in the research literature.

Recognizing the need within the literature of online instruction to better understand the processes employed by instructors developing online courses through a theoretical framework, this research project sought to accomplish this by employing the Community of Inquiry Framework as a means of understanding the interrelated aspects of online instruction. Furthermore, it examined online courses within the scope of the project by using features of the Design & Organization element within the Teaching Presence component of the CoI Framework, which are specific and observable, to accomplish the project goals. In this way, the author sought to both fill an existing gap within the literature and help define a set of tools that may be used by instructors who are being asked to move from the brick-and-mortar to the virtual classroom.

Statement of the Problem

Research indicates the Teaching Presence component of the CoI Framework can have a positive correlation to learning outcomes for students in online courses (Shea, Pickett, & Pelz,

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[1] Because this study focuses on the continuous development of the Design & Organization element in online courses, the term "evolution" was preferable to "change". The former connotes an internally-motivated, contemplative process of gradual refinements, while the latter connotes an externally-driven, reactive process of abrupt revisions.

2003). Further analysis of the framework shows two of the three elements within Teaching Presence, Facilitating Discourse and Design & Organization, were strongly correlated with student learning (Shea, Fredericksen, Pickett, & Pelz, 2003). These studies, however, were large-scale, quantitative investigations that examined the presence or absence of CoI framework features and their correlation with learning; they did not produce thick qualitative descriptions of either the Design or Organization features, nor the evolution of these in any one course.

The starting point for this study, therefore, is the perspective that an in-depth examination of online courses is needed to better complete the scholarly picture of online coursework, and in particular the manifestations of elements and features of the different presences in the CoI framework. This need exists because instructors, institutions, disciplines, technologies, and other factors shape how a course develops and subsequently evolves so there is variation in the manifestation of CoI Elements, even under similar circumstances, and yet there is too little information about the actual manifestations of the framework, their evolution, or their variations to help stakeholders make decisions about how to use it. Thus, to communicate the variation more fully, the in-depth examination of a few cases is needed. For this study, detailed data was collected from two online courses taught at a large Midwestern university's College of Education by instructors with different experiences of online teaching, in order to better understand the nature of any specific element of Teaching Presence that might be manifest in the courses.

Research Questions for the Study

Based on the problem outlined above, the primary questions for this research are:

- How are features of the Design & Organization element conceptualized and enacted in the online courses selected for this study?

- How has the conceptualization and enactment of the Design & Organization element evolved in these courses?

Scope of the Study

This research study was conducted at a large research university in the Midwestern United States. The university began moving several of their face-to-face graduate programs online around 2000. Today there are many online graduate level programs that exist within the university. Eight of these programs are located in the University's College of Education. One of these online graduate programs provides students with a MA degree in specific aspects of teaching and policy. Teaching courses that are part of this MA program requires instructors to have expertise in a particular content area, but not necessarily in online instruction.

The study focused on two aspects of two courses in this online MA graduate program. One aspect was the features of the Design & Organization element that were evident on the screens and navigational paths of the courses themselves. The other aspect was how these features were conceptualized by the two instructors teaching these courses. Examining both the Design and the Organization aspects of the two courses allowed the researcher to understand both how these courses were constructed and the logic behind their development.

Delimitation. This study examined only two courses, taught by two separate instructors within a specific program in the College of Education at one a large Midwestern university; it did not examine programs at other universities.

Limitation. The primary limitation of this study was its use of interviews with instructors as a primary means of collecting information about online courses from the selected instructors from the program. These instructors have their own perspectives and beliefs about online teaching in general and about what tools are the most useful to develop online courses. Because the sample

size for this project was small, the instructors may hold views and beliefs that are outliers within the larger population of online instructors in this MA program, and therefore are not inherently representative.

Though this is a valid concern, this research project sought to fill a hole in the current literature on the Community of Inquiry by exploring graduate level online instruction, and as such help serve as a point of departure for future studies in this area. Given the need to make this initial effort, and the lack of many options for collecting the information, the researcher thinks the limitations of gathering information as a result of human emotion and recollection are insufficient to warrant bypassing these important sources of information in favor of artifact research alone. Nor, it should be noted, does this mean there will be no artifact collection, rather this study will be collecting data through both interviews and artifact collection in an effort develop a thick data set.

It should also be noted that, given the limited timeframe of data collection, and that the instructors tended to only remember major changes in their course, the data relating to Research Question (RQ)2 was not as robust as that pertaining to RQ1. Although this will constrain the discussion on RQ2 somewhat, the larger purpose of the study is served by RQ1 and what the data says about it.

CHAPTER 2

Literature Review

Given the argument introduced in the previous chapter, this chapter outlines the scholarly basis for examining the Design & Organization features of online courses. It begins by broadly outlining the range of models that have been used for online education, then explains why one type of model lends itself better to the study described in this study. Finally, it describes one specific model in detail and how some of its components are useful starting points for the collection and analysis of data to answer the research questions posed by this study.

Models of Online Education

The models of online education represented in the professional literature span a broad range of approaches for designing and delivering a course. Toward one end of the spectrum (see Figure 1) are models of online education that value highly-structured delivery and the acquisition of declarative knowledge.

These *Delivery and Acquisition Models* (*DAM*) are commonly referred to as "class in a box" or "best practice" approaches and are akin to Feenberg's (2002) "Factory Model." In short, these models use templates, often developed by specialists in Instructional Design, to create courses that allow little to no variation by the instructor who simply becomes a content specialist answering student questions and grading student work.

Toward the other end of the spectrum are models of online education that value highly-personalized guidance and engagement with knowledges of many types (e.g., declarative, procedural, conditional, identity, locational, goal). These *Guided Engagement Models* (*GEM*) value communication that is negotiated between the instructor and student more than automated methods of content delivery, and are akin to Feenberg's (2002) "City Model." In brief, the

instructor chooses the most convenient method for guiding students into and through the course

content, using the contours of the discipline and the latitude afforded them by various modern
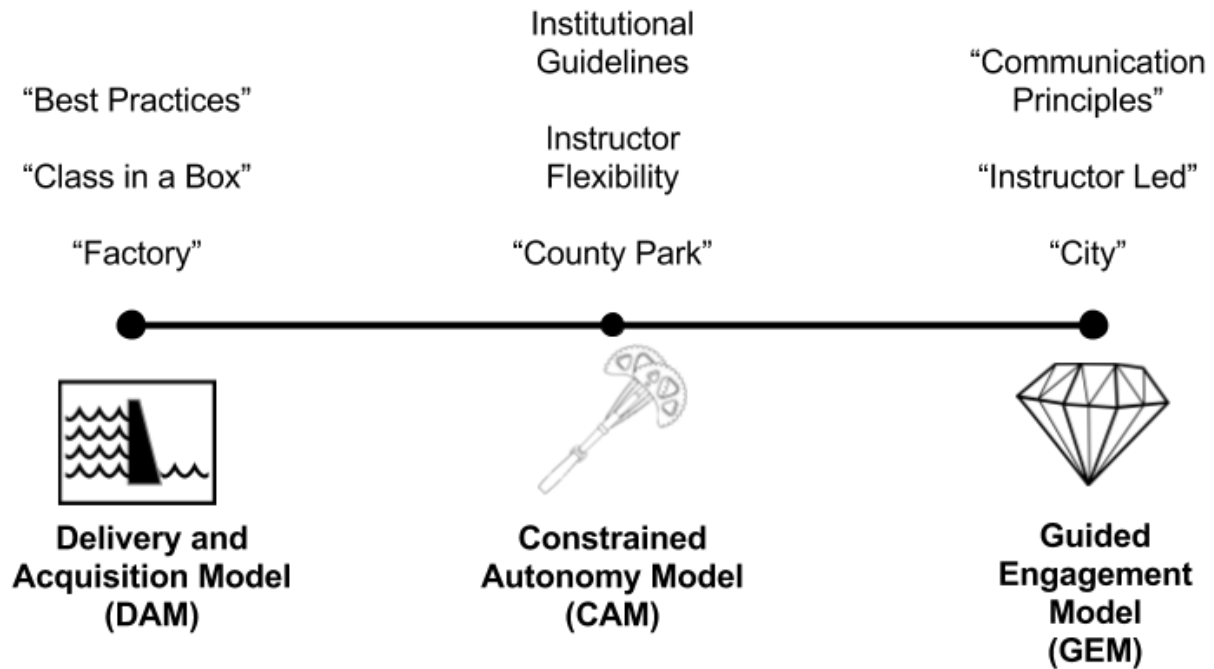
Figure 1. The spectrum of online education models. Shows the key aspects of each of the models that span the online education literature, from the most formulaic to the least structured.

technologies to engage students and help them develop their own personal understanding of the

material.

Across the middle of the spectrum are models of online education that value a mixture of

structured and personalized characteristics; these models represent efforts to optimize an efficient

means of content delivery with expert autonomy and are hybrids of the DAM and GEM models.

These *Constrained Autonomy Models* (*CAM*) position the course instructor as an expert with

academic freedom and responsibility for the design and delivery of content, but require that the course be developed within institutional constraints. For example, both explicit decisions (e.g., "All faculty will use the Learning Management System [LMS] to post grades.") and implicit decisions (e.g., "The college has no opinion on which grading system is to be used to communicate grades to students.") create constraints on the development of online courses; CAMs provide ways for instructors to think about how to create online courses within such constraints. In short, CAMs seek to ensure some form of institutional standardization while allowing instructors as much freedom as possible to develop their own content and delivery. To date, these models have been some of the most developed and inclusive online education models along the spectrum because their approaches have provided the most comprehensive ways of thinking about the tools and designs available to instructors, as well as discussing how those tools and designs relate to one another in the broader scheme of online course development.

CAMs have also provided some of the earliest, most influential, and most enduring approaches to both course development and to preparing future instructors to lead online courses. Because of their breadth and influential position within the discussion of teaching online, CAMs have been widely discussed with a solid body of literature detailing their use for online courses. Finally, the sophistication and complexity represented in theses models' components, mechanisms, elements, and features have provided more analytical and practical tools for understanding the ways in which online courses are developed, regardless of where a particular model of online education falls along the spectrum outlined earlier.

Development of the Constrained Autonomy Model. An example of the more developed conceptualization of CAMs can be seen in the way they have differentiated the roles, constraints, decisions, and systems at play in the formation and enactment of online courses. Because

institutional constraints also affect the development of courses, for instance, how colleges prepare instructors to function within the environment created by these constraints – particularly if these are heavily skewed towards either end of the spectrum – may be critical to the effectiveness of the instructors' courses. CAMs have provided instructors with principles of design and organization for creating course content when there are institutional constraints on both the technology they may use and the ways in which they are expected to employ it within their online courses.

Institutional constraints are the by-product of institutional decisions, or lack of decisions, that shape the way online courses are developed. Specific decisions are those the institution undertakes with a clear goal for online courses in mind, such as the decision to employ a specific Learning Management System (LMS). Conversely an institution may not make a decision or specify a preference for which kinds of technology are used, or how. These implicit decisions can both allow the instructor more freedom in their course design as well as constrain them in unforeseen ways - such as when a new technology that would be ideal for a particular subject becomes available, but the institution declines to purchase it, in which case the instructors must continue to develop courses using the previous technology tools. Furthermore, institutional constraints can result in courses that move more towards either end of the technology spectrum.

Constraints that shape the development of courses toward the "factory" end of the spectrum include efforts by the institution to standardize parts of the online course. These might include parts as simple as those found in the traditional face-to-face (F2F) classroom, such as a standardized syllabus, or more complex parts such as requiring the use of a specific LMS for all course content. Other examples of constraints that move courses towards a standardized "factory" product include the use of Master Courses, which are courses developed by either groups or previous instructors that serve as templates for all subsequent iterations of that particular course.

Another common tool that may prompt instructors to employ DAM models for course development is the use of course textbooks that include "Super Sites;" these online workbooks contain self-grading assignments and quizzes that not only standardize content within a program's courses, but also any course at any institution that uses the same textbook.

Constraints that shape courses more toward the "city" side of the spectrum are those that result from institutional decisions about the means of course communication as well as the frequency and types of interactions that occur within a course. For example, an institution may require that a course take place using video conference technology, thereby moving its design towards a GEM in which automated delivery of content is not possible since the course will be synchronous and taking place in real time, and therefore structured more like a F2F course. Other constraints that may affect the delivery of content are an institution's lack of preference for an LMS, which would allow instructors to employ whichever technology they preferred, such as email alone, in order to deliver content to their students.

The effect of these constraints is to narrow the operational environment for instructors developing their courses. Within this environment, the instructor may be given freedom to choose course content or a specific technology. The various CAMs provide instructors with frameworks in which to think about the design and organization of their courses given the limits placed on them by institutions.

Given the example outlined in the previous paragraphs, CAMs have a fairly comprehensive conceptualization for understanding the formation and enactment of online courses. Comparatively, the DAM and GEM models are less developed in addition to being less comprehensive. For this reason, the literature of one particular CAM will be discussed in the following pages.

Community of Inquiry Model

The most frequently referenced CAM in the literature today is the Community of Inquiry (CoI) model. It was developed in the early 2000s to help universities prepare their instructors to teach online courses. CoI emphasizes instructor-developed courses, but takes into account the institutional guidelines that shape and constrain the technological delivery of the course. This model highlights key features of online learning that instructors creating online courses often think about in order to maximize student learning.

The CoI model gained wide acceptance in the online course community and is still cited in much of the practical and empirical literature, but it has been challenged in recent years (e.g., (Friesen & Kuskis, 2013)). Even in the model's early conceptualization, Anderson (2003) argued that the model is really a smaller part of a much larger set of interactions that drive online learning. Today, components of the model can still be found in non-CoI literature that discusses online course design and organization.

A recent description of the CoI model defined it as "a group of individuals who collaboratively engage in purposeful critical discourse and reflection to construct personal meaning and confirm mutual understanding (The Community of Inquiry, 2013). "However, CoI was described in its early days as:

> a worthwhile educational experience is embedded within a Community of Inquiry that is
> composed of teachers and students, the key participants in the educational process. The
> model of this Community of Inquiry assumes that learning occurs within the Community
> through the interaction of three core elements. [The model contains] three essential
> components: cognitive presence, social presence, and teaching presence. (D. Randy
> Garrison et al., 2000, p. 88)

These different conceptualizations of the CoI model shed light on its acceptance and prevalence in online teaching in higher education, as well as providing a glimpse into the development of the model.

Development of the CoI Framework. During the time when the CoI framework was developed, one of the primary models of online learning was the Asynchronous Learning Networks (ALNs), which was championed by the Sloan Consortium[2]. ALNs were described by Hiltz and Wellman (1997) as teaching and learning environments designed through computer networks where learning occurred through carefully planned collaborative learning activities which emphasized group or cooperative efforts. The primary critique of the ALN model, however, is the almost exclusive reliance on peer interaction for learning, which left little room for instructors to act as nothing more than discussion facilitators and moderators. Recognizing this shortcoming, the faculty members tasked with developing a new model to guide the training of online instructors at Athabasca University[3] sought a more comprehensive framework. This led to the development of the CoI model, which is considered by some to be the most functional framework for online course creation (Arbaugh et al., 2008).

Randy Garrison, Terry Anderson, and Walter Archer began by reviewing the literature about online instruction. The framework that emerged was tailored to:

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[2] Since 2014, this organization has been referred to as the Online Learning Consortium. (https://onlinelearningconsortium.org/news_item/sloan-consortium-now-online-learning-consortium/)

[3] This is a Canadian Institution that wanted to have a strong online presence, and has largely succeeded as it is now "Canada's Open Online University" (http://www.athabascau.ca/)

computer conferencing in higher education – i.e., asynchronous, text-based group

discussions – rather than from a traditional distance education theoretical perspective that

assumed students worked independently from each other. (D. Randy Garrison, Cleveland-

Innes, & Fung, 2010, p. 5)

Thus, CoI became a model designed specifically for instruction in online learning that engaged in

the back and forth of discussion.

Three Presences. The CoI model was originally conceptualized with three

components: Social Presence, Cognitive Presence, and Teaching Presence. In the earliest

inceptions of this model, the three presences were thought of as co-existing in overlapping circles

(see Figure 2), each being equal in how it shaped online learning.

Social Presence. The first presence of CoI refers to "the ability of participants to identify

with the community (e.g., course of study), communicate purposefully in a trusting environment,

and develop inter-personal relationships by way of projecting their individual personalities" (D.

Randy Garrison, 2009, p. 352). Simply put, social presence is the way in which a learner represents

their personal characteristics into the course community through emotional expression open

communication, and engagement with others within the online classroom via conversation. Social

Presence is therefore the means of interaction, particularly between learners in an online space.

Examples of this interaction can be found in course discussion boards, group chats, video

conferencing, and email exchanges.

Cognitive Presence. The second presence refers to the extent to which learners construct

and confirm meaning through sustained reflection and discourse (Anderson, Rourke, Garrison, &

Archer, 2001a). In brief, cognitive presence is the way students move through the learning process

– approaching problems, seeking out new knowledge, gaining new levels of understanding, and

sharing that understanding with the learning community – with the goal of integrating key concepts from the classroom into their own understanding. Forming these cognitive associations allows

COMMUNICATION MEDIUM

Social presence

Supporting discourse

Cognitive presence

Educational experience

Setting climate

Selecting content

Teaching presence (structure/process)

Community of Inquiry Model
(Anderson, 2008)
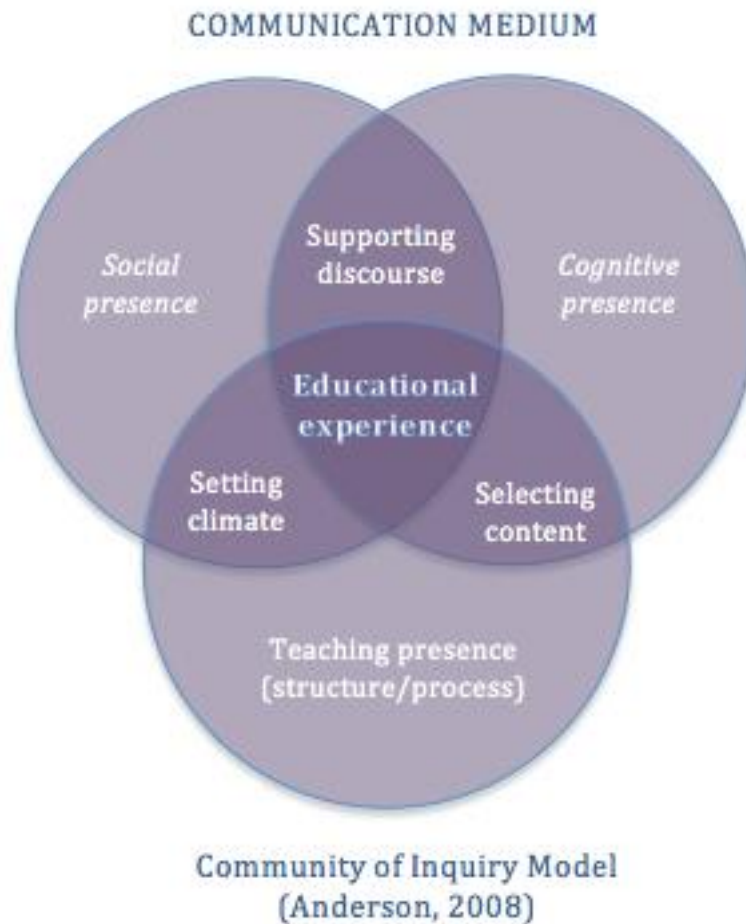
Figure 2. Venn Diagram of the CoI Model. Provides a visual representation of the interrelationship of the three presences.

students to move through four progressive phases of knowledge development, described by de Noyelles, Zydney, and Chen (2014) as:

a triggering event, when an issue is identified for further inquiry; exploration, which is an exchange of ideas or information; integration, when ideas are connected and expanded on; and finally, resolution, when new ideas are applied to other contexts, such as work or education. (p. 154).

Examples of instructors applying strategies to facilitate this presence in an online course include helping students connect ideas or apply new ideas to a problem, setting the curriculum so that concepts build on one and other, creating a climate for learning, or including materials from diverse sources (D. Randy Garrison et al., 2000).

Teaching Presence. The third presence of CoI includes the design and organization of the online course, so that the learner has a direction for navigating and engaging with the social and cognitive presences that support learning (Anderson et al., 2001a). Teaching Presence can be thought of more simply as the underlying structure that shapes learning experiences for students as they progress through an online course with instructor facilitation, support, and guidance. In the CoI model the instructor actively plans for and eventually guides students through course materials in such a way that it reinforces key concepts and fosters student engagement. This is accomplished by creating content modules that build upon one and other, providing relevant readings, creating some form of lecture, or guiding students to appropriate multimedia materials.

Teaching Presence also acts as a glue or conduit for integrating the other two Presences into a course. Empirical evidence for the causal integratedness of the three Presences was found by Garrison, Cleveland-Innes, and Fung (2010) with Teaching and Social Presence affecting Cognitive Presence and Teaching Presence affecting Social Presence. Given these and other findings, such as those of Garrison (2011); Shea et al. (2014); Arbaugh (2007), many scholars currently think that Teaching Presence transcends the other two Presences (D. Randy Garrison & Akyol, 2013). Given the Model's initial emphasis on representing the three Presences as equal, some have questioned whether or not the early version of the model really is a valid tool for helping instructors develop online courses (Shea & Bidjerano, 2010).

Critiques and competing models. As mentioned previously, the earliest inceptions of the CoI model represented the three presences as though they co-existed in overlapping circles, each being equal in importance and in its contribution to online learning. Over time the model was revised so that a more nuanced view of the three presences evolved. In brief, the Social and Cognitive Presences were re-imagined as fitting within the Teaching Presence sphere and, though still necessary, were visualized as an embedded component of the larger conception of Teaching Presence (Shea et al., 2014).

Two critiques have been central to the revisions of the CoI model. The first critique, developed in large part by one of the original developers of the CoI Model, argued that the "balance model" of the three components (represented by the Venn diagram) inappropriately gave equal weight and importance to each component (Anderson, 2003). The second critique argued that the CoI unintentionally lead to the standardization of online courses – by encouraging the development of automated systems – and created a homogeneity that can stifle academic expression and freedom (Weiland, 2015). The effect of these two critiques has been the development of alternative models to CoI. These alternatives place interactions at the foreground of e-learning and de-emphasize the best practices driven standardization.

Interaction Equivalency Theorem. The first alternative highlights the different interactions between content, students, and instructors that occur within each online course (Anderson, 2003). Represented visually (see Figure 3), the model suggests a much more complex set of interactions, including those between teachers within a program, as well as differentiating between types of courses and course designs. As Miyazoe and Anderson (2010) explain:

The Interaction Equivalency Theorem was designed to help educators select the most effective and efficient type of interaction. It states:

Thesis 1: Deep and meaningful formal learning is supported as long as one of the three forms of interaction (student-teacher; student-student; student-content) is at a high level. The other two may be offered at minimal levels, or even eliminated, without degrading the educational experience.

Thesis 2: High levels of more than one of these three modes will likely provide a more satisfying educational experience, though these experiences may not be as cost or time effective as less interactive learning sequences. (p. 3)

This expanded view of the interactive nature of online learning has drawn supporters who argue that enhanced learning occurs in distance education if instructional strategies are designed to maximize student–student interaction (Borokhovski, Bernard, Tamim, Schmid, & Sokolovskaya, 2016).

Critical reflection and countering Best Practices. A second critique of the CoI Model is that it promotes the idea of "Best Practices," or a standardized approach to the creation and delivery of online courses. This critique suggests the CoI framework actually falls on the DAM end of the spectrum as it promotes the creation of automated systems akin to those found in the "factory" end of the spectrum; furthermore, the model removes potentially valuable tools from the online instructor's toolbox without critical reflection on why those tools are being set aside. Weiland (2015) provides three examples of areas in which it can be argued the current thinking on Best Practices for online teaching is restricting instructors' options to create potentially better courses.

The first is the insistence that students engage in online collaboration; that the effort to create an online learning community is itself pushing some learners into patterns they would not normally engage in, and thereby testing their tolerance for online learning.

The second point is in the insistence that online learning be student-centered and limit instructor influence primarily to the area of course design. Those opposed to this student-centered
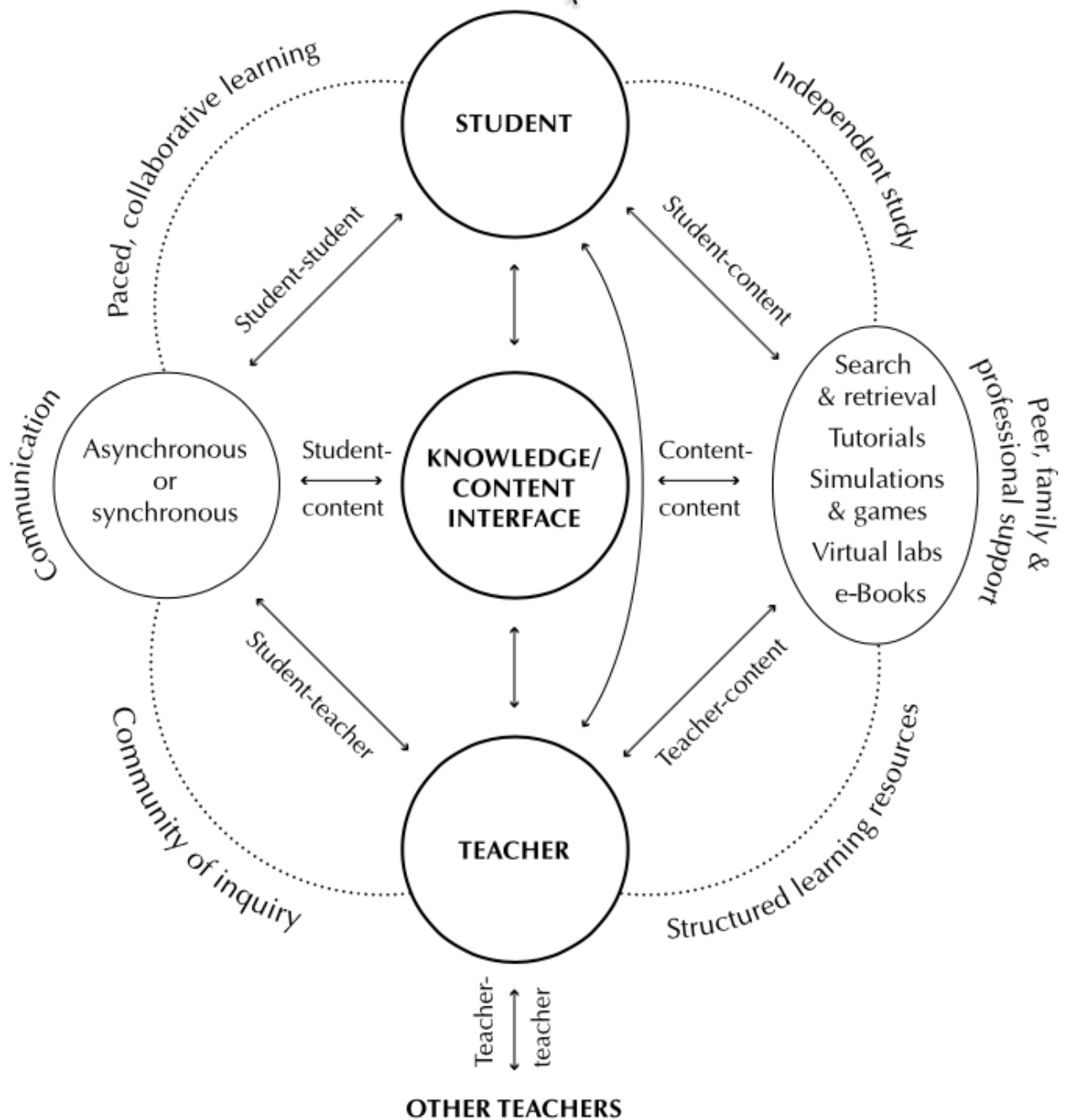
Figure 3. Interaction Equivalency Theorem of e-learning. Depicts the multiple types of interactions between different participants of an online course as described in the Interaction Based Model of e-learning by Anderson (2008, p. 61)

approach argue that students are seeking out universities because they want to engage with experts in their field, rather than learning from other novices as part of a collective.

Finally, opponents of Best Practices methodology are critical of the trend within the field of moving away from traditional literacy in favor of "new digital literacies" by emphasizing the need to incorporate interactive videos, games, and other short forms of delivery that do not require the same time commitment as the more traditional reading of scholarly works found in the F2F classroom. This latter trend, as those critical of such models argue, prevents students from developing the ability to follow and understand the longer, more complicated and nuanced arguments found in higher education.

Teaching Presence in Depth

Throughout the evolution and critiques of the CoI in the last decade, its central structure built on the three Presences has retained its explanatory power. Most notably the Teaching Presence component has remained central to the model, with Anderson, Rourke, Garrison, and Archer's (2001a) early articulation of Teaching Presence continuing to be cited:

> Teaching Presence is "the design, facilitation, and direction of cognitive and social processes for the purpose of realizing personally meaningful and educationally worthwhile learning outcomes" (p. 5).

Refinements of the explanation since its inception have, however, extended the scope of this component to include not only the activities that take place during the course, but also to those that occur before the course begins, when the instructor, acting as a designer, plans how materials, concepts, and procedures will be presented, and how students will engage with the course content. The early research also found Teaching Presence to be a key element in increasing student-to-student and student-to-teacher interaction (Hansen & Gladfelter, 1996; Lavooy & Newlin, 2015;

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Shea, Fredericksen, et al., 2003; Shea, Fredericksen, Pickett, Pelz, & Swan, 2001; Zhang, 1998). This in turn increased students' sense of learning and value in the course, and is similarly evidenced in more recent research (e.g. Akyol & Garrison, 2011; Kumar & Ritzhaupt, 2014; Shea, Sau Li, & Pickett, 2006).

Elements of Teaching Presence. Anderson et al. (2001b) sought to understand the elements of Teaching Presence and through their research identified three subcomponents: Design & Organization, Facilitating Discourse, and Direct Instruction. Of the three, Direct Instruction has been considered the most familiar to teachers, as it most closely resembles traditional face-to-face (F2F) teaching and typically involves "scaffolding" similar to that suggested by Rogoff (1990) and Vygotsky (2012). The other two elements they identified, Facilitating Discourse and Design & Organization, were identified as relatively unique to the online classroom. A brief discussion of each follows.

Direct Instruction. The Direct Instruction element of Teaching Presence is a technological mirror of the traditional classroom (Anderson et al., 2001a), and materials are presented online in much the same manner as they are offline. For example, where an instructor hands out articles for students to read in a F2F classroom, the online instructor will simply provide a link to the electronic version of the same article. Similarly, recorded lectures and "screencasts" of presentations replace the traditional lecture model of the F2F classroom, with PowerPoint Presentations, or PDFs of the presentation slides, replacing lecture outlines. The major difference, therefore, between the online delivery of this content and the F2F delivery is found in the normally asynchronous nature of the online classroom, which allows students to engage with the material at a time and place most convenient to them. This asynchronicity is something that is also tied into the Design &

Organization element of Teaching Presence, where the instructor tries to account for it during their planning.

Facilitating Discourse. The Facilitating Discourse element of Teaching Presence is best described as the active engagement of the instructor in the course, constantly searching for ways to support the development of the learning community. This element also overlaps with many of the behaviors identified in "social presence;" however, as Anderson, Rourke, Garrison, & Archer (2001) go on to explain, it is more than just generating, and acting as a moderator for, social activities or discussions via forums, social media, etc. in the virtual classroom alone (p. 7). In addition, Anderson, Rourke, Garrison, & Archer (2001) were able to move beyond the "chat" of online courses and look for indicators of support for discourse within all areas of course communications by pointing out that in their definition elements, Facilitating Discourse is intertwined with both Direct Instruction and Design & Organization.

This allowed their research to look at the efficiency of the teacher's process, which is important given the large time commitment of online discussion in these courses, and gauges the success of the teacher in employing this skill if they are "moving the discussion along." Nor, unlike the skills involved with Direct Instruction, is the ability to effectively keep the discourse positive and moving along efficiently something that all instructors bring from the F2F classroom to the online environment, which in turn means there are significant opportunities for professional development in this area as well as the area of Design & Organization.

As previously described, Facilitating Discourse is integrated within the Design & Organization so that poorly established patterns in one, will affect the other. It is for this reason that Anderson, Rourke, Garrison, & Archer (2001, p. 6) explain: "the process of designing and planning the online course is usually more extensive and time-consuming than is the analogous

process in classroom based teaching." They go on to argue the research they reviewed ultimately pointed the teacher's task in the online classroom is to create a narrative path through the mediated activities and content in such a way that the students understand the explicit and implicit learning goals of the course; furthermore because the learned norms of the traditional classroom are unavailable for either the student or the teacher, it is incumbent on the instructor to be much more explicit and transparent in their planning process in order to accomplish this.

Design & Organization. This element of Teaching Presence is best thought of as the planning and structuring process of an online course. Creating a course for online teaching and learning often leads instructors to think about the anatomy and composition of a course in ways that fit the digital medium, rather than the analog medium of paper, pencil, and textbook. As Shea, Li, Swan, & Picket (2005) found, new norms and expectations for online communication are often considered by the instructor when designing and organizing a course. Students do not always intuit the navigational pathways of the course's design and organization from their previous "brick and mortar" and face-to-face course experiences, and must therefore rely upon a different set of explicit and transparent communication signals in an online course's architecture.

In their earlier work, Anderson, Rourke, Garrison, & Archer (2001, p. 6) identified five features that characterize the Design & Organization element: Setting Curriculum, Designing Methods, Establishing Time Parameters, Utilizing the Medium Effectively, and Establishing Netiquette. Though not always found in the CoI literature, or named with these exact terms, these five elements can also be found in literature related to online instruction (e.g., (Arbaugh, 2007; Kanuka, 2008; Kumar & Ritzhaupt, 2014; Shea et al., 2006). Furthermore, Akyol & Garrison (2008) revisited the earlier work of Anderson, Rourke, Garrison, & Archer (2001) to examine the dynamics of online courses through the lens of the Community of Inquiry Framework. In doing

so, they sought to confirm the validity of the framework as a theoretical tool, and to better understand the dynamics between the various presences. What they found was:

> The results revealed a number of significant positive relationships between Teaching Presence and Cognitive Presence; Teaching Presence and perceived learning; Teaching Presence and satisfaction. This very much reinforces previous findings in terms of the crucial role of Teaching Presence in a community of inquiry. (p. 17)

The end correlation between the elements of Teaching Presence within the framework and student satisfaction and learning in the online environment point to the possibility of this component as a bridge between what teachers bring from the traditional classroom to the online environment.

Though the research shows there is a correlation between features of the Design & Organization element and positive student learning outcomes, it does not answer two fundamental questions. The first is whether or not those features are universally present in online courses with the same attributes—in other words, would an examination of two courses that do not explicitly use the CoI Framework show all of the features that are present and with similar qualities? The second question is how stable are these features over time—in other words, could the quality of a feature change, or a feature disappear altogether between the first iteration of a course and subsequent iterations?

The taxonomy of categories in the CoI framework is visually represented in Figure 4, which shows the terms used for each level of description in this study. It should be noted the Design & Organization element has a dual nature that is represented by the grouping of its features under one of its two aspects: Design or Organization.
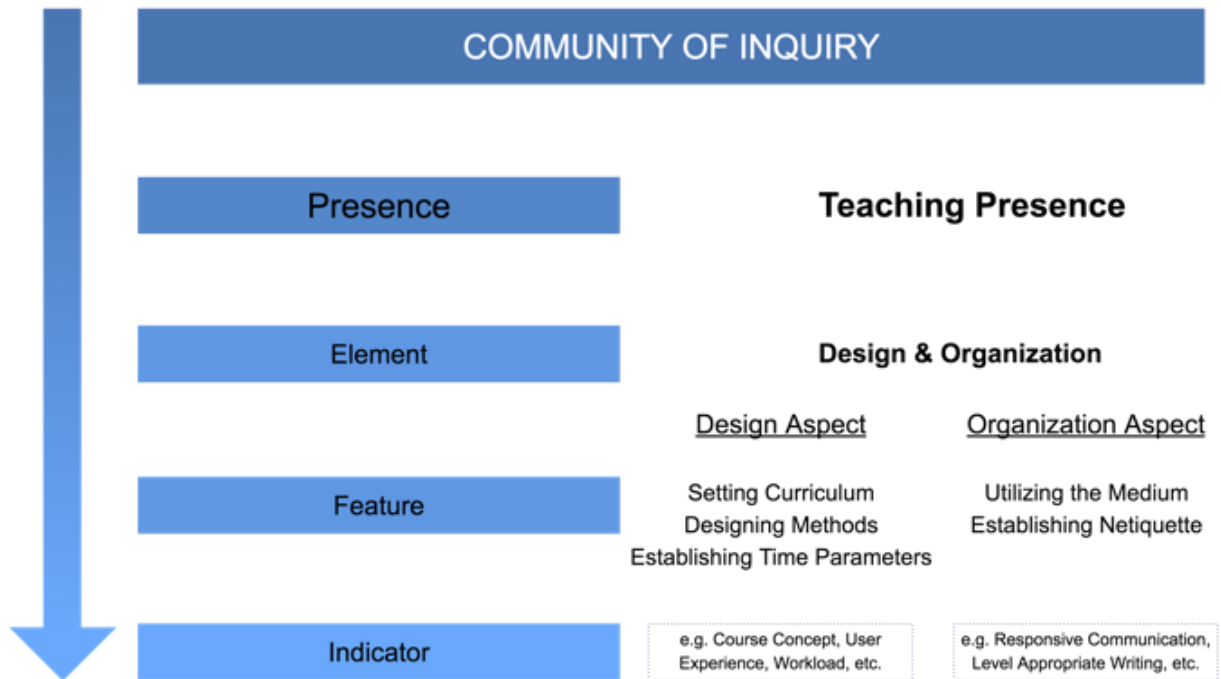
Figure 4. Breakdown of the Community of Inquiry. Shows the descending hierarchy of the various levels of the framework

Moving Forward

A sizeable segment of the literature on CoI has been motivated by questions about the empirical validity of components in the CoI Framework (e.g., Shea et Al, 2003; Arbaugh et Al, 2008; Garrison, Cleveland-Innes & Fung, 2010), with scholars examining and reexamining data for an "evidence based" grounding of the CoI Framework. The study described in the following pages was, however, rooted in another segment of the literature, which is populated by qualitative intervention studies that seek to examine the applicability of CoI principles. The aim of this study, then, was not to quantify online courses via the CoI framework, but rather to explore the qualitative aspects of the courses using the CoI Framework as a lens to better understand variations in the expression of the framework's features. This question is an especially important point for programs that expect instructors to make the leap from F2F courses to online courses. As Major explains:

Unlike the case with onsite courses, however, few of us have the knowledge we need in order to teach online, particularly when we first start. Rarely have we had many deep or sustained opportunities to learn about how to teach online through the observation of successful practices. (2015, p. 24)

As the number of online courses offered at universities each year continues to grow, the need for faculty new to online teaching to have a point of reference to build from is becoming increasingly important; yet they are given an overwhelming amount of information on what makes a good online class to sort through and employ that providing a model flexible enough to give them their own voice while ensuring some consistency across an institution is vital to student success.

Expanding on this idea, as Baran, Corrreia & Thompson (2013) discuss, it is important to understand how teachers transfer their thinking, pedagogical knowledge, and beliefs about learning from the F2F environment to the online classroom, particularly when they have not been given explicit guidance from their institution. Though the Community of Inquiry Model has its detractors, and there is debate about whether or not using the idea of "best practices" is sound, there remain elements of a core component of the CoI Model that may help instructors develop a point of reference from which to begin: The Design & Organization element of Teaching Presence.

CHAPTER 3

Methods for Data Collection and Analysis

The purpose of this study was to use the Design & Organization elements of Teaching Presence as a lens for (a) examining how these elements present conceptualized and enacted in courses developed without the CoI framework as a guide, and (b) understanding how these elements may have evolved over different iterations of the course. In order to meet its purpose, this study employed qualitative research techniques involving interviews and artifact review. These were collected over the course of a single semester and form the data sets from which subsequent analysis was conducted. Because the project began with a theoretical framework, the primary analysis methods employed on the data were deductive and done in accordance with the Framework Analysis model; however, a simple inductive review of data points that could not be indexed within the themes of the first analysis was also conducted to see what additional themes might emerge.

Sample Selection

This process began with the selection of two instructors and two courses, based on specific criteria, that would support a broad exploration of the themes developed from the CoI Framework. Subsequent data collection was done with interviews and "think-alouds" built largely on the principles found in Ritchie et al. (2014). Additional data was collected via artifact reviews done on images and document retrieved from the online course pages.

Selection criteria. The choice of instructors to participate in this study, as well as the specific courses to be explored, were made via a series of selection criteria designed to increase the probability of obtaining sufficient data for analysis. The primary concern for selecting instructors was to have contrasting levels of experience in order to explore the potential impact of

this factor on inherent Design & Organization features within the courses. In addition, the criteria sought to ensure that neither the courses, nor the instructors, in the project were focused on the field of online instruction.

Instructors. Four criteria were used for selecting the two instructors who participated this study. The first was that both instructors are tenure-stream faculty. This criteria was put in place because it was believed that including tenure-stream faculty would increase the likelihood, though not guarantee, that: (a) this would allow access to courses that have been taught on a recurring or annual basis, (b) these faculty members would have been the instructor of record for the specific course more than once, and (c) they would, therefore, have likely been able to develop and evolve the courses' design and organization through at least one previous iteration.

Second, instructors were selected who teach an online course in a core curriculum area, such as English language arts, science, mathematics, or social studies. This selection allowed the researcher to examine online courses in commonly taught school subjects with instructors whose fields of research lay outside of online teaching. This criterion also afforded the researcher an opportunity to collect data from a course where the instructor is primarily a subject matter expert in a field outside of online education and, therefore, more likely to have devoted their limited time to advancing their understanding of that field, rather than placing emphasis on the scholarship of design and organization for online courses.

The third criterion was that instructors have ownership of the development and structure of the course. Many universities described in the literature have eLearning specialists who lead the design of "master courses," which are subsequently passed off to another instructor who will teach the course, but who has little leeway in terms of making changes. The result is the design and organization of these courses fall onto the DAM end of the spectrum and are more fixed and less

fluid across time. By focusing on courses where a content specialist leads in the emergence and evolution of the courses, this study was able to develop a clearer analysis of how design and organization decisions evolve across time in the absence of specialists in online pedagogy or instructional design.

The fourth, and final, criterion for the selection of instructors was their relative experience, defined by the number of years they had taught online courses. One instructor was selected who has a significant number of years of teaching online courses within their field, while the other instructor was considered, relatively, less experienced-- having fewer years of online teaching experience. Although the original aim was to find a second instructor with perhaps as little as half the amount of time teaching online as the first instructor, this proved impractical and the second instructor only had about 25% less online experience than the first. This criterion was set in order to help account for any differences in course design and organization that may be apparent between an instructor who has more or less experience teaching online and, despite a smaller experience differential than originally hoped for, it appears to have achieved its goal.

Although the initial research plan also called for a fifth criterion, that both instructors would teach in the same content area, this too proved impractical given the pool of potential participants, and was therefore not a factor in the selection of instructors for the actual study. The criteria was initially part of the process because of the belief it would mean the courses used in the study would contain similar subject matter content, and therefore make for research cases that were better suited to comparative analysis. However, a close examination of the selected course content showed

similar types of material[4], if not similar subject matter, and projects. Furthermore, because neither instructor was an online pedagogy or online education specialist, the difference in specific materials was not detrimental to the analytic focus on the design and organization decisions of the instructors.

Courses. Three criteria were used for selecting the specific online course taught by each instructor that were explored in this research. The first criterion was the course for each instructor is one that is taught at least annually. This ensured the instructor had consistent and frequent opportunities to revise and adapt the course based on their personal reflection and student feedback. As the courses selected for both instructors met this criterion, they provided ample insight into the decisions instructors have made as they developed and re-developed their course through subsequent iterations.

The second criterion for course selection was the course had to have been taught at least once prior to the semester in which it is being examined for this study. This meant that students had provided feedback at least once before, and the instructor had the opportunity to make revisions based on those comments. Looking at the courses selected under these criteria provided insight into changes in rationale the instructors used when developing and redeveloping these courses.

The final criterion for specific course selection was the course must have enrolled 10 or more students on average. This specification meant the instructor had received sufficient feedback

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[4] The courses employed readings, both books and articles, with discussions, research, external websites, etc. So that while the specific subject matter of, for example, articles students read for a given week were different, both classes were reading and discussing articles that week. Similarly, both courses involved writing papers as their primary assignments, so although there were different subjects, the students in both classes found themselves producing similar types of artifacts.

on all parts of the course, and they had the opportunity to balance what they thought was good design and organization with a variety of student suggestions about course improvement. Additionally, this minimum number of students helped ensure the courses used in the study were full, structured, and enduring courses rather than online tutorial sessions in which the instructor only meets with a handful of students one-on-one via some form of digital communication.

Selection Outcomes. Using these selection criteria, two courses, taught by two different professors, were selected for the research study. Although the instructors had complete ownership of the courses as they are currently taught, neither was the originator of the course. Similarly, both courses had external constraints placed on them in the form of college directed learning outcomes. Furthermore, though the specific subject matter of the courses differed, the types of content (readings from books and journals) and the project based nature of course assignments (papers and portfolios) meant the courses were sufficiently similar for the purposes of this project.

In addition to the variation in subject matter expertise, the two instructors experience levels with online courses contained a marked difference that made them ideal participants in this project. The less experienced of the two taught their first online course in 2012, and had no prior experience either teaching or taking online courses. The more experienced online instructor has not only been teaching courses in this manner since 2001, but has been a student in online courses and has spent time learning more advanced computer skills, such as Flash[5], in order to create content for those online courses. These differences in experience levels as both teachers and students, make this pairing an ideal one for the purpose of this study.

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[5] Flash is a proprietary product made by Adobe software and is an application and programming language widely used throughout the internet for playing videos, simple animations, and even games. Though it is slowly being replaced by the open HTML5 standards in web design, it is still ubiquitous.

Instructor backgrounds. As described in preceding sections, there were a number of criteria used to select the two instructors that participated in this project. The initial hope of the researcher was these two would differ enough in their experiences that some understanding of how changes in theory, technology, and preparation for the task have impacted the way instructors think about and develop online courses could be formed. This in turn might help inform the broader focus of the study, to understand how instructors transition from the F2F classroom into the online one. With that in mind, the two instructors who participated in the study were ideally suited to the purpose.

Pat and Terry[6] are both full-time faculty members in the College of Education at a large Midwestern university. Beyond this, they both hold Doctoral degrees in the field of education, though neither specializes in online teaching, and they both teach a number of graduate level courses each semester. Similarly, they were both responsible for developing the courses that were explored in this study, rather than inheriting them in whole from another instructor, and they both give considerable thought each semester to how they might better develop their courses. Apart from these basic facts, the two have quite different experiences and background – particularly with online teaching.

Of the two, Pat is the more experienced online instructor, both in terms of age and number of online course hours taught, and has been a part of the college for over two decades. Pat came to the field of education via the university, and has remained at that level since completing an undergraduate degree. Furthermore, Pat has been teaching online courses since 2001, and has had

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[6] These are not their real names. Pseudonyms are used to make it easier for readers to follow the narrative.

an interest in online teaching that has led to learning some coding languages, for example Adobe Flash, and taking some additional courses specifically about teaching online. In addition, Pat has taken numerous online courses over the years as a student, and thus has experienced this type of class from the that perspective as well.

Terry is the less experienced of the two online instructors, and has only been teaching online since 2012. Before returning to higher education and earning a PhD, Terry taught in an after-school program for middle school students and as a kindergarten teacher. However, none of those experiences, either as an instructor or as a student, before 2012 were online. In fact, Terry's only relationship with this form of teaching was via Terry's spouse, who had to take online courses as part of a degree program. These, however, turned out to be poor examples because, as Terry explained,

> My [spouse] had taken online courses and had not had good experiences with them. They involved mostly reading and posting in asynchronous discussions. The instructor never gave any feedback before you got a grade. You did some papers and you got a grade. [My spouse] thought that they were very poor learning experiences. So that was my only sort of connection to online teaching.

Data Collection

Following the selection of the instructors and courses data collection began. This was done through interviews, artifact collection, and think-alouds. Data was also collected in this order so the researcher could gather information about the respective instructor's views and philosophies about online teaching without biasing the interview by having previously viewed the specific course materials. This allowed for a richer set of data points for exploration as it provided a completely theoretical view and a practical application view for each instructor. All of the data

was subsequently coded and analyzed for this study; a description of each data collection method follows.

Interviews. Prior to the artifact collection, the researcher conducted face-to-face, semi-structured interviews with each participant in order to gain insight into their thought processes and perspective in terms of course design and organization. These interviews were conducted in order to provide context and improve the understanding of the instructor's philosophies and background, as it relates to teaching online courses.

Furthermore, to ensure consistency in this process between the separate instructors, the interview questions were designed using the principles found in Jacob & Furgerson (2012), Turner (2010), and Yeo et al. (2014). In order to collect data for subsequent analysis, these interviews were also recorded using a digital audio recorder that the researcher took to each face-to-face meeting. Once the interview was completed, the audio was transcribed so that it could be coded and analyzed.

The interview technique itself was previously piloted by the researcher with peers and colleagues to ensure it was sufficient for the task of capturing audio dialog in both an appropriate format, and of sufficient quality to be transcribed for later analysis. Furthermore, in the event that there were technical issues with the audio recording device, the researcher also took notes during the interview, and these were also used to help the researcher better understand the context for particular statements. The interview protocol for this study is attached in Appendix A.

Artifact collection. The first step in collecting artifacts was to request permission to access each course via the institution's Learning Management System (LMS), in this case Desire-2-Learn (D2L), from each instructor. Using techniques similar to those of Ke (2013), screenshots were taken of all pages of the course in D2L. In addition, relevant documents, such as course syllabi,

course outlines, and instructions for online discussions and assignments were collected; these materials were subsequently coded for analysis.

Screenshots, static image versions of the D2L course pages, showing menus, links, images, etc. were made using Techsmith's Snagit software, these allow for the construction of a "navigation tree" or map that shows the structure and navigation of the course. This data provides a view of the course, in terms of content navigation, as the student would see it, and these static versions of the pages were annotated and coded for later analysis.

The artifact collection technique used in this study was also piloted by the researcher on similar online graduate courses. Additional piloting of this technique was conducted with an informed lay person, who was less technologically skilled than the researcher, to ensure that it is a replicable process that others could use. The procedures for artifact collection are outlined in Appendix B, while Appendix D contains the table with the breakdown of the CoI framework's Design & Organization element into its constituent features; this table was also used to form the preliminary themes for the data analysis.

Think-alouds. In addition to using the semi-structured interview format, a think-aloud protocol was used to provide "live" evidence of the courses' organization and structure. This technique typically involves the researcher (a) providing the instructor with clean copies of course artifacts, or (b) situating the instructor in front of their course on the screen, and then asking the instructor to "walk" the researcher through their online course by speaking aloud their thoughts.

Employing this technique in conjunction with the Zoom teleconferencing platform, to which MSU is a subscriber, allowed a "virtual meeting" in which the instructor moved through various sections of their online course while providing the researcher more information about their philosophy and approach to course development. This approach also allowed the researcher to ask

for further clarification on different sections of the course, how the instructor overcame any technical challenges, and what the thought process was behind the decisions they made during the development of these various sections.

The guidelines for this specific protocol were modeled after those developed by Armstrong (2011) and Cotton & Gresty (2006), as can be seen in Appendix C. In addition, the unique blend of think-aloud and technology used for this study was piloted by the researcher with the help of colleagues who were interested in the technique as a tool they might employ themselves in the future. Additionally, an informed layman was asked to perform the technical elements of this protocol, i.e. employ the software correctly, record responses, etc., to ensure it is an easily repeatable process. Furthermore, as there was a significant possibility of technical failures during the recording process in this protocol, and in order to prevent the loss of significant data, an additional external digital recording device was employed to record the process. However, both think-alouds were conducted without issue, and the resultant recordings were able to be transcribed, coded, and analyzed, so the redundant recordings were deleted.

Data Analysis Process

The analysis of the data collected in this study was deductive in nature and derived from the procedures described in chapter 3 the Framework Analysis methodology developed at the National Center for Social Research in London during the 1980s (Ritchie & Spencer, 2002), and subsequently refined and expanded through the most recent iteration found in Ritchie et al. (2014). This analytic approach was chosen because it was the best fit for a case where a theme based approach with a hierarchy of themes and indicators were to be used. Further, it allowed for the summarization and synthesis of data points while retaining links to the original data. Finally, it

proved to be a practical meta-process for this analysis because it provides a process with clear steps to be used throughout.

Analytic process. For this project, the first step was defined by the selection of the Community of Inquiry framework as a thematic framing device. Based upon the existing literature, the framework provides a clear hierarchy of themes that can be applied in the analysis of the data collected. These themes are detailed in Appendix D, and are built upon the Design & Organization elements found in the description of Teaching Presence within the CoI Framework (Anderson et al., 2001b).

With these themes in mind, the researcher began the actual analysis of the data collected by first familiarizing themselves with the material collected. This involved repeatedly listening to the interview recordings, looking through the screen captures from the course D2L pages, reviewing notes, etc. This "deep dive" into the materials provided a foundation upon which subsequent coding could be built that allowed the researcher to make more intuitive connections between the cases and themes that emerged from the data. The researcher also transcribed the interviews and think-alouds during this period to further facilitated the next step of the analytic process.

Coding. This stage involved indexing, or coding, the data; looking for fragments where the themes previously identified through the CoI Framework were discussed. In order to accomplish this, the researcher chose to apply an addition analytic method, that of Directed Content Analysis, to the process. This model, described by (Hsieh & Shannon, 2005), best fit the analytic process for this research because the project is built upon existing theory that the researcher sought to extend. In employing this approach to the coding process, the researcher was able to begin immediately coding the data using the predetermined codes. Data that did not

immediately fit within those categories was then re-examined to determine if it represented a new category, or a subcategory of an existing code.

Upon completion of the indexing, it was possible for the researcher to begin summarizing/charting the results in accordance with the larger Framework Analysis methodology. Using the coded data, the researcher created a summary of each interview, think-aloud, and artifact which could then be charted based on its connection with the larger themes found in the CoI Framework. This process pulled the isolated fragments of data together and allowed the underlying narrative to begin to take shape as the analysis moved into the final interpretive step of the Framework Analysis method.

With the data charted and summarized, the research began to develop matrices in order to compare the data along both typologies and categories. The typologies used were based on the instructors who were the subjects of the interviews and think-alouds. These typologies allowed the researcher to compare the theoretical views of the instructors expressed in the interviews with the practical application demonstrated in the think-alouds and in the artifacts collected. Similarly, the categories that were used were based upon the types of data collected, which allowed the researcher to map links between the theories and application expressed by each instructor with the other instructor's theory and application.

Developing Thickness. Once the data had been described, analyzed, and interpreted via the deductive process described in the preceding sections, the researcher then revisited the data that did not fit the pre-determined themes during the coding process. An initial review of these fragments involved a simple deductive methodology using the Directed Content analysis described by Hsieh and Shannon (2005). The purpose of this review was to see if these fragments fit within either the Social or Cognitive presence described in CoI Framework. Once this had been

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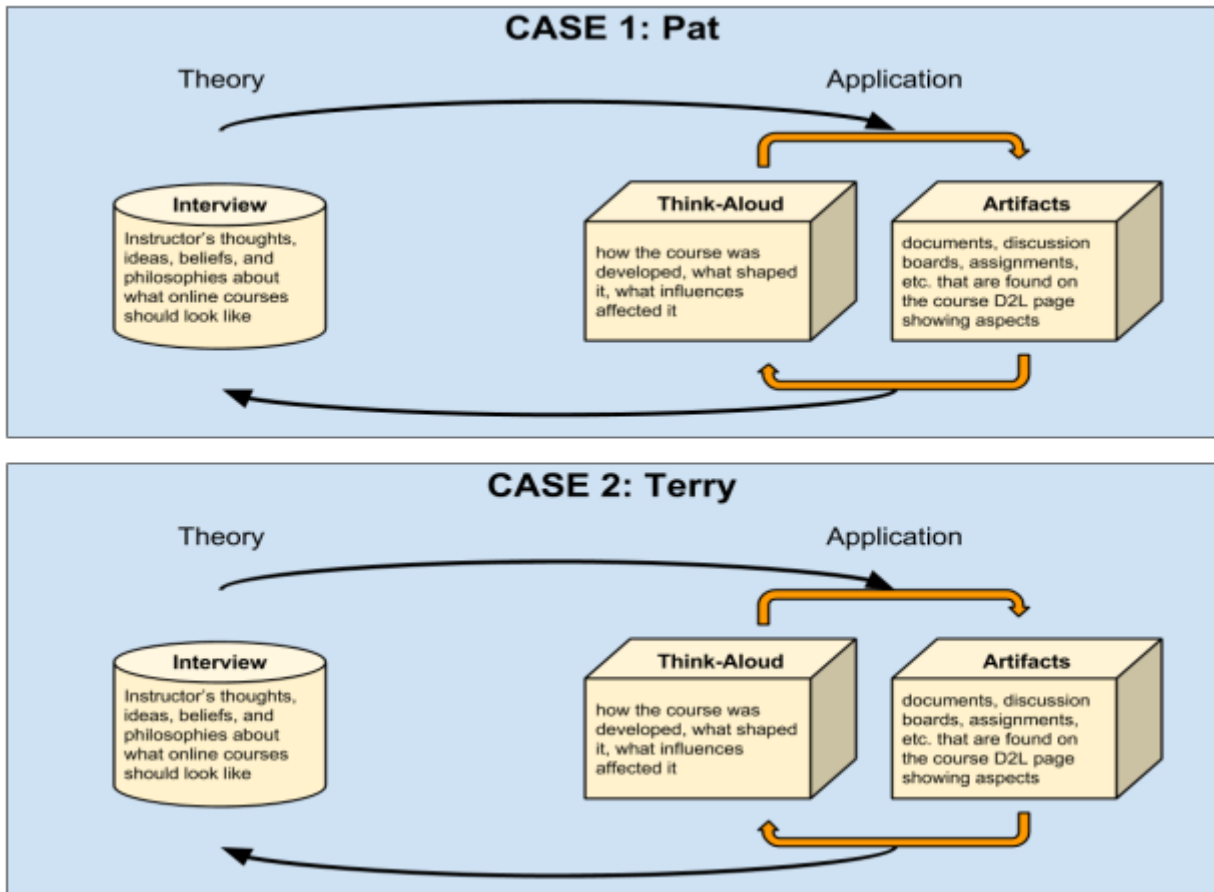
Figure 5. Case-by-Case illustration. Showing how the data from each instructor was compared with other materials from that same instructor.

accomplished, and those fragments predicted by the CoI Framework set aside, the researcher began a simple inductive analysis of the remaining pieces of data based on the more "classical" Grounded Theory described by Glaser (1992). During this stage of the analysis the researcher constantly reviewed the various data fragments in order to see if additional themes might emerge that would add thickness to the overall analysis.

Case-by-Case Comparisons

The CoI framework suggests features of the Design & Organization element should be present in online courses, and yet the plethora of online education models, and inconsistent nature

of online instructor training across the spectrum of higher education, suggest there may be significant variation among most courses. This would further suggest features may not always be present, even in what are considered high quality courses, or that there is a certain level of variation possible within each feature. In seeking to gain some clarity on this matter and answer the research questions, the researcher applied a topological analysis that was made possible by two separate instruments, the interview and the think-aloud, for understanding instructor philosophies for online instruction and how those philosophies were applied.

When the data collected from these two instruments, as well as the artifacts, was compared in a case-by-case manner (see Figure 5), a clear image of both the existence of these features and, to an extent, their evolution within the courses emerged. Furthermore, the presence of features from the Design & Organization element were not necessarily a direct result of the instructors' specific beliefs about what constitutes good online teaching, nor a result of their desire to apply specific features to their respective courses.

Rather, the analysis revealed that while the features the CoI framework suggests should be present are, there was significant variation across these features between the two courses. Finally, the data suggests there are a number of reasons for these variations, such as shifts in technology, variations in learning outcomes, a number of institutional constraints[7], etc.; all of which may have implications within the larger field of online learning - particularly when thinking about how best to prepare teachers to make the transition from F2F to online teaching.

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[7] These are discussed in a later section, but were found throughout the data analysis process in both the typological and categorical comparisons.

CHAPTER 4

Results

Within "Teacher Presence", as described by the Community of Inquiry (CoI) framework, one of the elements is that of Design & Organization. While this is a single element within the model, as the name implies, there are two aspects to it and the difference between those aspects is best explained by Garrison (2017, p. 72),

> Design emphasizes the structural decisions made before the [education] process begins while organization refers to similar decisions that are made to adjust to changes during the educational transaction.

In this regard, we can see the two as being akin to an interstate highway, in which there are two important parts: the paved road and the signs and markers along it.

The paved road is a well-established path with a fixed course that is in place well before the driver leaves their house; when it does need the occasional major repair or update, these are often done in times when few, if any, cars would be on the road. Signs for alerting drivers to speed limits, exit ramps, amenities, and even construction and detours, on the other hand, can be easily moved or changed and updated from hour-to-hour, and can fundamentally alter the way two different cars moves from point A to point B on the same paved road.

During the course of this project, the CoI framework served only as a lens to help identify prominent features in the data landscape, after which the subtler aspects of those features were investigated. The first step in this process was to use the framework to establish a series of specifically correlated with the features and indicators of the Design & Organization element of Teaching Presence. A graphic example of this breakdown is included below (see Figure 6), where

Figure 6. CoI features in the Predetermined Themes. This illustrates the way the Themes built from the CoI Framework are used to show evidence from the data of the features existence.

predetermined themes that correlated with indicators[8] for each feature. These themes were

Learning Objectives are an indicator of the Setting Curriculum feature and an example of what

that indicator would look like in the data is provided.

Although they are aspects of the same element, when exploring the data Design and

Organization were treated as separate concepts and the research looked for evidence not only of

their respective features, but the nature, or quality, of those features. This produced a detailed

exploration of the different aspects of each course, which is presented in this chapter as a

descending hierarchy[9].

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[8] The themes correspond directly with the features of the Design & Organization element. A full table of these, including their respective indicators, can be found in appendix D

[9] This hierarchy goes from a specific aspect of the Design & Organization element to one of that aspect's features, and then to the indicators for that feature. Visually [Design or Organization aspect => feature => indicator]

Research Question 1

How are features of the Design & Organization element conceptualized and enacted in the online courses selected for this study?

Identifying the features of Design and Organization in Pat and Terry's online courses was done through a deductive analysis that began with themes drawn from the CoI Framework, as described in Garrison et al. (2006)[10]. With these themes in mind, the data was analyzed for evidence that indicated the presence of Design & Organization features within the respective courses.

Design Features. Anderson et al. (2001) identified three features of an online course's Design that shaped the learning experiences of students as they navigated through and engaged with course content: Setting Curriculum, Designing Methods, and Establishing Time Parameters. These features are designed into a course's architecture prior to the start of the course, and remain relatively fixed for the duration of it. Because of the more enduring and fixed nature of these Design features, Garrison (2011) found that building a curriculum for an online course was initially much more demanding than doing so for a comparable face-to-face (F2F) course because the architecture and content had to be carefully considered prior to the launch of the course. As a result, the Design features have been found to receive considerable attention by an instructor prior to the beginning of the course making these the most identifiable points of data during the analysis.

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[10] A detailed table with each of these preliminary themes can be found in Appendix D

Design features in Pat's course. Based on the data collected and analyzed, Pat's course included all three Design features. The definition, evidence, and explanation for each indicator is presented in subsequent sections.

Setting Curriculum. The first set of indicators are those pointing to the Setting Curriculum feature. The indicators for this feature include the Course Concept - which provides an overall picture of the course along with the navigational "rules of the road" - the Learning Objectives for the course, and the Alignment of the Course Content (including assignment, projects, etc.) with those objectives. Evidence for these indicators came primarily from the course syllabus, with additional information appearing on the course home page and in the transcripts from Pat's interview and "think-alouds."

<u>*Course Concept*[11]</u>. According to the literature, *Course Concept* encompasses two key ideas. First it presents the *overall organization*, *guiding principles*, and *modes of assessment* for the course so students understand what they will take away from the course and what their responsibilities in the course will be. Second, it identifies and clearly delineates the role *online components* play in the completion of the course so that students have an understanding of how this experience differs from a traditional F2F course.

In terms of the first idea, the *overall organization* of Pat's course is visible in a statement from a "think-aloud":

Here's an example on the syllabus that'll open up in this window. So, I follow a pretty standard format. There's a course description with how this relates to the program as a

_____

[11] In the CoI literature, the term syllabus was used instead of Course Concept, it was changed here to facilitate exploring the nature of this indicator.

course. What the course purports to be about, at least topically, and here is a section about [program] goals and standards that we have been incorporating in all our courses in the last couple of years [...]

Given Pat's think-aloud, the *overall organization* of the course is a "pretty standard format" that links the course vertically to the larger program goals, as well as horizontally to the course goals, standards, and topics.

Another piece of the presenting the course to the student's indicator, the *guiding principles,* are visible in the syllabus Pat's course as well, where it states:

As indicated in the [university] course catalogue description, [the course]'s general focus is on:

Simulation in group curriculum deliberation. Critique of curriculum discourse, process, and product. Teachers' roles in site-based curriculum and staff development.

Based on this evidence, the words that signal the course's guiding principles are "simulation," "critique," and "roles." Pat elaborates upon these principles in a subsequent paragraph in the syllabus, by explaining:

Readings and discussions about **curriculum design** will invite you to examine and critically analyze a variety of factors and influences that impact the thinking and action of teachers, administrators and others about contemporary curricula.

By adding more detail to the three words that articulate the guiding principles for the course's concept, Pat explains that: (a) the "readings and discussions" serve to simulate professional discussions outside of the classroom, (b) the type of "critique" used in the course will be a "critical

analysis" that examines the factors that impact others' thinking, and (c) the various "roles" (e.g., teachers, administrators, and others) guide the creation of contemporary curricula.

The third part of presenting the course, the *modes of assessment* for Pat's course were found in the syllabus (see Figure 7 and Figure 8). Given these two sources of evidence, Pat's mode of assessment takes two forms in the syllabus. The first (see Figure 7) reports the way student learning is to be *communicated* (via discussion or writing). The second (see Figure 8) conveys the way

III. Graded Course Assignments & General Requirements

Final grades will be issued on a 0.0 – 4.0 scale with assignments & course requirements weighted per the following percentages (reminder: the portfolio/synthesis paper "Pass-No Pass" is *not* factored into the grade for ███████, though participation in all weekly discussions will be)

Assignment	Percentage of Course Grade	Due Date
Weekly Discussion Forums	40 %	Sunday prior to start of subsequent week
Paper I: ███████ Synthesis Paper Draft	15%	Sunday, February 12, 2017
Paper II: Essential Elements: Putting It All Together	45%	Sunday, April 30, 2017

Figure 7. Modes of Assessment. The breakdown of the course grade by type of assignment in Pat's course, including the percentage of the grade and due dates for each, showing how students understanding of course materials will be assessed.

student learning is to be *evaluated* (in terms of criteria and points). Furthermore, the first form is *horizontal* in nature, reporting the overall way learning is to be communicated in the course; the second form is *vertical*, conveying a specific case of how learning is to be evaluated (for the online discussions). In sum, Terry's mode of assessment can be characterized as aggregate.

As your ▮▮▮▮ instructor and colleague, I truly value your opinions and unique perspectives and will learn much from your observations and commentary. Please always feel welcome and comfortable to post here and do enjoy the process and interaction as much as you possibly can. The following scale will be used to determine minimal requirements for point levels for weekly discussion participation:

90 – 100 Pts: One original & substantive discussion post (answers & raises questions, discusses readings critically and with depth, presents reason for disagreement or agreement with authors, etc.) plus two (2) critical but supportive comments to peer posts.

80 - 89 Pts. One original discussion post + 1 peer response or minimal depth/reflection in the required number (above) posts.

50 - 79 Pts. One substantive original discussion posts + 0 (or 1 or more weak) responses to peers

25 – 49 Pts. Minimal participation (limited posting with little or no contribution to the discussion)

0 Pts. Failure to meet discussion posts deadlines without prior notice to instructor.

Figure 8. Grading Discussion Posts. The points based breakdown of the discussion posts for Pat's course, with an explanation of the requirements for attain each level.

In terms of the second key idea about Course Concept, *online components* play a role in the completion of the course and helping students understand how this course differs from a F2F course. The clearest example was found in the course syllabus, on page 2, where Pat explains:

[This] is an online course and uses the Desire2Learn (D2L) course management system [URL for the university's D2L homepage] as a mode of content delivery. While technical help is available within D2L, please also report any problems you encounter with D2L software or any aspect of course delivery, including portfolio support, to me.

As the syllabus prose indicates, Pat is aware that the D2L learning management system provides online components that structure the course experience a priori for students by shaping "content delivery" and posing potential technical challenges that an instructor may not be aware of, let alone

Program Goals

GOAL 1: Critical Inquiry

Overall, there is clear, consistent, compelling evidence that. . .
The candidate has engaged in critical inquiry in its many legitimate forms (e.g., review of and scholarly responses to the professional literature/research; the ability to see and analyze complex matters from different perspectives or frames of reference other than one's own point of view or experience; action research or another form of systematic inquiry/independent research; deep, sustained reflection and reexamination of one's beliefs, values, and practices; evidence of documenting and assessing students' needs, understanding of subject matter, and progress).

GOAL 2: Accomplished Teaching

Overall, there is clear, consistent, compelling evidence that. . .
The candidate has pursued personal goals to strengthen targeted areas of his/her professional practice; sought to expand his/her pedagogical knowledge, skills, and repertoire in teaching subject matter to diverse students; documented the effects and implications of one's practice or a school's policies/practices for K-12 students' learning and opportunities to learn; demonstrated a strong commitment toward students' learning and strengths, and ways to capitalize on these in teaching versus focusing on perceived deficits or contextual constraints.

Program Standards

Standard 1: Understanding and commitment to students and their diversity

Is there clear, consistent, compelling evidence of this?
Thoughtful, accomplished teachers understand and are deeply committed to **students** as individuals, their **diversity**, their capacity to learn, and their development as whole persons. Accomplished teachers create **learning communities** in their classrooms where positive, productive relationships are formed, and differences are respected and embraced.

Standard 2: Understanding of subject matter, how to teach It, and how to design curriculum, instruction, and assessment to foster students' understanding.

Is there clear, consistent, compelling evidence of this?
Thoughtful, accomplished teachers deeply understand the subjects they teach as academic disciplines, how to teach **subject matter** in different ways to students, and how to relate content to students' prior knowledge, interests, and lives in meaningful ways. They craft coherent units of study around "big ideas." They provide different pathways for students to access and engage in subject matter, and to demonstrate their understanding. They monitor students' progress and use a variety of assessments as tools for learning and planning.

Figure 9. Program Goals & Standards. Examples of the program goals and standards found on Pat's syllabus.

able to resolve for the students, and therefore must rely on students to communicate such issues if the instructor is to accurately assess students' course progress.

Learning Objectives. According to the CoI framework, learning objectives are the statements of the concepts and skills that students will be expected to know and/or demonstrate to

complete a course. Learning goals or outcomes are also important because they "prefigure unity between learning activities describing the learning content, the actions to be taken or performed, and how these will be assessed (Masoumi & Lindström, 2012, p. 31)". Pat's syllabus provides evidence for two types of learning objectives: (a) the larger, program level, learning objectives (which are called "program standards" and "program goals") in the first few pages of the syllabus (see Figure 9) and (b) the specific, course level, learning objectives as depicted in the screen capture of Figure 10.

The larger, program level, learning objectives (see Figure 9) frame student learning for the entire online degree program. Because they appear in the syllabus as a controlling force, they establish a vertical relationship with the specific, course level, learning objectives (see Figure 10). As a result, Pat's curriculum setting for this particular course is constrained by the overarching program level objectives.

In turn, the more specific, course level, learning objectives (see Figure 10) which are shaped by the larger, program level, learning objectives, operate on a horizontal plane within the course. By designing these course level objectives around specific themes (e.g., curriculum development) that radiate through readings and Socratic discussions and assignments (on the discussions boards) that then extend into project work (the writing of two major papers), Pat's

What factors need be considered when thinking about, implementing and monitoring **curriculum development**? What are the various processes that contribute to sound curriculum development and what role does teacher leadership play throughout these various processes? What part does a continuing and sound understanding of past, current and ongoing research play in not only teachers' daily perspectives on curriculum issues, but in one's ability to understand, work with, and communicate regarding curriculum issues and concerns at the local, state, national, and global/international levels?

Figure 10. Course Goals. An example of the course goals found in Pat's syllabus, where the goals are broken down into a series of questions around a central theme that is placed in bold font.

question-oriented learning objectives are intended to generate a critiquing and deepening effect on student learning.

Alignment of course content. Alignment refers to the conceptual and material "through lines" that connect course assignments, projects, lectures, readings, and discussions with the learning objectives. The logic of these "lines" engage students with course materials that move them toward meeting the learning objectives. An example of how Pat aligns course content when indicators of Setting Curriculum was expressed during the interview when explaining how questions are developed for reading discussions:

> I break [the discussion questions] down according to where they are placed in time, mostly
> in terms of development because, largely these are very focused courses, as most of ours
> tend to be, and I try to take the readings and then develop questions aligned with the
> learning objectives, and that's one of the things that I have found works well.

Pat's words describe an "interactive design" approach, where each discussion question is fashioned from the content of the reading and the aim of the objective. While the approach starts with the reading's content, it is not a strictly linear approach; rather it is interactive and iterative, moving from the reading through the question on to the objective, then stitching back and forth through the question until the resulting prompt is a patchwork of material that "lines up" with both the reading and objective (see Figure 11).

A question that exemplifies Pat's interactive design approach for aligning course content appears in Week 12 (see Figure 12). Here the students are returning to one of the course books, after having moved on in previous weeks to a different reading, to discuss the role of teacher identity, and communicating the resulting personal views, in the deliberation process of curriculum development. Beginning with the course syllabus, where the focus of the module that includes
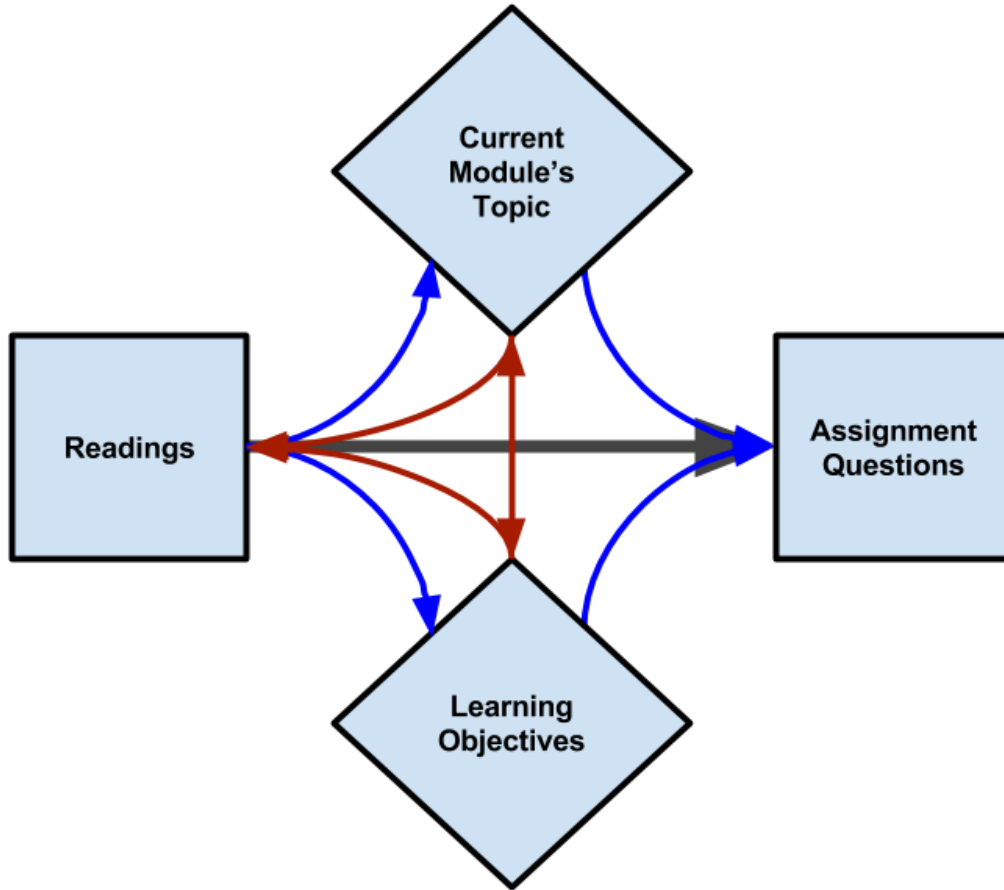
Figure 11. Interactive Design Approach. The Assignment Questions come directly from the readings, are influenced by the Course Module's Topic and the Learning Objectives, and the Module's Topic and Objectives influence the selection of course readings.

Week 12 is "Curriculum Evaluation: Putting it all together." An example of how Pat employs the Interactive Design Approach to arrive at the Week 12 Discussion Question.

The chart at the end of this section (see Figure 13) depicts the interaction between inputs to design the week 12 assignment question that began before the course started when the Learning Objectives were used to shape the Course Content (the topics of each module and the selection of specific chapters for readings). Moving from the course reading in the far-left column to the assignment question in the far-right column, the process between these two ends is shaped by an interaction with the module topic and the course learning objective.

Figure 12. Week 12 Discussions. The discussion prompt for Week 12 from the course module "Curriculum Evaluation: Putting it all together," that asks students to discuss the role identity plays in the deliberation process.

The interactive design approach not only afforded Pat the opportunity to shape questions and prompts in the course content towards a specific learning objective, but it also provided guidance in selecting other course materials so that they are relevant to the course and its learning objectives. Furthermore, employing writing prompts elicited discussions that moved the students towards the course learning objectives, served as evidence that Pat was consciously setting the course curriculum in a way that moved students meet both the specific course learning objectives and the program learning objectives.

Evidence found for each of the Setting Curriculum indicators (*Course Concept, learning objectives,* and *alignment of course content with the learning objectives*) show there is an explicit effort by Pat to establish a well-defined curriculum for the course. Within the *Course Concept* the overall organization linked parts of the course horizontally and vertically; the guiding principles focused on simulation, critique and various roles; modes of assessment were given in terms of how they were to be communicated (papers and discussions) and evaluated (point based system); and the *a priori* delineation of technology's role in the course was articulated. In addition, the *learning*

Reading	Module Topic	Learning Objectives	Assignment Question
Selection from Ch. 6 of Wiles (2008)	Module 3 (from Syllabus)	3rd Objective: Deliberation (from Syllabus)	Week 12 Discussion Board (from course LMS site)
These ten curriculum steering devices [Budgets, Committee assignments, Public relations, Use of technology, Allocation of resources, Curriculum design activates, Staff training opportunities, Formatting curriculum documents, Writing reports of progress, Evaluating and validating progress] represent planning tools that empower the curriculum leader. Unlike administrative leaders who have line authority to operate and maintain the school, the curriculum leader (who is on the staff rather than in the administration) gains his or her power from promoting positive changes in the school program. Without a single order or command, the curriculum leader can be powerful at what is most important: improving student learning. (p.84)	Curriculum Evaluation: Putting it all together	**Program Learning Objective** Students, typically bring in experiences from a wide range of [Education] programs by the time they reach the "capstone" stage of a the program. This course's readings and assignments are largely (though not exclusively) focused upon the program standards of: *Understanding and use of theoretical perspectives and conceptual frameworks to situate and analyze issues of problems of practice and policy (Standard 2) and Proactive participation in collaborative initiatives, professional learning communities, professional learning organizations, and teacher leadership beyond the classroom* (Standard 6) **Course Learning Objective** What does **Deliberation** about curriculum look like? How is this both an inter-personal and intra-personal process? What relationship does teacher identity play in the context of community? Who and what are the various individuals, groups and institutions that are involved in deliberation about curriculum? As educators, what must we attend to in order to be effective communicators about curriculum?	Chapter 6 is a short read, but consider the chapter in terms of your potential or ongoing curriculum work. What are the details to which the author refers? Consider the specialized and possibly esoteric information and details of your own practice. What is not so commonly understood about your teaching? What "details" do you feel are critical for others to know and for you to know about your colleagues' work and how these impact planning? If possible, give an example of how missed details in prior planning has impacted your classroom or school curriculum. (Re: Wiles, Chapter 6)

Figure 13. Charting Pat's Interactive Design Approach. Chart showing the way interaction between the three inputs towards the specific assignment question for the Week 12 Discussion Question.

objectives for the course were clear with a vertical integration to the larger program level learning objectives so that as students meet the course learning objectives, they are also moving towards meeting the program level learning objectives. Finally, the *alignment of course content with the learning objectives* was demonstrated in the interactive design approach Pat took when developing discussion questions for the course shows and effort to accomplish this.

Designing Methods. This feature involves the concepts and ideas that is commonly referred to in the literature as "course design", where the instructor deliberately translates the curriculum into a functioning online course. There are five indicators defined in the CoI framework for this

feature (Comprehensive Design, Navigational Approach, User Experience, Unit/Module/Lesson Design, and Lesson Viability), and a description of each follows.

Comprehensive design. The CoI literature describes comprehensive design as the use of multimedia and other non-text based technologies (e.g., screencasts) for content delivery, course discussions, and assessment (D. Randy Garrison, 2017; D. Randy Garrison & Arbaugh, 2007). No evidence was found for this indicator in Pat's course, which is built entirely upon print-based readings and long-form blogs and papers. The course does not incorporate media of different types. Pat's choice of a single-medium, text-based course is in keeping with a more traditional, correspondence, model of course design that treats the online technologies as a means of delivering offline print-based instructional materials. By utilizing this *selective design* model, Pat has designed a course that leverages the affordances of print-on-page and print-on-screen technology, but does not do so for newer technologies.

Navigational approach. The "branching tree" of navigational menus in an LMS indicates the approach designed by the instructor to "steer" students toward course content for a specific week, assignment, reading or other part of the course site (Garrison, 2017). However, for Pat, the development of a navigational approach is constrained and afforded by the university's choice of D2L as its Learning Management System (LMS). The actual approach can be seen with navigation menus on the top and left, and the course materials on the right (see Figure 14).

This example shows a two-tiered approach to course navigation with the first being the primary course tools, just under the course banner, that help students access both the course content and the various communication tools and other resources they will need to complete the course. The second tier is in the navigation menu for the course materials on the left-hand side, which provide direct connections to each week's required readings and assignments so that students can
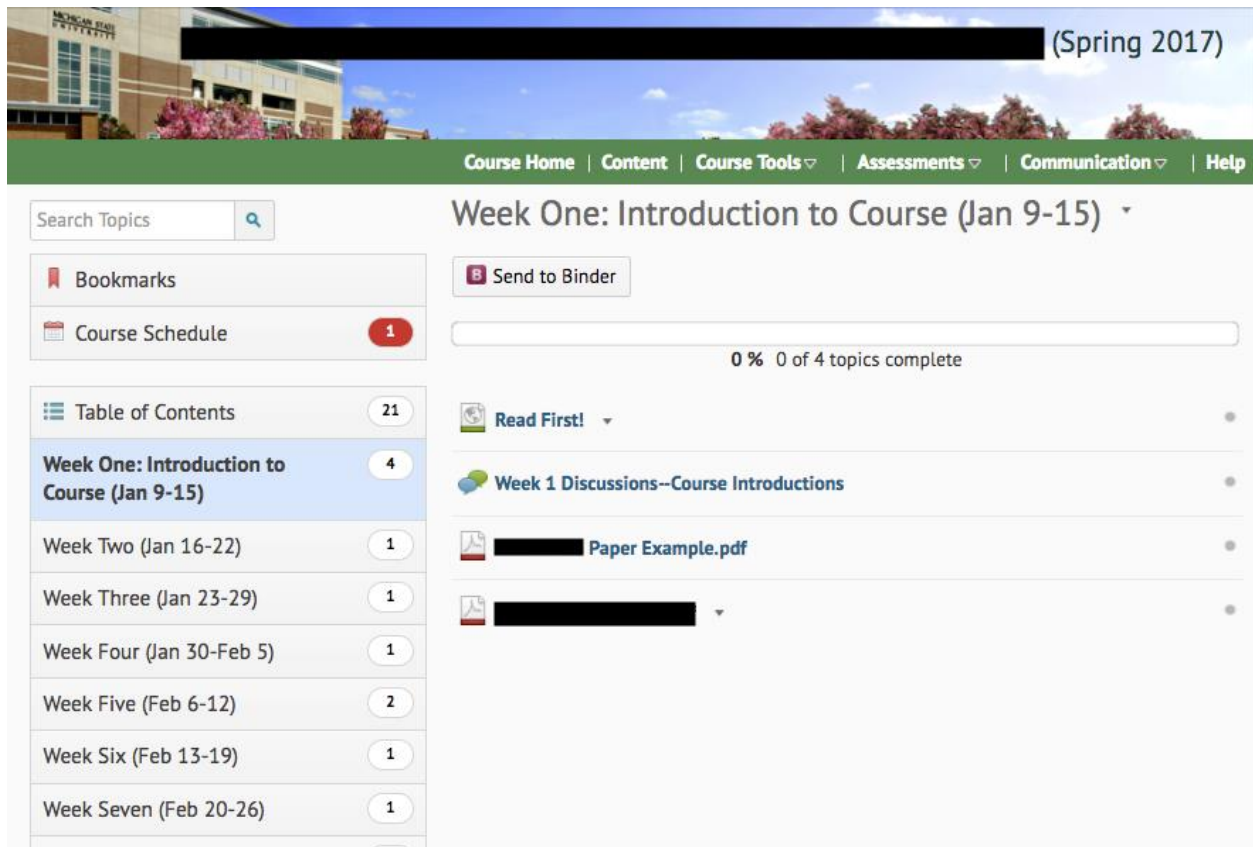
Figure 14. Navigation and Appearance of Pat's course page. This image from Pat's course page shows the navigational layout and the course "theme," which was chosen from a small selection of possibilities.

quickly access the materials they need to complete the course. This approach to navigation has

been called Breadcrumb Navigation[12] in the field of eLearning.

User experience. This indicator is the "look" of a course, the choice of colors, images,

fonts, placement of menus and content, etc. that make the course both visually appealing and help

focus the attention of the student on the content (Lohr, 2007). The screen-capture (see Figure 14)

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[12] "Breadcrumbs help learners to find their way home or, in eLearning terms, show them where they are in the eLearning course. Breadcrumb navigation is used to support your eLearning course's primary navigation system and it is placed on the top of the screen, usually formatted as a horizontal list of secondary navigation items (breadcrumbs)." (Pappas, 2015)

shows that the aesthetic of the course is a functional one; the colors, images, and fonts are complementary, with specific placement of course navigation menus and content.

This course employs the university's default user experience; this is the "package" of designs and tools that the university chose to license as part its contract with the company providing the D2L LMS[13]. This experience was specifically chosen because it is one that projects the university's particular brand and, by constraining instructors' options for developing their own user experience, the university is able to provide a consistent look and experience for students in all courses.

Although the system does afford each program at the university some leeway in determining the "look" of their courses by providing a set of "themes," moving beyond these takes time and a specific set of technical skills; even then, there is no option for starting from a blank page. As a result of this constraint, Pat's course has a relatively simple user experience, one that does not distract from the content through the use of overly bright colors or blinking images, so that students can quickly accessing content without distractions. In addition, because it is a utilitarian design consistent across the university, Pat's course 'looks' like many others at the same institution.

Unit/Module/Lesson design. This design indicator is explained in the literature as the way an instructor organizes the presentation of course materials to the students so that those materials help students build an understanding of concepts in order to meet the learning objectives (Garrison,

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[13] More information about options the company provides can be found on their website: https://www.d2l.com/services/customization/

Week (Dates)	Focus, Topics & Themes Portfolio/Synthesis Paper Info & Dates Assignment Due Dates	Readings & Class Notes
Introduction To Course: Readings, Writing Tasks & the Portfolio/Synthesis Paper		
Weeks 1 & 2 (January 11-15) (January 16-22)	▉ students and instructor introductions & general information ▉ Goals and Standards **EXIT PERFORMANCE REQUIREMENTS FOR THOSE GRADUATING FROM THE ▉** **Portfolio & Synthesis Paper Draft Assignment**	**Week 1 Discussion (January 11-15)** What do you want to learn about curriculum? What ideas can you share with class colleagues? What is "curriculum?" What is "curriculum development?" What does "deliberation about curriculum" look like? **Week 2 Discussion (January 16-22)** Read & Discuss in D2L Forum: • Teachers, Curriculum Innovation, and Policy Formation (Bascia, et al) • How to Improve curriculum Leadership: Integrating Leadership Theory and Management Strategies (DeMatthews) Both articles are available via ▉ Libraries (▉ Full-Text) and through D2L Week 2 Discussion Folder

Figure 15. Modular Design of Pat's course. This syllabus page shows the first module consisting of weeks 1 and 2, in which students are introduced to the course, the requirements, and the subject matter.

2017). In Pat's course the organization was a modular design (see Figure 15) where, for example,

weeks 1 and 2 are used to complete an "introduction to the course" module. Following this are the 3 primary "instruction" modules, which are each broken into a series of weeks (based on the amount of material necessary to cover the module's topic). The 5th module is a "wrap-up" and is primarily about ensuring students meet the deadlines for the course paper.

There are four things about the unit/module/lesson design of Pat's course to note. First, each of Pat's modules is built around a central theme, which aligns with the course learning objectives, so that students engage with content in that module that is intended to achieve one of the course objectives. Second, the overall organization of the course is partially a *temporal* one, in which the modules are divided into weeks that all follow a similar two-part pattern of activities (e.g., *Readings*, then *Discussion*). Each activity supports student learning of that particular module's theme. Third, the overall organization of the course is also a *conceptual* one, in which modules relate to the course's three key concepts (i.e., Design, Development, and Deliberation). By simultaneously organizing the course *conceptually* and *temporally*, the design models a way to progressively think about the larger course principles. And fourth, the development of these modules is part of the Interactive Design approach Pat has taken in setting the course curriculum. As described earlier, the learning objectives, course concepts, and the content mutually interact with each other. Through this interaction, the selection of materials and development of questions for each weekly assignment in the modules is shaped by the learning objectives and the progression of the course modules builds upon preceding materials and supports student work towards each specific learning objective.

Additionally, this modular structure and its progression allows Pat to release the entire course, with all assignments and materials available, on the first day of class. Finally, although

Pat's syllabus distinctly shows the modules for the course, they do not appear as part of the course navigation on the LMS course page, where only each week is visible.

Lesson Viability. The final indicator of Designing Methods, lesson viability, has to do with whether lessons (a) support the development of skills and knowledge that extend beyond the timeframe of the course, or (b) scaffold materials so their content extends a topic or idea beyond the week it is taught; it is also possible for each lesson to have aspects that perform both actions. Evidence of this viability appeared in the interview, when Pat was asked about developing skills that students could use over a longer period of time:

> [I do this] by emphasizing a certain area of the content more than once, and I think it is a big help there, because it underscores the idea– I will either do that by having a series of related discussions over a period of a couple of weeks, or else I will revisit something after time– for example, something that was introduced earlier in the class, in later part of the semester, for example in [this course], I might say that, "Well, now that you've read this [new article], what do you think about this [previous idea] now?" And then have them consider how they've grown or how they've changed, if at all.

By revisiting ideas after introducing new, related materials, and then challenging students to think about those ideas in light of the new arguments, Pat used a *recursive* approach to push students to develop analytic skills that could be useful beyond the course. This approach is intended to help students move towards a more complex and nuanced understanding of their end-of-term project by challenging them to revisit their own interpretation of the course's subject matter multiple times throughout the semester. By engaging students in this manner, Pat is enhancing the viability of each lesson by helping students to develop a set of analytic tools and processes they can use to

further their understanding of diverse subjects when new information challenges these views in the future.

The indicators of the Designing Methods feature in Pat's course shows both deliberate work towards designing a course that fosters student engagement and long-term growth, as well as constraints that limit the extent of that work. In terms of comprehensive design, Pat chose to employ a selective design approach and develop a course that is a single-medium, text-based one. On the other hand, both the development of the Navigational Approach and User Experience were constrained by the institution's choice of LMS and associated options so Pat's course employed the institutional defaults. The evidence also shows Pat using a conceptual/temporal design for the organization of the course into modules, which are broken down by week, that helps reinforce the relationship between the course materials and key concepts. Finally, Pat's use of an iterative approach to lesson topics and materials helps students develop deeper, more nuanced, understandings of the subject and learn skills to help them do this with other subjects beyond the class.

Establishing Time Parameters. The final feature analyzed for Pat relates to course deadlines, pace, and workload. These indicators serve to define the temporal structure of the course (how much must be done in a given week, module, or over the entire course), and help determine if the instructor is structuring the course reasonably well to support student success, or is requiring too much or too little of them in a given timeframe[14]. Furthermore, as Shea et al (2003) explain, "keeping students moving along at a similar pace is foundational to supporting meaningful

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[14] The CoI literature talks about the "appropriateness" of the pace and workload, however for this paper that aspect of these definition was thought to convey too much judgement given the goals of the project.

interaction in asynchronous learning environments," making this feature and important one for any interactivity.

Deadlines. This indicator marks the time when an instructor determines specific learning activities will end and then reminding students about these times. For example, communicating to students when discussion topics will be closed and when assessment tasks, such as papers, are due is an example of deadline time parameters being established (Evans, Ward, & Reeves, 2017). Other examples include informing students about the options for negotiating deadlines during the course and the consequences of missing those deadlines. Examples from Pat's course were found

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Assignment	Percentage of Course Grade	Due Date
Weekly Discussion Forums	40 %	Sunday prior to start of subsequent week
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Paper II: Essential Elements: Putting It All Together	45%	Sunday, April 30, 2017

Figure 16. Discussion Board and Major Paper Deadlines. This section of Pat's syllabus shows the deadlines for participating in each week's discussion, as well as for the major papers, which are indicators of the Establishing Time Parameters feature.

on both the course syllabus and the D2L course page (see Figure 16). Deadlines were also expounded upon during in the interview and "think-aloud" so that an accurate timeline of the course could be constructed (see Figure 17) to show both deadlines and give some indication of the *workload and pace*.

As this example illustrates, Pat stated specific *deadlines* for each assignment and paper in the far-right column (see Figure 16). Pat also communicated the deadlines on the course page on
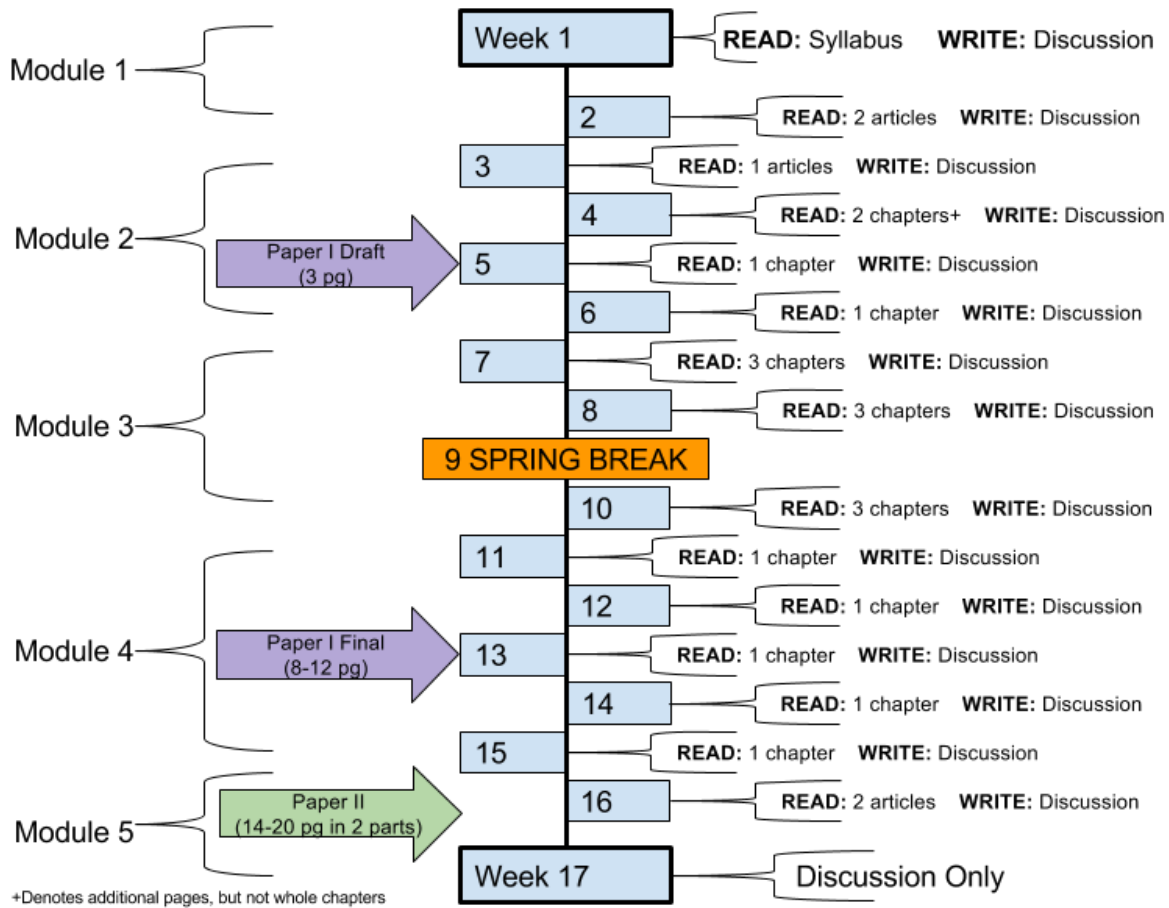
Figure 17. Timeline of Modules and Deadlines. This timeline is built from data found in Pat's syllabus and course page, and shows the deadlines for the major papers, which are indicators of the Establishing Time Parameters feature.

the LMS. Additionally, further examples in the syllabus show that Pat provides students with information on what to do if they must miss a deadline "Please contact me," and what the penalties are for doing so: "Assignments submitted *after* due dates, without prior consent of the instructor, are automatically deducted 5 points."

Workload and Pace. These indicators are intertwined[15] and refer to: (a) the number of materials, (readings, lectures, etc.) and assignments (discussions, papers, etc.) students are expected to engage with during the class, and (b) the frequency of engagement with materials and assignments. The chart below (see Figure 17) provides a graphic visualization of the course timeline and details about the amount of work required each week.

The *workload* and *pace* in Pat's course can be seen as existing in two streams: (a) academic papers, and (b) weekly readings and discussions. The paper stream has an asymmetrical *workload*, one that is "backloaded," where the majority of the work is due near the end of the course, and a variable *pace* that is driven by student decisions[16]. In contrast to this, the stream of weekly readings and discussions has a symmetrical workload, with each week being similar to the others, and conducted at a consistent pace throughout the semester.

In the CoI literature, the aspect of "appropriateness" is attached to *workload* and *pace*, embedding an evaluative dimension to whether a course is requiring too much or too little of students. For this study, determining the appropriateness of workload and pace was not possible because it required collecting data from students, which was beyond the scope of this project. There was evidence from Pat's interview, however, that adjustments were made to the course schedule based on the previous year's experience, so that students were better able to complete the course on time. Based on this adjustment, we could infer that the workload and pace for the course

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[15] An appropriate analogy would be a wave, which requires one to look at both its amplitude and frequency in order to correctly measure it.

[16] Some may choose to work at a consistent *pace*, writing a few pages each week, while others may choose a *pace* that is similar to the *workload*, and only work on the papers as their respective deadlines near.

examined for this study was at, or approaching, an appropriate level because Pat used student feedback from the prior course offering to reduce the number of materials and assignments.

Of the three indicators for Establishing Time Parameters feature in Pat's course, only one, *deadlines*, was evident. Not only did the evidence clearly established deadlines, it also demonstrated Pat's communication of them, consequences for missing each, and the conditions for negotiating situationally based alternatives. The evidence for *workload* and *pace* fell into a dual stream pattern; with the paper stream being "backloaded" and variable, while the readings & discussions stream was symmetrical and consistent. Measuring the "appropriateness" of the *workload* and *pace*, however, required access to data not available for this study and, although evidence shows Pat is attempting to ensure they are, it is not possible to determine if either the *workload* or *pace* of the course is appropriate for these graduate level students.

Design features in Terry's course. Similar to the situation with Pat's course, there were numerous examples of the presence of Design features found in the data from Terry's courses. Additionally, as in Pat's course, some of the features were constrained by institutional choices, but there are others where the constraints on Terry's course are set by other outside factors. Finally, there are examples showing that while a feature may be present in Terry's course, it is wholly without Terry's explicit direction or development.

Setting Curriculum. The first set of indicators that were explored in Terry's course, as in Pat's, were those pointing to the Setting Curriculum feature. The indicators for this feature include the *Course Concept* - which provides an overall picture of the course along with the navigational "rules of the road" - the *learning objectives* for the course, and the *alignment of the course content* (including assignment, projects, etc.) with those objectives. Terry's course contained numerous

examples of the indicators for this feature in the syllabus as well as in the interview and "think-aloud".

    Course Concept. According to the literature, *Course Concept* encompasses two key ideas. First it presents the *overall organization*, *guiding principles*, and *modes of assessment* for the course so students understand what they will take away from the course and what their responsibilities in the course will be. Second, it identifies and clearly delineates the role *online components* play in the completion of the course so that students have an understanding of how this experience differs from a traditional F2F course.

    In terms of the *overall organization* of Terry's course, it was explained best during the interview about the course syllabus:

> What I tend to put on my syllabus are the major projects, and I think of my projects as getting at some component of the learning outcome goals for the student. Each project has a relationship to ultimately what I want the students to know and be able to do. Those go on the syllabus as well as sort of an outlined version of the schedule. In other words, when major assignments are due; what they will be, what the texts for the course are.

Here Terry described a project-oriented structure, where student activity was organized to complete projects that required them to use course material functionally. By organizing the course in the service of practical and authentic purposes, the overall organization of Terry's course did not harken back to traditional organizational types, but eschewed tradition in order to develop a course in which form followed function. The effect of this functional organization is that Terry compressed the course syllabus into a brief outline and a list of the projects, which was mirrored on the LMS course page as well.

The *guiding principles* for this course were also best described in the interview, when Terry talked about the origins for the course structure:

> So [the course] had some learning objectives that were used in previous versions and that were related to state requirements, because they're courses for students who want to [get a specialist certificate from the state]. So, they're actually a set of goals for the class that were created outside of me. [Then] I just thought about what project or experience would the student need to engage in, in order to show that they've met this outcome, right? So, what would be my end product, or end experiences, that would be some sort of evidence of meeting these outcomes, and then what would they need to learn to be able to do those experiences

Based on Terry's explanation, the principles guiding curriculum in the course echo aspects of the state teacher certification standards. She used two principles from these state standards. The first, *demonstrated learning*, was evidenced in the course projects. For example, module 1 was built around assessing a child with a specific problem with reading development; the course literature and discussions provided a basic knowledge of the reading assessment, but the student grade for that module was derived from the student's actual assessment of the child. The second principle, *continuous synthesis*, was manifested in the way course lessons and materials were meshed into the ongoing project work. For instance, once module 1 was completed, and the students had assessed a child with reading difficulties, they began module 2, which required them to build on their understanding of the assessment results, then study materials about specific intervention strategies to design an intervention based on the child's diagnosed reading difficulty.

The third part of this aspect of the *Course Concept*, the *modes of assessment* for Terry's course were found on page 8 (see Figure 18) and page 9 (see Figure 19) of the syllabus.

ASSIGNMENTS AND PROJECTS

This course includes four major written assignments. For each written assignment, there will be a detailed assignment sheet including grading rubrics and more specific instructions. Unless otherwise directed, assignments should be in APA format with 12 point font. They should be Google documents and should be shared with me by the date listed on the assignment sheet.

▉▉▉▉▉Assessment Profile (30%)
For this assignment, you will complete a series of reading and writing assessments with a struggling ▉▉▉▉ learner. You will determine his/her relative strengths and weaknesses and use this data to suggest goals for instruction.

Instructional Resources (20%)
For this assignment, you will be asked to use professional journals and websites as well as course texts to create an annotated bibliography of instructional resources for struggling ▉▉▉▉ learners. You will find 5 instructional resources for each of your student's goals and describe how you plan to use these with your student. After all assignments have been turned in, these resources will be shared to create a class document for your professional use in the future.

▉▉▉▉ Disabilities Discussion Groups and Parent Guide (20%)
For this assignment, you will learn about ▉▉▉▉ disabilities. You will meet with a small group of students to discuss the readings in this folder. The products that you will submit include three Google Docs (this is a group assignment) summarizing your weekly meetings as well as an individual guide for parents that informs them about ▉▉▉▉ development, ▉▉▉▉ disabilities, and suggesting resources to use at home with struggling ▉▉▉▉.

▉▉▉▉ Intervention Report (30%)
For this assignment, you will complete a final report on the instruction that you have provided to your student over the course of this semester. Included in this assignment will be a summary of instruction provided, recommendations for future instruction, as well as an appendix with all documents from your **10** lesson plans and post-session observations.

Course Participation
Course members' professionalism and participation are extremely important, and although there is not a separate participation grade, this will be taken into consideration as I evaluate your work on each project.

Figure 18. Modes of Assessment in Terry's Course. This page from the syllabus shows the various projects that constitute the sum of the means by which students will be assessed in the course.

GRADING SCALE AND FINAL GRADES

All assignments and requirements must be completed satisfactorily to receive a passing grade in the course, including those assignments related to the practicum component of the course.

The bases on which assignments will be graded will be indicated prior to the due date for each assignment. You will be given feedback with both comments and grades. Your final grade will reflect the four course projects according to the percentages listed above.

General grading expectations for the quality of your work are as follows:

Course Grade	GPA Scale	General Description of Quality
95-100 pts.	4.0	Outstanding, exemplary work. Uses and integrates readings, classroom discussions, and teaching experiences (where appropriate) to inform the writing/activity. Meets all the requirements of the assignment, is deeply thoughtful, and provides many details and examples to support the assignment. No errors in grammar, punctuation, spelling.
90-94 pts.	3.5	High quality work. Uses many readings, classroom discussions, and teaching experiences (where appropriate) to inform the writing/activity. Meets all the requirements of the assignment, is thoughtful, and provides some details and examples to support ideas. Very few errors in grammar, punctuation, spelling.
85-89 pts.	3.0	Good quality work, performing at expected level for this course. Uses some readings, classroom discussions, and teaching experiences (where appropriate) to inform the writing/activity. Meets all the requirements of the assignment, shows attempt to engage with purposes of assignment, provides some details and examples to support ideas. Few errors in grammar, punctuation, spelling.
80-84 pts.	2.5	Work below expected level of quality for the TE program. Makes vague references or inappropriate references to relevant readings, class discussions, and teaching experiences to inform writing/assignment. Does not meet all requirements of assignment. Limited attempt to engage with purposes of assignment, few details and examples to support ideas. Many errors in grammar, punctuation, spelling.
75-79 pts.	2.0	Significantly below expected level of quality. Shows little evidence of having read course readings, of uses of classroom discussions, or of field experiences. Meets few of the requirements of the assignment. Shallow attempt to engage with purposes of assignment, no details or examples to support ideas. Many errors in grammar, punctuation, spelling.

Figure 19. Grading Scale for Terry's Course. This page of the syllabus shows the general breakdown of the grading scale for assignments in Terry's course. It also shows that there are assignment specific criteria as well, which are not included here.

Like Pat's course, the first figure shows how student learning is *communicated* in Terry's course is through a written medium, and the second figure shows how student learning will be *evaluated* in Terry's course. Unlike Pat's course, however, Terry's course is based on the completion of a single project, with each graded assignment a step towards that end. This results in students being evaluated in a cumulative way as their grade depends on their demonstrated understanding of all the material to that point, rather than demonstrating their understanding of discrete sections of course material. In sum, Terry's mode of assessment can be characterized as cumulative.

In terms of the second key idea about *Course Concept*, defining the role *online components* play in the completion of the course and helping students understand how this course differs from a F2F course. Terry's syllabus provides several examples that indicate the role *online components* play in the completion of the course (see Figure 20). Terry's choice of a multimedia, multimodal course is in keeping with a more *inclusive design* role for online technologies, as evidenced in the

TECHNOLOGY REQUIREMENTS

Online courses also require the use of various technologies. To participate in this course I ask that you have the following:

- Access to a reliable broadband connection
- Capacity to download and play streaming and memory-intensive video
- A web browser of the type and version D2L recommends
- Word processing and presentation software (e.g., Microsoft Word and Microsoft Powerpoint)
- Access to a scanner so that you can upload assessment data in PDF (this can be your cell phone).
- A digital audio recorder (this can be your cell phone)
- Access to Google Docs (all ▆▆▆ students have an ▆▆▆ Google Doc account).

Figure 20. Technology Requirements. This section of the syllabus document describes the specific technological tools that the course will require students to use.

syllabus (Figure 20). This role tailors the number and type of online components to fit the course's project work. By utilizing this approach, Terry has designed a course that leverages the affordances of a specific set of technologies aligned with the task demands of course activities and learning objectives.

Learning Objectives. According to the CoI framework, learning objectives are the statements of the concepts and skills that students will be expected to know and/or demonstrate to complete a course. Learning goals or outcomes are also important because they "prefigure unity between learning activities describing the learning content, the actions to be taken or performed, and how these will be assessed (Masoumi and Lindström, 2012, p.31)". The course learning objectives for Terry's course are listed as "goals" on the first page of the syllabus (see Figure 21). Note two things about Terry's learning objectives. First, they are vertically integrated with the requirements of the state's certification standards. As noted earlier, these state standards serve as guiding principles for the course's learning objectives. And second, Terry's learning objectives are horizontally integrated with a prior course (the one under study here is the second in the two-course sequence). The relationship between the two courses progresses from theoretical ("understand" and "know") in the first course, to practical ("design," "become," "evaluate," "align," and "communicate) in the second course.

Alignment of course content. Alignment refers to the conceptual "through lines" that connect course assignments, projects, lectures, readings, and discussions with the learning objectives. The logic of these "lines" engage students with the course materials through activities that progress them toward meeting the learning objectives. Evidence of a deliberate effort to align

COURSE GOALS:

This course is intended to prepare classroom teachers to identify and effectively respond to the instructional needs of struggling literacy learners. Teachers will become knowledgeable about the multiple processes that contribute to proficient reading and writing and how to identify and respond to difficulties related to specific processes and/or to the orchestration of those processes. Course participants will:

1. Understand the research on literacy learning difficulties
2. Know the causes and correlates of literacy learning difficulties and how to respond to those difficulties
3. Know how to use diagnostic assessment practices to identify areas of instructional need
4. Design and implement differentiated instruction based on findings from diagnostic assessments and observations during instruction
5. Become reflective about the qualities of one's own instruction
6. Evaluate the effects of intervention efforts on learners' progress.
7. Align diagnostic and instructional practices across instructional settings.
8. Communicate effectively with parents and other stakeholders regarding literacy development and difficulties.

Because these goals form a progression (i.e. you can't design differentiated instruction until you can use diagnostic assessment to determine instructional need), ▮▮▮4 will focus MOST heavily on goals 4-8 with a lighter focus on goals 1-3. The expectation is that you focused more heavily on goals 1-3 in ▮▮▮3. ▮ ▮3 and ▮▮▮4 are sequenced classes. Therefore if you have not taken ▮▮▮3, please contact me as soon as possible.

Figure 21. Learning objectives, or "goals", for Terry's course. This list of learning objectives for the course is provided in the syllabus.

the course content with the objectives can be found in the interview, when Terry described the course syllabus:

What goes on my syllabus is actually not every single learning experience or activity. What I tend to put on my syllabus are the major projects, and I think of my projects as getting at some component of the learning outcome goals for the student. Each project has a relationship to what I ultimately want the students to know and be able to do. Those go on

the syllabus as well as sort of an outlined version of the schedule. In other words, when

major assignments are due; what they will be, what the texts for the course are, but I

actually don't put a detailed-- especially with online courses-- I don't put a detailed week-

by-week schedule with every single experience and activity that students will need to do

on the syllabus.

Terry describes a linear approach to course development uses a "backwards" design method (see

Figure 22). In this approach, the course projects are developed to achieve the learning objectives,

then the design of activities and selection of course content is done so to support those projects.

The end result is a clear "through line" from the course content to the learning objective for the

students.

Evidence found in Terry's course for the indicators of the Setting Curriculum feature

(*Course Concept, learning objectives,* and *alignment of course content with the learning*

objectives) show a deliberate effort by Terry to develop a more practically focused course. The
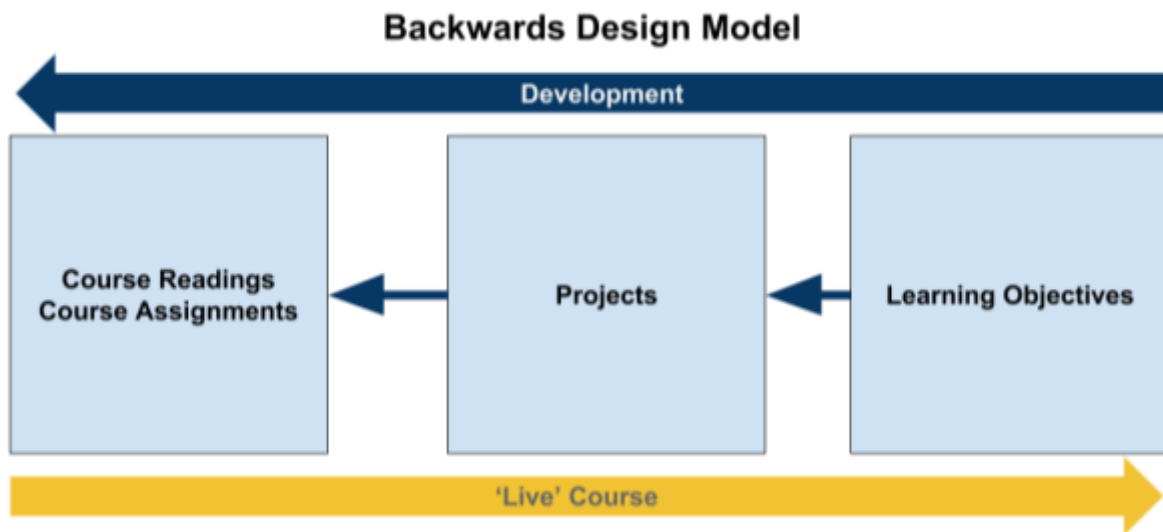
Figure 22. Backwards design approach. This shows the progression during course development in this approach, moving from Learning Objectives, to Projects, to course content. Once the course is 'live', students then move in the opposite direction.

Course Concept is a project oriented approach to the subject; supporting this concept, the *guiding principles* are "authentic experiences" and "project work"; furthermore, the *modes of assessment* were defined, both in terms of how they were to be communicated (written projects) and evaluated (point based system); and there is a clear explanation of the role online components will play in the learning process. Furthermore, the *learning objectives* for the course, though not as vertically integrated with the college program's learning objectives were shaped by the need to prepare students to standards set by a state certification board, and demonstrate a linear horizontal integration that moves students from theory to practical application. Similarly, the *alignment of course content with the learning objectives* was a clear line as Terry described using a backwards design approach, where course projects were designed to help students achieve a *learning objective*, then content was chosen to support project completion.

Designing Methods. This feature involves the concepts and ideas that is commonly referred to in the literature as "course design", where the instructor deliberately translates the curriculum into a functioning online course. There are five indicators defined in the CoI framework for this feature (Comprehensive Design, Navigational Approach, User Experience, Unit/Module/Lesson Design, and Lesson Viability), and a description of each follows.

Comprehensive Design. The CoI literature describes comprehensive design as the use of multimedia and other non-text based technologies (e.g., screencasts) for content delivery, course discussions, and assessment (Garrison and Arbaugh, 2007). There are numerous examples of Comprehensive Design found throughout Terry's course. These include a mixture of synchronous and asynchronous engagements between students and the instructor described on page 6 of the syllabus (see Figure 23), as well as the presentation of key materials in multiple ways described

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Other Communication Methods

Since this is an online class, this class requires a variety of online communications. These communications will include, but are not limited to: (1) participation in live online classes through Zoom, (2) live chats on D2L, (3) online asynchronous discussions on D2L, (4) Skype, and (5) Google docs. Please make sure that you have access to these technologies and contact the ████ help line with any difficulties. I recommend that you test out using these technologies well in advance to needing them so that you do not run into last minute difficulties.

Figure 23. Communication Technologies described in Terry's syllabus. This section of the syllabus shows the multiple different communication technologies that will be employed by students in Terry's course.

on page 2 of the syllabus (see Figure 24). In addition to delivering instruction through a multi-modal approach, Terry also employs the technology to add a synchronous element to the instruction via Zoom[17] meetings at various points during the course. A final piece of evidence of Comprehensive Design is Terry's use the university's technical services to have the audio of the meeting transcribed for any students who may have disabilities and need these.

Opportunities to learn in this course will derive from the following major activities: (a) assigned reading in course texts and additional assigned readings in online resources, (b) other media including PowerPoint presentations, videos, Zoom online classes, and synchronous or asynchronous discussions, (c) a practicum experience where you assess and tutor a struggling literacy learner, and (d) written assignments. Learning from the course relies on active, high-quality engagement with all four activities.

Figure 24. Modes of instruction described in Terry's syllabus. In this part of the syllabus, Terry is informing students about the ways technology will be used to deliver instruction to them throughout the course.

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[17] Zoom is a videoconferencing program that works via the computer. More information can be found at www.zoom.us

From the evidence, Terry employs a comprehensive design model that leverages many of the newest technologies to provide a variety of learning experiences for students. In addition, Terry's use of online communication tools like Zoom gives students a synchronous experience that functions as both an alternate means of content delivery and an opportunity for Terry to gain important feedback at various points in the course. Furthermore, as Terry makes a recording of the session available via the course LMS page, students have additional opportunities to review the discussions' key points or, if students are unable to attend the session, to still gain the information.

Navigational Approach. The "branching tree" of navigational menus in an LMS indicates the approach designed by the instructor to "steer" students toward course content for a specific week, assignment, reading or other part of the course site (Garrison, 2017). Terry's approach to navigation can be seen in the example (see Figure 25) where there is a navigation menu for course content on the left of the screen, and links to other important course areas in the menu at the top, just under the course banner.

This example shows a two-tiered, Breadcrumb Navigation approach, with the first tier being the primary course tools, just under the course banner, and the second tier being the navigation menu for the course materials on the left-hand side. With the exception that Terry's content navigation menu follows the modular design of the class, navigation of the course is constrained by the options available in D2L. As a result, the course employs the LMS default style.

User Experience. This indicator is the "look" of a course, the choice of colors, images, fonts, placement of menus and content, etc. that make the course both visually appealing and help focus the attention of the student on the content (Lohr, 2007). This indicator was constrained by institutional choices, as can be seen in the example (see Figure 25) where the aesthetic of the course
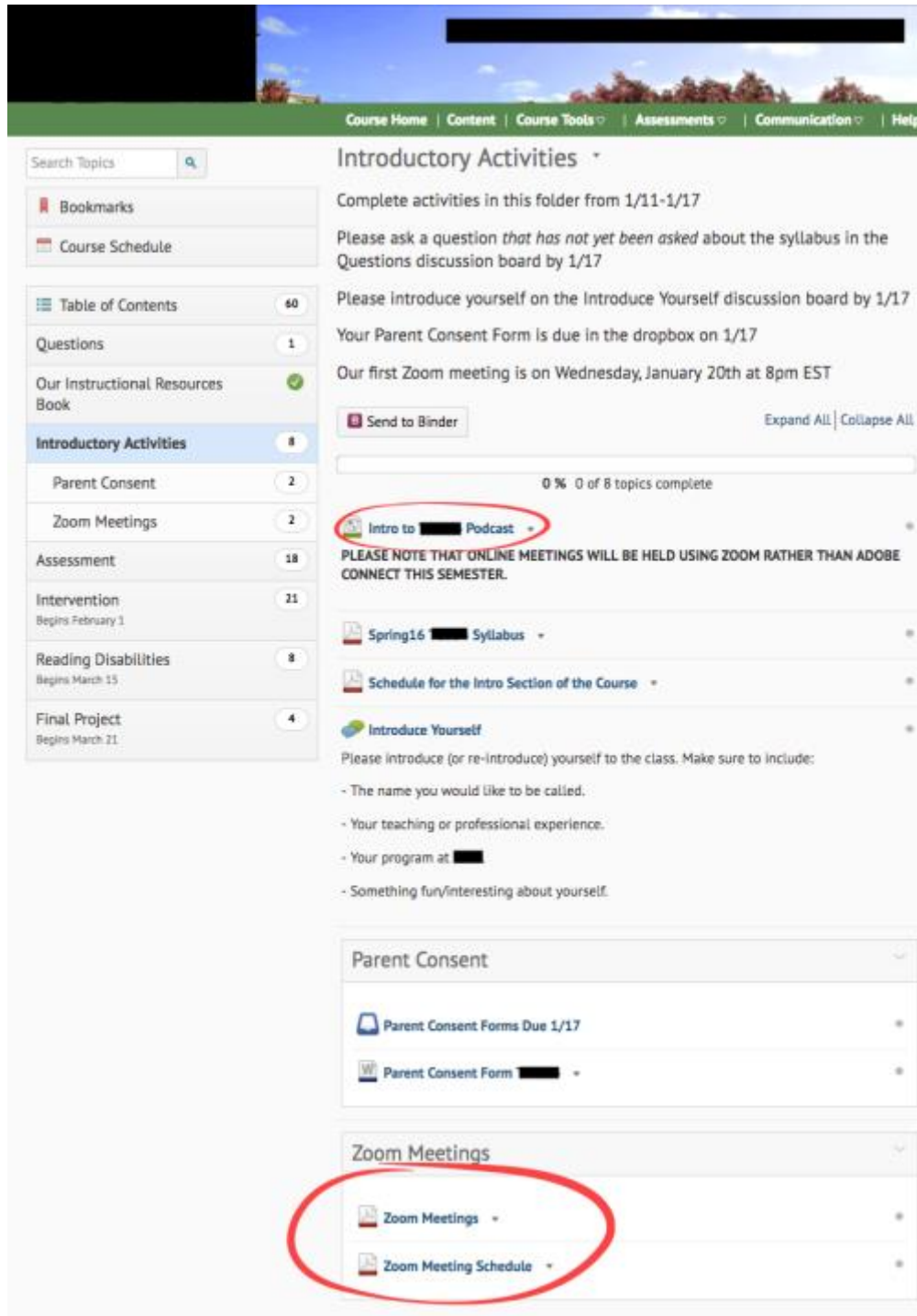
Figure 25. It shows a modular layout on the left with links to course content in the main area; note how close it is in both navigation and user experience to Pat's course.

is wholly determined by the LMS and the course outline. Furthermore, in the "think-aloud," Terry

explained why these two indicators follow this pattern, without any attempt to vary them in the course design:

> I mean, really, [D2L] is just a storehouse for information. It just doesn't matter to me where that information is. [The students] are just not doing anything on it. I don't even grade on it, I send them back a rubric with my comments; they don't drop things in the dropbox. I just don't use [D2L] that way. It's just a repository, so [the storehouse] could be anything in my mind.

The attitude expressed in this example shows that Terry places a premium on student engagement and content, but does not seem to have an interest in developing the course aesthetic beyond the LMS default. Because Terry is employing the system default, the course has a utilitarian design that is similar to others at the same institution.

   Unit/Module/Lesson Design. This design indicator is explained in the literature as the way an instructor organizes the presentation of course materials to the students so that those materials help students build an understanding of concepts in order to meet the learning objectives (Garrison, 2017). An example that shows the design of Terry's course is found on page 14 of the syllabus (see Figure 26), where the various modules of the course are presented by weeks, readings, and assignments.

   Terry uses a cascading design where modules build on each other into the larger semester project. This "milestone" approach to presenting course materials and activities partitions the class into modules that cannot be completed without first successfully completing the preceding modules. This approach is reinforced by the sequential release of modules across the semester. Each "milestone," then, supports the project oriented course structure because it permits Terry to

Introduction to the Course
Week 1: Mon 1/11 - Sun 1/17
Select Activities: Watch PowerPoint, find student for practicum, read syllabus, introduce yourself.

Part I: Assessment for ███████████████ **Learners**
Week 2: Mon 1/18 - Sun 1/24
Week 3: Mon 1/25 - Sun 1/31
Week 4: Mon 2/1 - Sun 2/7
Readings: McKenna & Stahl; Leslie & Caldwell and online resources
Select Activities: Watch PowerPoint presentations, assess student, read sample assessment profile, attend one Zoom Meeting.
Assignments: Literacy Assessment Profile Due Sunday 2/7

Part II: Interventions for ███████████████ **Learners**
Week 5: Mon 2/8 - Sun 2/14
Week 6: Mon 2/15 - Sun 2/21
Week 7: Mon 2/22 - Sun 2/28
Week 8: Mon 2/29 - Sun 3/6
Week 9: Spring Break 3/7 – 3/13
Week 10: Mon 3/14 - Sun 3/20
Readings: Kamhi & Catts and online resources.
Select Activities: Watch PowerPoint presentations, tutor struggling reader, write session plans and post-session notes, participate in two discussion forums, attend one Zoom meeting, apply intervention strategies based on instructional resources assignment.
Assignments: Instructional Resources assignment Due Sunday 3/20

Part III: ███████████████ **Discussion Groups and Parent Guide**
Week 11: Mon 3/21 - Sun 3/27
Week 12: Mon 3/28 - Sun 4/3

Figure 26. Course overview from Terry's syllabus. This shows the breakdown of Terry's course into different modules, built around specific parts of the larger semester long project.

monitor students' understanding of the materials at landmark points for each module as well as

watershed moments in the larger course project.

Lesson Viability. The final indicator of Designing Methods, lesson viability, has to do with

whether lessons (a) support the development of skills and knowledge that extend beyond the

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timeframe of the course, or (b) scaffold materials so their content extends a topic or idea beyond the week it is taught; it is also possible for each lesson to have aspects that perform both actions. Because the development of Terry's course is based on the need for students to demonstrate proficiencies that meet state standards for certification, it is designed to develop skills and knowledge that can be used beyond the course timeframe. Similarly, the milestone design of the course (see Figure 26) is such that students need to understand materials from a proceeding module in order to move forward to a subsequent module. Terry's course, employs a *cumulative* approach to lesson viability, with each module building on knowledge and skills acquired in previous modules. As students complete each module they apply knowledge and skills from the previous modules so that the end result is a comprehensive knowledge of the subject matter, a fulfillment of the state certification goals, and the demonstrated ability to apply knowledge for use beyond the university course.

To summarize, when it comes to the Designing Methods feature, Terry's course is one in which form follows function, so that each indicator works towards the long-term goal of ensuring students can use the necessary knowledge and skills to carry out the project that meets the practice-based state certification standards. In terms of Comprehensive Design, Terry included a variety of technologies to provide students with multimodal resources which followed an *inclusive design* model. On the other hand, both the development of the Navigational Approach and User Experience were shaped by the institution's choice of LMS and associated options so that Terry's course follows the institutional defaults, which provided a two-tiered, "*breadcrumb*," navigational menu and a *utilitarian* aesthetic to the course page. The evidence also shows Terry using a "milestone" approach to design modules that present materials necessary to complete a single part of a larger project. Finally, Terry employs a *cumulative approach* to the development of Lesson

Viability, in which the material from each module is added to that of the proceeding module in order to help students acquire a comprehensive working knowledge of the subject matter that they will then employ in their profession.

Establishing Time Parameters. The final feature analyzed for Terry relates to course Deadlines*,* Pace, and Workload. These indicators serve to define the temporal structure of the course (how much must be done in a given week, module, or over the entire course), and help determine if the instructor is structuring the course reasonably well to student success, or is requiring too much or too little of them in a given timeframe[18]. Furthermore, as Shea et al (2003) explain, "keeping students moving along at a similar pace is foundational to supporting meaningful interaction in asynchronous learning environments," making this feature and important one for any interactivity.

Deadlines. This indicator marks the time when an instructor determines specific learning activities will end and then reminding students about these times. For example, communicating to students when discussion topics will be closed and when assessment tasks, such as papers, are due is an example of deadline time parameters being established (Evans, Ward, and Reeves, 2017). Other examples include informing students about the options for negotiating deadlines during the course and the consequences of missing those deadlines. Terry's course has several examples of deadlines, such as in the syllabus (see Figure 27) that provided. This example indicates the existence of *detailed and specific* course deadlines for each selected assignment in Terry's course.

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[18] The CoI literature talks about the "appropriateness" of the pace and workload, however for this paper that aspect of these definition was thought to convey too much judgement given the goals of the project.

OVERVIEW OF THE COURSE

Introduction to the Course
Week 1: Mon 1/11 - Sun 1/17
Select Activities: Watch PowerPoint, find student for practicum, read syllabus, introduce yourself.

Part I: Assessment for Struggling Literacy Learners
Week 2: Mon 1/18 - Sun 1/24
Week 3: Mon 1/25 - Sun 1/31
Week 4: Mon 2/1 - Sun 2/7
Readings: McKenna & Stahl; Leslie & Caldwell and online resources
Select Activities: Watch PowerPoint presentations, assess student, read sample assessment profile, attend one Zoom Meeting.
Assignments: Literacy Assessment Profile Due Sunday 2/7

Figure 27. Deadlines. This page of the course syllabus showing major deadlines for throughout the semester.

The materials and activities necessary to complete the assignment prior to the deadline are provided in the module instructions, along with the date that each will be due.

Workload and Pace. These indicators are intertwined and refer to: (a) the number of materials, (readings, lectures, etc.) and assignments (discussions, papers, etc.) students are expected to engage with during the class, and (b) the frequency of engagement with materials and assignments. The chart below (see Figure 28) provides a graphic visualization of Terry's course timeline and details about the amount of work required each week. The Workload of Terry's course is *symmetrical*, with the projects spread fairly evenly throughout the semester. The Pace of the course, however, is *variable* since there are few weekly requirements and it is incumbent on the students to determine how much they need to complete each week in order to meet assignment deadlines.

Introduction

Part I

Paper Part I

Part II

Paper Part II

Part III

Discussion Group Summary 1
Discussion Group Summary 2
Discussion Group Summary 3

Final Project

Final Paper

Week 1	**INSTRUCTIONAL MATERIAL** Read syllabus / Multimedia lectures
2	
3	**INSTRUCTIONAL MATERIAL** ~50pgs reading / Multimedia lectures / Zoom meeting
4	
5	
6	
7	**INSTRUCTIONAL MATERIAL** ~30 pgs reading / Multimedia lectures / Zoom meeting
8	
9 SPRING BREAK	
10	
11	**INSTRUCTIONAL MATERIAL** ~45 pgs reading / Multimedia lectures / Zoom meeting
12	
13	This Module includes a series of 3 discussion group meetings with summaries due at the end of each week
14	
15	This week is wholly given to writing for the final project
Week 16	**INSTRUCTIONAL MATERIAL** Multimedia lectures / Optional Zoom Meeting

Figure 28. Timeline of Modules and Deadlines. This timeline is built from data found in Terry's syllabus and course page, and shows the deadlines for the major papers, which are indicators of the Establishing Time Parameters feature.

While it might be tempting to infer from the examples that this process has led to a course with examples of "appropriate" Workload and Pace, this study did not involve the collection of data from students. Without knowing how the students feel about the current Pace or Workload of the course, it is not possible to draw a conclusion about whether or not Workload and Pace are at a level students can manage.

To summarize, of the three indicators for Establishing Time Parameters in Terry's course, only one, the presence of Deadlines was evident. Not only did the evidence clearly establish *detailed and specific* deadlines, it displayed consistent communication of the deadlines,

consequences for missing each, and the conditions for negotiating situationally based alternatives. The evidence for Workload and Pace was *symmetrical* and *variable*, with the course work distributed fairly evenly across the semester, but the onus on students to decide the amount of work they needed to complete each week in order to meet course deadlines. Again, measuring the "appropriateness" of the Workload and Pace, however, required access to data not available for this study and, although evidence shows Terry is attempting to ensure they are, it is not possible to determine if either is truly appropriate for these graduate level students.

Organization Features. Anderson et. al. (2001) identified two Organization features the CoI model suggests are present in online courses: Utilizing the Medium[19] and Establishing Netiquette. While Design relates to work that is done to prepare the course beforehand, these two Organization features refer to adjustments made while the course is being taught. Put another way, Organization features reflect the nature of the educational experience itself (Garrison, 2017).

For the purpose of analysis, the CoI model was used as a framework from which to develop preliminary themes[20] representing the two Organization features. The themes were refined into a series of indicators which could be used to analyze the data and that would indicate the type of presence for an Organization feature.

***Organization features in Pat's course*.** Based on the data collected and analyzed, Pat's course included both Organization features. The definition, evidence, and explanation for each indicator is presented in subsequent sections.

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[19] The literature refers to this feature as "Utilizing the Medium Effectively", however the word effectively was left off in the section header for this paper as it implies a value judgement.

[20] A complete table of these can be found in Appendix D

Utilizing the Medium. The literature defines this feature as helping students understand how to use the technology appropriately, for example the proper use of the reply and quote functions in online discussion (Anderson et al, 2001, p.6). This feature, therefore, primarily involves providing students clear instructions for using the communication and multimedia technologies employed by the instructor in the course, and explaining the expectations for students using these same technologies to complete assignments. The three indicators for Utilizing the Medium are Responsive Communication, Appropriate Communication Technology, and Multimedia Design, each of which is discussed below.

Responsive Communication. The literature describes this indicator as the prompting of students to engage in "conversations" on discussion boards by responding to critiques, comments, or concerns raised by other students in responses to their own posts (Anderson et al, 2001). Pat's course employs weekly discussion boards in order for students to engage with others over the weekly reading assignments. These are text based discussions, and the example from the course syllabus (see Figure 29) shows the consideration Pat has given to students' participation in those boards. These instructions include not only the length of the post, but also say something about the quality, and how to engage in critique and raise concerns.

In addition to the instructions in Figure 29, Pat's syllabus also contains a grading rubric (see Figure 30) and an additional admonishment designed to provide feedback on student participation. Further guidance on these posts is also found in the weekly discussion boards

DISCUSSION FORUMS (40% of grade) (due every week or per schedule/calendar). Regarding the discussion forums for the course, the intent is to engage in legitimate scholarly, reflective discourse and not simply answer questions in a perfunctory manner. The quality of your participation will carry far more weight than the mere quantitiy of your postings. You will be expected to make substantial, thoughtful, and supportive contributions in these forums. Generally speaking, post once and be willing to provide feedback to your peers, doing so critically, but supportively, demonstrating a level of interest in your classmates' postings that is obvious and genuine. Merely suggesting, for example, that you "post once, respond twice" in itself, serves little purpose and is hardly worth your hard-earned investment in this class. With that said, student who tend to not contribute or fail to do so entirely, will be given an opportunity to improve via an instructor reminder. I am *far* more interested, as you instructor, in what you think than how many times you say something.

Figure 29. Discussion forum instructions in Pat's Syllabus. Instructions from Pat's syllabus describing the weekly posts, and an admonishment to participate, or else complete additional work through the instructor reminder mechanism.

themselves, where the "Post First" option has been marked in the settings (see Figure 31) that

requires students to start their own thread before they may read, or comment, on others.

As your ▮▮▮▮ instructor and colleague, I truly value your opinions and unique perspectives and will learn much from your observations and commentary. Please always feel welcome and comfortable to post here and do enjoy the process and interaction as much as you possibly can. The following scale will be used to determine minimal requirements for point levels for weekly discussion participation:

90 – 100 Pts: One original & substantive discussion post (answers & raises questions, discusses readings critically and with depth, presents reason for disagreement or agreement with authors, etc.) plus two (2) critical but supportive comments to peer posts.

80 - 89 Pts. One original discussion post + 1 peer response or minimal depth/reflection in the required number (above) posts.

50 - 79 Pts. One substantive original discussion posts + 0 (or 1 or more weak) responses to peers

25 – 49 Pts. Minimal participation (limited posting with little or no contribution to the discussion)

0 Pts. Failure to meet discussion posts deadlines without prior notice to instructor.

Figure 30. Discussion Board Grading Rubric from Pat's Course. This set of guidelines shows the minimum requirements for students to earn the corresponding points in discussion board posts.

Pat's instructions are designed to encourage student participation in the weekly discussions, and do so using a "Post Once, Reply Twice" model with the requirement that students "Post First." Under these conditions students must first start their own thread on the week's subject before they are able to see any other posts; once the students have created their post, they must then respond to two of their classmates' posts. This "Post First" option in the LMS establishes a choice architecture that nudges students towards writing more detailed posts that showcase their own
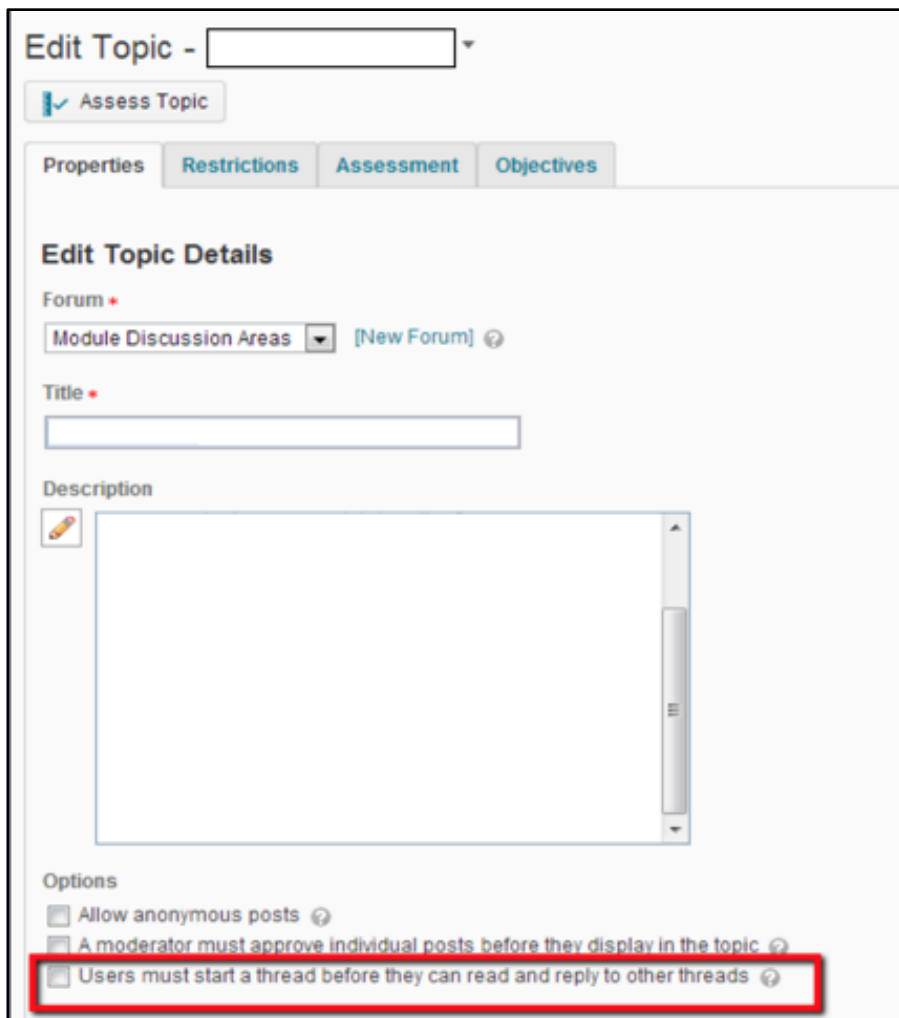
Figure 31. Editing options for discussions in D2L. This screen capture shows the options available to instructors as they create discussion boards, including the option for "Post First" that requires users to start their own thread before replying to others.

understanding of the material by removing any priming biases that might come from reading other students' posts.

The other pieces of evidence describe how the asynchronous "conversations" are to be carried out using certain conventions (see Figure 29) and are accountable to a quality threshold spelled out in a rubric (see Figure 30). Interestingly, Pat's accountability measures contain an "add-on penalty" - if a student does not engage in discussions, there is a stipulation that doing so requires the student to complete additional work, such as an extra paper about the subject from the discussion board the student missed, with the intention that the student would rather post to the discussion board then write the additional paper.

Appropriate Communication Technology. This indicator of course organization focuses on the choosing of communication technologies for particular interactions, whether by the instructor or students. For example, the choice for group discussions in an LMS forum to use text based communication may be appropriate given the task and goals; however, the choice for peer-to-peer or teacher-student interactions, such as joint collaboration on a project or the need for an instructor to address a personal issue with a student, may be more appropriately communicated via voice or video technologies. This choice requires instructors and students to organize course activity with some communication flexibility in mind, and then select the appropriate option for a given task and goal (Shea et al, 2001). The evidence that indicates Pat's choice about communication technology is in the D2L course assignment pages and the syllabus, where students are given the requirements for using the native LMS text based discussion forums for their student-student interactions. An example of this type of discussion can be seen below (see Figure 32).

Figure 32. Part of a Discussion Forum from Pat's Class. Here the text based nature of the discussion forums shows an Appropriate Communication Technology, as well as examples of Responsive Communication.

In addition to these text based forums, Pat also uses email as the primary means of communication for all instructor-student communication. Given these data sources, Pat's course uses a *monodic* approach to communication, employing only text-based technologies and materials. Students need only a web browser to access instructional materials and engage in discussions, as well as a basic word processor to write the various papers they are required to submit in the course.

Multimedia Design. This indicator refers to the appropriate marking of course content or assignments that employ multimedia assets by the instructor, for example: "you will need to watch the lecture in week 3" when the lecture is a video. The indicator also refers to the required or suggested use of technology tools for course assignments, such as PowerPoint presentations, screencasts, podcast, etc., by students (Garrison, 2017). In Pat's case, there is no evidence of multimedia assets as part of the course content, although Pat's instructions to students indicate they may use multimedia tools for presentations, etc. However, Pat expressed mixed feelings about these types of projects during the interview:

> [Students] have the option [to use multimedia]. In fact, some of them have done some very good things. I've had students who have submitted multiple formats within the same assignment. I had a student who once recorded a whole mock radio show. She was in Poland, so she recorded herself where she set up a radio program and had her teacher colleagues call in with questions about classroom management; she recorded the whole thing and gave her feedback on the subject.
>
> I've had people who have done other things too, one student, I can't remember specifically what the project was-- I'm not a big fan of Prezi. I used to always say that Prezi reminds me of watching an automatic washing machine and watching it spin and roll through a hall like an [out of control bowling ball]. I think it's just an example of gratuitous technology, but this student, her project, gave me hope because it was really well-done. Now I'm less inclined to think, "Oh, don't do this big production." Do the best you can with what you have available. So, students always have-- and I also give them a [little] prompt with the assignment guidelines to consider multimedia formats, "If you have a format that is not described here, present it to me and I'll consider it."

Given the *mono-channel*, text based, nature of communication in Pat's course, there are no alternate channels that employ multimedia tools or materials. This does not mean, as the above statement shows, Pat is opposed to the use of multimedia, or *multi-channel*, tools by students. Rather, that the course itself simply does not contain any multimedia assets. Pat provided an explanation for this dichotomy during the interview: "[I'm a] big technology fan, but more and more as I get older, I'm kind of becoming a backwards-moving Luddite almost in the sense that I always say, 'Oh, I am starting to value wood-burning. I'm starting to value talk.'" Pat went on to clarify:

> I keep thinking myself as more and more of a traditionalist, and that pendulum swings back and forth; now I'm leaning more and more toward the traditional side of it-- One of the things that I bristle with is that as much as I admire a lot of these people that use technology to such a wonderful degree, I'm almost appalled sometimes at some instructors who use technology gratuitously where, yeah, it's got a screen, it can read our thoughts with a little click, things like that. But for what? I mean, are we teaching the technology, or are we teaching the course content? There's obviously value in that, but if it defeats the purpose of why you're taking the course, then it becomes gratuitous. And like gratuitous anything, it gets in the way, and it changes your focus in a negative way that I think I bristle at sometimes. When you take a look at my syllabi, and you look at the classes, you're not going to see anything flashy. You're not going to see-- I can't remember, for example, the last time I used some of these technologies. I mean, I don't do Skype. I don't do live chat.

For Pat, the choice of a *mono-channel* instructional design means the focus of the course is on the content, not the technology, but there is still an *optional-use* possibility for students.

To summarize, the evidence for the Utilizing the Medium feature in Pat's course shows a design meant to focus on content, rather than the technology, with the end result being an almost exclusively text-based course. Evidence of the Responsive Communication indicator was realized through the D2L discussion forums with a simple "Post Once, Reply Twice" approach. Similarly, the choice to use a monodic communication approach for the course means that Pat's Appropriate Communication Technology was exclusively text based. Finally, although there are no multimedia assets for content delivery, a result of the mono-channel nature of communication in the course, students are presented with an optional use clause that allows them to choose whether they will present their own course work in a text-based or multimedia format.

Establishing Netiquette. This feature deals specifically with the content and appropriateness of communication in online courses, and is easiest to understand by breaking down the portmanteau "Netiquette" into its constituent parts: Net (short for internet) Etiquette. It includes helping students identify and adopt behaviors that are deemed appropriate in online communication. As Shea et al (2003) explain, "Newcomers to online communication are often unaware that certain acts may violate established norms. One example is typing in uppercase, which is viewed as "shouting" in online communication and thus inappropriate for most messages" (p. 8). Indicators of this feature are Efficient Communication, Level Appropriate Writing, and Appropriate Communication, which are examined in the subsequent sections.

Efficient Communication. The CoI literature describes this indicator of netiquette as keeping written posts as short as possible while still communicating the necessary information or point (Anderson et al, 2003). When asked about the efficiency of written communication during the interview, Pat explained:

It's not been a problem. I think I have actually attempted, although I haven't done it too

often, to have a minimum word content, which I should actually do sometimes-- but I do

say if they just post the minimum expected number of responses, but they're lousy, very

cryptic, short responses, they won't get the full points. I mean I won't give 100 points to

somebody who has responded to two peers, but they just say, "Oh, that's really nice," or, "I

never thought about it that way."

Thus, while there is no quantitative requirement (i.e. "minimum" word count), the instructions in

the syllabus establish a qualitative standard (see Figure 33). Pat's *qualitative emphasis* in the

The quality of your participation will carry far more weight than the mere quantitiy of your postings.   You will be expected to make substantial, thoughtful, and supportive contributions in these forums.

Figure 33. Discussion post standards from Pat's syllabus. These lines from the instructions on posting to discussion boards show an emphasis on quality rather than quantity.

discussion board posts, as opposed to a quantitative one, indicates a more subjective principle for

enacting and evaluating the effectiveness of written communication in the course. However, the

continued focus on substance over amount is consistent with other features of Pat's course.

Level Appropriate Writing. The CoI literature defines level appropriate writing as the use

of writing conventions for any type of writing, with a particular focus on discussion forums

(Anderson et al, 2003). Two types of conventions are referred to in the literature: (a) specific

academic writing formats (e.g., MLA, APA, Chicago, etc.) and (b) the common shorthand used

with informal writing that is closely associated with modern social media platforms, such as

Facebook, Twitter, Hangouts, etc. Pat described the role of writing conventions during the

interview, when asked if there were writing guidelines for the course's discussion boards:

[I don't use] writing guides, per se, other than quality. I mean, which is very subjective, I

realize that too. But I don't make them do APA. I do tell them-- I give them format

instructions for their papers-- you know, word length, and APA format, but beyond that, nothing.

As the evidence indicates, Pat uses a bifurcated approach to level appropriate writing. There are *formal conventions* for course papers and *limited informal conventions* for the discussion boards. The papers must follow APA Guidelines; the discussion boards must clearly and concisely communicate information, but do not need to follow specific guidelines and can use limited types of informal language that are common and colloquial to online discussions boards. This dual approach to leveling appropriate writing: (a) authorizes the official and sanctioned conventions of academic writing for the more private papers written for the instructor to read, while (b) permitting a mixture of relaxed and vernacular conventions for written expression to be used with the public discussion boards.

Appropriate Communication. Anderson et al (2003) describe appropriate communication as the maintenance of civil discourse when communicating with others in the course. Pat's code of conduct (see Figure 34), which appears in the course syllabus, provides general guidance on the

Conduct. Students and this instructor are expected to demonstrate high standards of writing, course participation, interaction with and respect for others. Though ████ is an online course, it is imperative that our presence in ████ be professional and that in discussions, feedback with or about peers, each of us upholds the highest standards of dignity, equity, fairness and respect.

Figure 34. Section on Conduct from Pat's syllabus. This is the section of the syllabus that describes the expectations for students participating in the course.

standard of civility expected of students in the course. Pat elaborated on this code of conduct during the interview:

In general, I haven't had any problems with people going over the line, so to speak, in terms of etiquette or in terms of just civil discourse. One thing that I will say informally, when I talk about the discussion boards and also in terms in papers, that I'm more concerned that students feel that they have a place for their voice than anything else, and I don't qualify

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that much further than that other than to say, "Okay. There are word length guidelines. There are page length guidelines in some cases. There are formatting guidelines here, too, but I'm far, far more concerned that you feel comfortable, that you can say what you want to say here. If, whether or not you've had that opportunity [inaudible], that's far more important for me."

Within the general expectations laid out in the code of conduct, Pat adopts a principled *laissez-faire* approach to communication on the discussion between students. This approach suggests that students are to guide their interactions by using principled forms of decorum (e.g., dignity, respect, professional), but have leeway to address topics that may be sensitive and controversial within the bounds of these principles.

To summarize, Pat does have some sense of an Established Netiquette, though it may not be an overly specified one. The emphasis in the Efficient Communication indicator is a *qualitative* one, where it is more important for students to convey a good idea rather than write a minimum number of words for each post. Similarly, the Level Appropriate Writing indicator employs a bifurcated approach where the academic papers are guided by the traditional, *formal conventions*, while discussion post adopt *limited informal conventions*. Finally, Pat's approach to Appropriate Communication is a principled *laissez-faire* one that establishes general expectations for civil discourse, but allows for some flexibility for students discussing sensitive topics on the discussion boards.

Organization features in Terry's course. Based on the data collected and analyzed, Terry's course included both Organization features. The definition, evidence, and explanation for each indicator is presented in subsequent sections.

Utilizing the Medium. The literature defines this feature as helping students understand how to use the technology appropriately, for example the proper use of the reply and quote functions in online discussion (Anderson et al, 2001, p.6). This feature, therefore, primarily involves providing students clear instructions for using the communication and multimedia technologies employed by the instructor in the course, and explaining the expectations for students using these same technologies to complete assignments. The 3 indicators for Utilizing the Medium are Responsive Communication, Appropriate Communication Technology, and Multimedia Design, each of which is discussed below.

Responsive Communication. The literature describes this indicator as the prompting of students to engage in "conversations" on discussion boards by responding to critiques, comments, or concerns raised by other students in responses to their own posts (Anderson et al, 2001). Terry provides very specific instructions for interactions on the discussion boards in the course (see Figure 35).

Discussion Forum Conversation Instructions
TE ███████

During the Intervention Section of the course, we will have two discussion forums. Please read these instructions carefully *because they are probably different from what you have been asked to do in previous courses.*

Most importantly, I would like you to think of these as REAL discussions where you are working with your colleagues to make meaning from the course texts using the prompts that I provide. Think about being part of a book club with colleagues or discussion group in a brick-and-mortar classroom. While discussion forums will be asynchronous (not everyone is there at the same time), please think of this as an opportunity to interact with your colleagues and have a good conversation over the course of a week.

Figure 35. Discussion Forum Conversation Instructions. The opening to the instructions Terry provides students for discussion boards, with the warning that they are different.

The rationale for these instructions[21] was explained during the "think-aloud", when Terry was discussing the asynchronous discussion board for week 6 of the class:

Discussion forum week six is the worst thing I ever do as an online teacher, in my opinion, which is truly a discuss-the-readings based on my guiding questions. It's like, spit out what you've learned. But it's the one week I do that, because I just really want them to have a way to process those readings, and they need them to do week seven. Week seven is, again, where they have a case of a particular kid, and they're to apply what they learned in the readings from the [week 6] and [week 7] in analyzing that case. So, it's an application task, not just a discuss-the-readings task. I just kind of need some way to get through week six, so I do that. But I don't love it.

What they get with the discussion forums from me is discussion forum instructions, where I say, "My discussion forums are different to other discussion forums. Make sure to have a real discussion where you're building on what the other person says, and not just everybody posts random things." I try to have them to participate over the course of the week, about every other day, versus just post once and respond twice whenever you want. That way it becomes more of an asynchronous discussion, versus everybody's just doing their work to get it done. I really try and ask them to build on what's already been said, reread the whole thread: one thread and you're responding to it. So, it's like just a discussion that happens over time, versus everybody just kind of posting their own ideas. I mean, I

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[21] The complete, 2-page, set of instructions can be found in Appendix E

give them some advice on how to respond in a substantive way, and there's a whole bunch of information about how I grade it, how I look at it, what I do.

Terry added later in the "think-aloud":

> I want them to read what the other person wrote and write something new. I don't want the same post from everybody. I want them to have a discussion, which means they have to have read and understood what the last person said and respond versus just write a post.

Terry's syllabus instructions and "think-aloud" comments suggest a *digital dialogue* approach for how conversations are to occur on the asynchronous discussion boards. It is designed to simulate some of the key qualities Terry sees in the best F2F discussions, but finds are often 'lacking' in asynchronous discussions online. The most prominent of these qualities is dialogic nature of communication. Thus, Terry's approach to organizing responsive communication is to shape the asynchronous discussion boards into *digital dialogues*.

Appropriate Communication Technology. This indicator of course organization focuses on the choosing of communication technologies for particular interactions, whether by the instructor or students. For example, the choice for group discussions in an LMS forum to use text based communication may be appropriate given the task and goals; however, the choice for peer-to-peer or teacher-student interactions, such as joint collaboration on a project or the need for an instructor to address a personal issue with a student, may be more appropriately communicated via voice or video technologies. This choice requires instructors and students to organize course activity with some communication flexibility in mind, and then select the appropriate option for a given task and goal. Evidence for this indicator in Terry's course can be found in the syllabus section on communication and getting help with the course.

Figure 36. Communication section of Terry's Syllabus. This section described not only the various means of contacting Terry, but also who to contact for technical support and describes other communication methods that will be used in the course.

As can be seen in this section of the syllabus alone (see Figure 36), Terry employs a

polyadic approach to course communication with multiple channels required for different course activities as well as multiple options for instructor-student and student-student interactions. This approach grants students some power in deciding the importance of an issue when contacting the instructor and what is most efficient for communicating with peers; it also provides options for students in the event one communication channel is experiencing technical difficulties.

Multimedia Design. This indicator refers to the appropriate marking of course content or assignments that employ multimedia assets by the instructor, for example: "you will need to **watch** the lecture in week 3" when the lecture is a video. The indicator also refers to the required or suggested use of technology tools for course assignments, such as PowerPoint presentations, screencasts, podcast, etc., by students (Garrison, 2017). Evidence of this indicator can be found in the course syllabus (see Figure 37), some in the assignment directions (see Figure 38), and some

> **Select Activities:** Watch PowerPoint presentations, assess student, read sample assessment profile, attend one Zoom Meeting.

Figure 37. Activities for a module from Terry's Syllabus. This selection from the 'Overview of the Course' section of the syllabus highlights where Terry is telling students the different multimedia tools they will use, and how they will engage with those tools.

is inherent in the course structure. For example, one of the main activities for each module in the course is a synchronous discussion session using the Zoom video conferencing program. This

> **Discussion Groups and Parent Guide (20%)**
> For this assignment, you will learn about ████████. You will meet with a small group of students to discuss the readings in this folder. The products that you will submit include three Google Docs (this is a group assignment) summarizing your weekly meetings as well as an individual guide for parents that informs them about reading development, ████████, and suggesting resources to use at home with ████████

Figure 38. Instruction for one of Terry's course assignments. This assignment requires students to use Google Docs in order to write their summary, leaves the decision on what tools they will use to meet with each other open.

video conference requires that students either attend, use the program, or watch a recording of the session later if they were unable to attend, adding an additional multimedia asset to the course.

Terry employs a *multi-channel* approach to communication in the course, with multiple means of interacting with multimedia assets in each course module. Furthermore, students are *required* to employ a variety of technology tools in order to participate in group discussions and to complete various assignments throughout the course. Another point that should be noted here is that although there are other programs available for video conferencing, Terry chose Zoom because the university is a client of the service.

In summation, this course involves a large number of multimedia tools and assets that provide evidence of Terry developing a course that is Utilizing the Medium. Terry employed a *digital dialogue* approach to ensure students are having 'conversations' in the discussion boards in keeping with the Responsive Communication indicator. The *polyadic* approach to communication in the course is evidence of the Appropriate Communication Technology indicator as it shows multiple options for communicating and gives students options for communication. Similarly, Terry's course contains numerous multimedia assets and, reflecting the *multi-channel* nature of the course, and assignments where there is a *required use* of multimedia tools as part of the evidence for the Multimedia Design indicator.

Establishing Netiquette. This feature deals specifically with the content and appropriateness of communication an online course, and is easiest to understand by breaking down the portmanteau "Netiquette" into its constituent parts: Net (short for internet) Etiquette. It includes helping students identify and adopt behaviors that are deemed appropriate in online communication. As Shea et al (2003) explain, "Newcomers to online communication are often unaware that certain acts may violate established norms. One example is typing in uppercase,

which is viewed as 'shouting' in online communication and thus inappropriate for most messages" (p. 8). Indicators of this feature: *Efficient Communication*, *Level Appropriate Writing*, and *Appropriate Communication* are all explored in the subsequent sections.

Efficient Communication. This is described in the literature as encouraging students to keep their posts as short as possible while still maintaining the ability to effectively communicate their information or point (Anderson et al, 2003). Evidence of this indicator comes from the interview when Terry was asked about the Week 6 discussion board, and the difference between the approach here and the "Post Once, Reply Twice" model used elsewhere:

> So, they have a certain number of times they have to participate, and I have a whole suggestion sheet, which I've borrowed from a bunch of other people about ways to participate. I require them to participate across the week. They are not allowed to do Sunday, three posts and all that stuff; so, they have to participate three times, three days, which prevents that a little bit. But I also say it doesn't have to be a formal post, I don't give a word limit, I say, "You could respond more informally." It could be more like a real conversation that just takes place over a longer period of time.

Because Terry does not have a quantitative measure, like a minimum word count, for these discussions, the content of the students' discussions is evaluated with a *qualitative emphasis*. However, so that students can better understand what the qualitative markers are, Terry provides explanations of the general grading process in the syllabus. (see Figure 39). By providing the rubric, Terry is clarifying the subjective qualities that are valued within the course's *qualitative emphasis* on grading in general, and the discussion board assignments in particular.

Course Grade	GPA Scale	General Description of Quality
95-100 pts.	4.0	Outstanding, exemplary work. Uses and integrates readings, classroom discussions, and teaching experiences (where appropriate) to inform the writing/activity. Meets all the requirements of the assignment, is deeply thoughtful, and provides many details and examples to support the assignment. No errors in grammar, punctuation, spelling.
90-94 pts.	3.5	High quality work. Uses many readings, classroom discussions, and teaching experiences (where appropriate) to inform the writing/activity. Meets all the requirements of the assignment, is thoughtful, and provides some details and examples to support ideas. Very few errors in grammar, punctuation, spelling.
85-89 pts.	3.0	Good quality work, performing at expected level for this course. Uses some readings, classroom discussions, and teaching experiences (where appropriate) to inform the writing/activity. Meets all the requirements of the assignment, shows attempt to engage with purposes of assignment, provides some details and examples to support ideas. Few errors in grammar, punctuation, spelling.
80-84 pts.	2.5	Work below expected level of quality for the TE program. Makes vague references or inappropriate references to relevant readings, class discussions, and teaching experiences to inform writing/assignment. Does not meet all requirements of assignment. Limited attempt to engage with purposes of assignment, few details and examples to support ideas. Many errors in grammar, punctuation, spelling.
75-79 pts.	2.0	Significantly below expected level of quality. Shows little evidence of having read course readings, of uses of classroom discussions, or of field experiences. Meets few of the requirements of the assignment. Shallow attempt to engage with purposes of assignment, no details or examples to support ideas. Many errors in grammar, punctuation, spelling.

Figure 39. General grading rubric from Terry's syllabus. Provides guidance on what constitutes "quality" work across all course assignments, more specific rubrics are provided for individual assignments.

Level Appropriate Writing. The CoI literature defines this as instructors encouraging students to use appropriate writing conventions when posting to forums (Anderson et al, 2003). Although this may include specific academic writing formats (e.g., MLA, APA, Chicago, etc.), it is primarily in reference to the use of more common shorthand and the type of informal writing more closely associated with modern social media platforms, such as Facebook, Twitter, Hangouts, etc. Found in Terry's syllabus (see Figure 40) are the instructions for small group discussions in

> **Use professional language and tones in all written and verbal communications.** While we are not meeting in a Pre-K through 12 school building, the accepted conventions of expression that guide teachers in their daily conduct apply during our course-related interactions.

Figure 41. Note on professional tone from Terry's syllabus. This shows the instructions Terry disseminates to the class on what is considered a "Professional Tone" in the course.

the forums, which detail the tone required. In addition, Terry details the requirements for other

written assignments in the syllabus, providing instructions for students on style and format (see

Figure 41). Terry further clarified the intent of the professional language section in the syllabus

> **ASSIGNMENTS AND PROJECTS**
>
> This course includes four major written assignments. For each written assignment, there will be a detailed assignment sheet including grading rubrics and more specific instructions. Unless otherwise directed, assignments should be in APA format with 12 point font. They should be Google documents and should be shared with me by the date listed on the assignment sheet.

Figure 40. Instructions on written assignments in Terry's syllabus. Here Terry is providing students with the more formal guidelines and requirements for larger written projects and assignments.

during the "think-aloud" when asked about tone in course discussions:

[The section on Professional Tone] is in the syllabus, first of all. A whole long thing about

professional interactions because I have had experiences with students that are not

professional. And so what I ask them is, behave as you would in your workplace, basically.

There are some places where I let them actually loosen up a little, like you'll see if you look

at the instructions for the discussion that's coming up weeks six and seven. I actually say

it's professional in tone, but you're also having a conversation, so if you want to put a smiley

face, I'm okay with it. The content needs to be professional. So, I don't force perfect

grammar or something in those situations. But yeah, I just have a whole thing on the

syllabus about ways of interacting professionally and it just says-- it says some of those expectations.

As the first two pieces of evidence above indicate, Terry expects a professional tone in the asynchronous discussion board, but it need not be an all-out formal academic tone. Rather, Terry advocates limited informal conventions to course discussions. When it comes to written assignments and projects, Terry has very specific *formal conventions* that conform with profession-wide standards for graduate level students (i.e., APA Guidelines). This combination *formal* and *limited informal conventions* helps students feel comfortable sharing their views in semi-public discussions, while still supporting academic rigor in formal writing.

Appropriate Communication. Anderson et al (2003) describe this as when students are required to maintain civil discourse when communicating with others. Terry's course documents themselves provide very little instruction to students in terms of maintaining civil discourse, apart from those related to the professional language and tone (see Figure 40). However, as Terry explained in the 'Think-Aloud' when asked about the origins of the professional language and tone guidelines:

> Well, some of that is more from what's in a lot of the syllabi from the elementary teacher prep program, so I've borrowed some of that from there. But the reason I call it that is in my very first class I had a student who I thought was really unprofessional in the way she interacted, so I started calling it that. And I also think that these are professionals-- this is kind of a professional master's program. They want to be [subject] specialists, so I just try to ask them to do all of this; I try to give some guidelines.
>
> I've had students stray off topic to stuff that I don't think is aligned with the class and what I tend to do is ask them to stick with what we're talking about for our class, and

if I have something to say, I will write them individually about their comments. But I've really never had anything not nice going on in class.

The lack of detailed instructions on civil communication in Terry's course reflects a *laissez-faire* approach. Because Terry states that she has never really had a problem, there has been little cause for creating more detailed guidance about what is and is not appropriate communication. As has been previously mentioned, this *laissez-faire* approach provides flexibility for students to broach sensitive topics.

In conclusion, the Establishing Netiquette features in Terry's course point to a professionally relaxed online atmosphere. There is a *qualitative emphasis* to ensure students are engaging in Efficient Communication, in which the content of the students' online writing is more important than the number of words. Similarly, there is a *limited informal* aspect to the discussion boards themselves, while the course retains a traditional *formal* tone for the written academic papers. Finally, the *laissez-faire* approach found for the Appropriate Communication indicator suggests there have been few problems with inappropriate civil discourse in the past and Terry has not felt the need to address the issue in greater detail.

Research Question 1 Summary. Data collected from the two courses was examined in light of research question 1: *How are features of the Design & Organization element conceptualized and enacted in the online courses selected for this study?* This question was answered by using the CoI framework as an interpretive lens. Although the data provided evidence of all the features in both courses, there were differences in how those features were manifested for most indicators. The Design Aspect Comparison Matrix (see Figure 42) and Organization Aspect Comparison Matrix (see Figure 43) provide visual summaries of each course and highlight differences between them.

	PAT	TERRY
Setting Curriculum — Course Concept	• Vertical & Horizontal Integrations • Simulation, Critique, & Roles • Written & Point Based assessment • Selective Role for Technology	• Vertical & Horizontal Integrations • Demonstrated learning & synthases • Written & Point Based Assessment • Inclusive role for technology
Learning Objectives	Vertical integration with program Horizontal integration in course	Vertical integration with state Progressive horizontal integration
Alignment of Learning Objectives	Interactive Design Approach	Backward Design Approach
Designing Methods — Comprehensive Design	Selective Design Model	Inclusive Design Model
Navigational Approach	System Default: Two-tiered "Breadcrumb"	System Default: Two-tiered "Breadcrumb"
User Experience	System Default: Utilitarian	System Default: Utilitarian
Unit/Module/Lesson Design	Conceptual/Temporal Approach	Milestone Approach
Lesson Viability	Iterative Approach	Cumulative Approach
Establishing Time Parameters — Deadlines	Specific & Detailed	Specific & Detailed
Workload	1st Stream – Asymmetrical 2nd Stream – Symmetrical	Symmetrical
Pace	1st Stream – Variable 2nd Stream – Constant	Variable

Figure 42. Design Aspect Comparison. This matrix shows how Pat and Terry's courses compare to each other in the various indicators of each feature.

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	PAT	TERRY
Utilizing the Medium — Responsive Communication	"Post Once, Reply Twice" approach	"Digital Dialogue" approach
Utilizing the Medium — Appropriate Communication Technology	Monodic Approach	Polyadic Approach
Utilizing the Medium — Multimedia Design	Mono Channel Optional Use	Multi Channel Required Use
Establishing Netiquette — Efficient Communication	Qualitative Emphasis	Qualitative Emphasis
Establishing Netiquette — Level Appropriate Writing	Formal Conventions Limited Informal Conventions	Formal Conventions Limited Informal Conventions
Establishing Netiquette — Appropriate Communication	Principled Laissez-faire	Principled Laissez-faire

ORGANIZATION ASPECT

Figure 43. Organization Aspect Comparison. This matrix shows how Pat and Terry's courses compare to each other in the various indicators of each feature.

In the Design Aspect there were predominantly differences between the two courses in all three of the main features: Setting Curriculum, Designing Methods, and Establishing Time Parameters. The evidence presented for the Setting Curriculum feature shows both differences and parallels within the Course Concept; the key ideas of 'guiding principles' and 'the role of technology' differ, while the 'overall organization' and 'modes of assessment' run parallel. Although Learning Objectives were both vertically and horizontally integrated in both Pat and Terry's courses, these integrations differed both in their nature and in their components. Finally, the evidence for the Alignment of Learning Objectives, showed two different techniques, Pat's interactive approach and Terry's backward-design approach, with both providing alignment via different means.

Evidence for the Designing Methods feature showed that while there can be differences between courses, external constraints can have a homogenizing effect on several course indicators. The Comprehensive Design indicator showed two different models, with Pat's course employing a Selective Design built around a single medium and Terry's employing an Inclusive Design that employs multiple multimedia tools and assets.

The Navigational Approach and the User Experience indicators were parallel in both courses. The evidence suggests that the parallel navigation and experience were due to a homogenizing effect of the D2L LMS. For both instructors, the institution's decision to use this LMS constrained the Navigational Approach to a single LMS wide style and shaped the User Experience to the same system default 'look'. Finally, the evidence showed that both instructors employed different approaches to both the Unit/Module/Lesson Design and Lesson Viability indicators: Pat used a Conceptual/Temporal Approach while Terry used a Milestone Approach.

The evidence related to Establishing Time Parameters feature conveyed a parallel in the Deadlines indicator, suggesting that both instructors adhered to institutional and professional norms and traditions. The intertwined indicators of Workload and Pace, however, differed in both the nature (dual or single stream) and quality of both indicators; the evidence suggested the instructors used different patterns for distributing the workload as well as different patterns for setting the pace.

The Organizational Aspect features differed and paralleled in some important respects. The evidence associated with Utilizing the Medium feature exhibited marked differences between the two courses for all indicators. For the Responsive Communication indicator, one used a traditional, highly routinized approach while the other used a more improvisational and conversational approach.

Evidence for the Appropriate Communication Technology indicator indicated that Pat employed a *monadic* approach to communication and Terry used a *polyadic* approach. These differing approaches to communication paralleled a variation in the Multimedia Design indicator as well. Pat used a *mono channel* with the option for students to use other channels of media for assignments, while Terry used a *multi-channel* approach with the requirement for students to use other channels of media. Evidence for the Appropriate Communication Technology indicator showed that Pat employed a *monadic* approach to communication and Terry used a *polyadic* approach. These differing approaches to communication paralleled a variation in the Multimedia Design indicator as well. Pat used a *mono channel* with the option for students to use other channels of media for assignments, while Terry used a *multi-channel* approach with the requirement for students to use other channels of media.

Evidence for the Establishing Netiquette feature was completely parallel for Pat and Terry. Both instructors communicated a preference for qualitative approaches to the Effective Communication indicator; they did not have quantitative controls (such as minimum/maximum word counts), but they did provide rubrics that set expectations for the students. Evidence for the Level Appropriate Writing indicator also showed both instructors using traditional *formal conventions* for academic papers and the larger course projects, while allowing *limited informal conventions* in course discussion to help students feel more comfortable in expressing their ideas. Finally, both instructors applied a *principled laissez-faire* approach to the Appropriate Communication indicator, relying largely on social and institutional norms to guide students in the language and tone of their course discussions rather than scripted or specified protocols for discussion board interaction.

Research Question 2

How has the conceptualization and enactment of the Design & Organization element evolved in these courses?

This question focused on whether or not there were changes made to the courses across different semesters or even within an individual semester. These changes might have been the result of shifts in an instructor's conceptualization of online teaching, others may have been due to external factors such as technology or institutional policy, while still others may have resulted from adjustments to improve the course. As a result, this question examined not only the changes to the courses themselves, but the motivation behind those changes. Thus, the sections that follow present data related to the evolution of Design and Organization beginning with Pat's course, followed by Terry's.

Evolution of Features in Pat's Course. Because Pat has been teaching online for the better part of two decades, Pat's views and ideas about the online teaching have undergone a number of changes over the years. Furthermore, as Pat has been teaching this specific course for 15 years, it has undergone a number of updates and revisions as well. All of this provides an excellent opportunity to explore how developments in research and technology, as well as instructor experiences, can affect instructional practices and course structure.

Evidence of the general shifts in view were primarily found in the interview and 'think-aloud,' with very little evidence of changes found in the course content itself. This section will present what evidence that could be gathered for any adjustments in either type of change first in terms of Design features, then in terms of Organization features.

Evolution of Design Features. Evidence of changes in Pat's course were found for all three Design features. The definition, evidence, and explanation for each indicator is presented in subsequent sections.

Setting Curriculum. The noteworthy change for Setting Curriculum was evidenced in the course's overall organization. In the "think-aloud" Pat described taking over the course:

> When I took over this course, I looked at previous syllabi and it followed the weekly format, but none of the content was what I wound up using. There was probably a handful more textbooks that were used in some iterations of this course, and then there were some instructors who used more online articles. I found that with this course, in particular, the Wiles book and to some extent, maybe a lesser extent, Darling-Hammond have really been enough to inform the students.

The changes Pat imposed on the course shifted the *overall organization* from one with multiple books or online articles at its core, to one in which there are only two core textbooks. Reducing

the number of text seems to be in keeping with Pat's *iterative design* approach in the larger course design that encourages revisiting previous ideas once new ones have been acquired.

Designing Methods. The most significant change to Designing Methods was evidenced in the course's comprehensive design (the use of multimedia and other non-text based technologies for content delivery, course discussions, and assessment). The changes were described by Pat in the interview:

> It's so funny. I say this occasionally, that my cognate area in my doctoral program was educational technology. I'm a big technology fan, but more and more as I get older, I'm kind of becoming a backwards-moving Luddite almost in the sense that I always say, "Oh, I am starting to value wood-burning. I'm starting to value chalk."
>
> Take people who are really, really, really into technology […] I'm sometimes amazed at the vast knowledge and the usefulness and the utility and the facility that they add to teaching. And there's part of me that's actually a little bit jealous because I've fallen by the wayside a little bit technologically. I mean, there's so many things that I'm not aware of now, where I used to be really on top of it, or thought I was, anyway. But now, I keep thinking of myself as more and more of a traditionalist, that pendulum swings back and forth, and I'm leaning more and more toward [the traditional side]. Because one of the things that I bristle with is that as much as I admire a lot of these people that use technology to such a wonderful degree, I'm almost appalled sometimes at some instructors who use technology gratuitously, where, yeah, it's got a screen, it's got [all the bells and whistles], I mean, it can read our thoughts with a little click or whatever, things like that. But for what? I mean, are we teaching the technology, or are we teaching the course content?

If you lose the focus of the objectives, and if the technology's not there to support

the learning objectives, then it's just sort of there. Yes, obviously there's value in that, but

if it defeats the purpose of why you're taking the course, then it becomes gratuitous, and

like gratuitous anything, it gets in the way, and it changes your focus in a negative way,

and that is what I bristle at sometimes. When you take a look at my syllabi, and you look

at the classes, when I show them to you, you're not going to see anything flashy. You're

not going to see [for instance,] I can't remember the last time I used [Zoom]. I mean, I don't

do Skype. I don't do live chat. So, I think of designing my classes, I think of "chalk" in the

sense of the weekly and the monthly structure of a traditional face-to-face course.

Pat also described a co-teaching experience he had several years earlier, where a hybrid course did

not go as planned.

We divided [the course], half the time in a [traditional] classroom and then half of the time

online. Nearly every piece of technology we had failed. We tried the old Blackboard[22], the

public version, and that didn't work well, so what I did was– I really had to think on the fly

here– I said, "Let's use our AFS space[23]." So, we used mine, and we had our assignments

up there [online]. Then we met for the face-to-face section, we met twice a week, and that

was interesting. We were in a [computer] lab, it was the first lab, and everything that they

had built into the computer lab failed.

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[22] Blackboard is a LMS that has since been acquired by Desire-to-Learn. At the time of Pat's course, there was an option to use it for individual courses, with limited functionality. Additional functionality, and more course availability was obtained through institutional purchases.

[23] AFS is virtual space on the university's server that can be used for data storage, file sharing, or as a website. It is a predecessor to the modern "data cloud"

We had assignments that were going to use some of these things. It didn't work. Nothing worked. We had techies over and none of that worked. We had to do that the whole semester, but I would not trade that experience for the world because the way we innovated– it was kind of MacGyvering everything for the whole semester. It turned out to be a great class and the students, I honestly believe, liked it, and they did a great job, and that was such a learning experience for me.

Pat further explained how this experience has affected the use of technology in subsequent courses:

Now my approach to technology is that I don't trust it the way I used to because I think that experience— in fact, I think people's [use of technology] is impacted by the degree they've been burnt by [technology], and that was a big burning. So, since then even though I am a fan of technology, I don't utilize it to the degree that a lot of my peers do, and I have mixed feelings about that. Part of me feels relief. Part of me is a little jealous because I've fallen by the wayside. Those are my feelings about it, but as far as using it, I have not utilized a great deal of it.

Pat's experiences with technology, and his reflections on them, prompted him to change the Comprehensive Design of the course by re-thinking the media, assets, and tools that would best help students achieve the learning goals. The change shows a move from an *inclusive design* (using many types of technologies) to a *selective design* (using one type of technology).

In addition to the changes associated with re-evaluating the role of technology in the course's Designing Methods, Pat also made a notable change in *lesson viability* (which focuses on the application of skills and knowledge beyond the course). This change was described in the interview, as Pat explained re-examining the approach to teaching concepts and skills the students will take with them for the future:

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I get the idea that maybe the great value is in the thinking process, rather than capturing

certain thoughts. If that makes any sense? My goal was getting away from this idea that,

"Well, after taking this course, students will identify as leaders." That isn't what I wanted

to do at all with the course. What I thought was the greatest value is that, if we got students

to be more cognizant and more aware of how they're thinking about leadership, that that

was a great leap.

This is a move away from simply providing students a way to define an aspect of being a teacher,

and instead giving them a set of tools to help them define that role as technology, research, and the

myriad of other influences in the field change that aspect.

Establishing Time Parameters. There is also evidence of another meaningful change made

to the course that affected all three of the indicators for Establishing Time Parameters (which are

Deadlines, Workload, and Pace; together they define the temporal structure of the course). Pat

described this change in the "think-aloud":

This semester is a good example because I eliminated one of three paper assignments in

both [of my] courses. Because it was hard to place the middle paper assignment, and

because of the other assignments during the semester. So, I thought about it a lot, and said,

"Well, what can I do with this?"

What I did was expand the final paper project in both courses, just by a little bit, by

10 or 15 points, and, since I have it all laid out for them [in the course outline] from the

beginning, they get early exposure to what this assignment is all about. I eliminated, in one

of the courses, a proposal for the project, in that I let them have the ideas they would

generate [in the discussions], or they could approach me with an idea. I think that is making

this semester-- I'm noticing it right now, too. I don't get any questions about, "Oh, we got

this due and we got that due, and I have the portfolio coming up," so that appears to be helping.

> I think I've retained as much of the intent of these assignments, in the [second] course, for example, I incorporated paper two and paper three into just paper two in a way that I think retains everything that is essential, or that I think is essential. In the [first] course, too, I think I've accomplished the same thing by eliminating the second paper. I looked at it and I thought, "oh well, this is too much just busy work, and it doesn't really belong here." So, I got rid of it, and have no qualms.

By making the adjustments described above--altering deadlines for writing assignments, lessening the number of papers, thereby reducing the workload--Pat slowed the pace of the course. The expected effect of this reduction in 'busy work' was a clearer understanding of the requirements for the paper earlier in the course and improved quality of students' work. Based on Pat's observations, these effects were achieved.

In Summary, the evidence shows several adjustments were made to the course Design features over time. Since Pat took over the course, changes in the course content have affected the Setting Curriculum feature; these changes reduced the number of required readings and creating a more *iterative approach* in the general course design (returning to previously learned subject later in the course when new knowledge is learned). The Designing Methods feature were changed by Pat's deeper reflection on the role of technology and the purpose of the course, fundamentally reshaping the Comprehensive Design and Lesson Viability indicators of the course. Finally, the Establishing Time Parameters feature was affected by changes to the student workload, which also slowed the pace of the course, that were made with an expectation that these reductions would help the students improve the quality of their work.

Evolution of Organization Features. The evidence for changes in these two features, Utilizing the Medium and Establishing Netiquette, shows many of these are tied to the changes in the aforementioned Design features of the course that moved away from multimedia assets and technology. There are however, some indicators of these two features that show evidence of changes across successive iterations, which will be discussed in the following sections.

Utilizing the Medium. Another prominent change in the course affected the Responsive Communication indicator (which is prompting students to engage in "conversations" on discussion boards). These changes were explained by Pat during the interview:

"What I have found is that the thinking about those discussion prompts has generated more discussion. As a result, I have fewer people not meeting the minimum [two responses]. I have more people going over and commenting on a variety of peers in the class, because they're reading more too. So, I think that's been a natural development that I didn't really have to facilitate too much. But again, it all comes back to the value of, if you have a really good question, the answers don't have to be prodded and pulled. And sometimes those comments will generate more questions from other students. So, I have more students going over the minimum number of responses to their peers and interacting and then going back and saying, "Oh, I never thought of it that way. Is this what you do in your school? We can't do that because... What would you suggest we do?"

When pressed further about how often these discussion prompts are changed, Pat further clarified that, "I change the questions almost-- well, I change probably about a third of the questions every semester."

As Pat describes, the discussion prompts are, at least in this course, a very important part of promoting 'conversations' among the students on the discussion boards. Given their importance,

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Pat thinks a portion of them must be refined and updated on a regular basis. The purpose for this continual refining and updating is to keep the asynchronous "conversations" engaging so students will fully explore the different aspects of the concepts being learned.

There is also evidence of a potential major change in the next iteration of the course that Pat described during the "think-aloud":

> We're afraid, for good reason, because we have eased into an area [of discourse] where there are so many ramifications for stepping over the line that's there, or at least it would be perceived as stepping over the line. I think for good and bad reasons, maybe reasons we don't even understand, there is a fear of controversy that I think has made us a little bit wussy in the way we approach some things.
>
> I think that I'm of the mindset though that all is not lost, even if there are regretful mistakes that happen. Even when there's a discussion or a debate that goes horribly, it still offers an opportunity to grow and to learn from that. Being afraid of that is not good either. It's not healthy. It's not normal and it also keeps us from-- well, often I believe, and this is getting into my personal opinion here, some of the state or condition that we're in is the result of us not interacting with one another, and that's out of fear of the consequences.
>
> Then we hear stories or know personally of this last political cycle and elections[24], as it were, where longtime friendships have been destroyed over arguments and walls have been built up-- no pun intended there. But at the same time, those issues are there, those feelings, those intense feelings, whether or not they are spoken, when they're still there and

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[24] The 2016 Election Cycle

they're going to be impacting people one way or the other so maybe all is not lost sometimes

when these things occur because it leaves more opportunities for people to interact and

prevent further damage. I don't know.

Whether or not this change is implemented in the next iteration of the course, the evidence

indicates that Pat's ongoing contemplation of not only what should be required of students, but

also why it should be asked of them, is continuing to drive changes to the course content and

overall design.

Establishing Netiquette. The evidence for a final conspicuous change shows change in the

Efficient Communication indicator (which is described as encouraging students to keep written

posts as short as possible, while still communicating the necessary information or point (Anderson

et al, 2003). These adjustments were described by Pat during the "think-aloud":

I've modified [the discussion guidelines] a little bit over time. So, for example, "I value

your opinions and unique perspectives and will learn much from your observation and

commentary. Please always feel welcome and comfortable with posts you're doing and try

to enjoy your interactions as much as can." I've not really encountered a problem except

occasionally-- last semester was a good example of a problem I encountered with students.

One student legitimately was claiming that one of the other students was

continually responding to posts with a lot of reiteration of the same things for length. In

other words, it was a lot of verbiage where she would say the same thing over and over

again; I agreed with that. I graded her accordingly and I actually, at the end of the course,

thought the same thing occurred in her final paper and I said that: "You know, a lot of what

you have done here is a rewording of your statements in a different part of the paper so

there's not a lot of original material, here. After your initial discussion in that paper, that

is." But, other than that, most students have been appreciative of what their peers are saying, and are learning from them.

As Pat expressed, the adjustments have been minor, and they are done in response to student conduct that required Pat clarify what the "quality" expectations in the course were. Although this was a "minor" change, it is of note because it shows Pat's ongoing response to students as they complete course assignments.

In summation, the evidence shows two notable changes within the Organization features of Pat's course. The Responsive Communication indicator showed change in the discussion prompts. And the Efficient Communication indicator showed changes to the discussion board guidelines. There was also evidence of forthcoming changes: Pat talked about making significant changes to the discussion board prompts in an upcoming iteration of the course. Pat thought such a future change would affect the Utilizing the Medium feature and possibly cause a re-evaluation of course guidelines that would affect the Establishing Netiquette feature.

Summary of Pat's Evolution. Overall, Pat described several significant changes in the Design features of the course, with the most consequential occurring in the conceptual design of the course. Other notable changes were in the selection of course content when Pat first took over the course, which was done to better facilitate an *iterative approach*, with the aim to help students improve their ability to re-evaluate old ideas using new ones. Another change involved the use of multimedia assets and communication technologies: Pat evolved from an *inclusive design to* a *selective design* model, which shifted the way content was delivered, discussions took place, and the students were assessed. Finally, the temporal structure of the course, both workload and pace, changed because of Pat's decisions to alter the number and length of major writing assignments.

Two notable changes to the course's Organization features were reported by Pat. The first occurred with each new semester, when Pat altered the discussion board prompts to facilitate what he thought would be better "conversations" among the students. In addition, Pat made adjustments to the discussion board guidelines in order to clarify the course expectations and what it means to write a "quality" post. Finally, there was evidence that Pat was planning another significant shift in the nature of the discussion board prompts in the coming semesters that would change both how students interacted in the course discussion forums and possibly cause a re-evaluation of course guidelines to ensure that students were aware of the standards of conduct and decorum expected in discussion board posts.

The underlying reason for changes in both Design and Organization, according to Pat, were motivated by the evolution of Pat's thinking about the role of technology in the course. By choosing to remove multimedia assets and tools from the course in order to focus on the content, Pat has trimming the presence of technology in the *Course Concept* and overall design. The reduction of multimedia technology reduced the amount of time Pat spent creating or finding assets, lessened the time spent helping students resolve small issues in the use of these technologies, or decreased the time devoted to appraising changes to the tools and making modifications to the course as a result of those changes. Furthermore, by moving the course away from a *polyadic* approach towards a *monadic* one, Pat was able to spend time focused on refining the wording and content of the text-based course materials, intending for it to improve student engagement and comprehension of the ideas and concepts presented in the course.

Evolution of Features in Terry's Course. Terry began teaching online courses at the university in 2012, doing so with no previous experience as either an instructor or as a student.[25] In order to prepare for the course, Terry attended a series of workshops offered by the college, consulted with colleagues who had a lot of experience teaching online, and read a lot of current works on the topic of online teaching. As a result, Terry began building an online course using the most recent ideas and techniques, which led to an economical approach to the course development; where Terry deliberately chose to save time by using LMS defaults so that there would be more time spent on things like content development and refining the list of multimedia assets and communication technologies to be employed. In addition, Terry collected data from the students during the first semester of the course in order to, "figure out what, typically, in their online learning experiences what had worked and what hadn't worked."[26] This methodical approach to the development of the first iteration of the course has created a very stable structure with few notable changes taking place beyond the second iteration of the course.

Evolution of Design Features. With significant time put in "up front" to establish a solid course design, there were only a few significant changes to the Design features of Terry's course. These, and the evidence for them, are detailed in the following section.

Setting Curriculum. One meaningful and ongoing change was reportedly made to the Alignment of Learning Objectives indicator (which is how course content that supports the Learning Objectives is chosen). Terry explained this change in the "think-aloud":

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[25] Terry's only stated connection to online learning prior to this was when Terry's spouse took an online course that was described as, "The instructor never gave any feedback and then you got a grade. You did some papers, and you got a grade. And [my spouse] thought that they were very poor learning experiences."

[26] Terry described this whole process during the interview

I update the readings every year, the articles and stuff. I update the books when there's a better book, or when there's new editions. I have new books in my classes this year. So, following this, I actually updated a lot of stuff last fall, and I'm updating a lot of stuff this spring. And I actually have a new book for next fall. I mean, I just really try to keep it up-to-date because I think they should be reading the most recent information on these topics. I mean, I update it as much as necessary so that it's up-to-date. I don't know. I don't have a timeline for myself.

As Terry noted, these updates to the content were done in order to ensure students were engaged with the most current thinking and research in the field. This ongoing development was pointed out by Terry as a significant change in the Learning Objectives, animated by the State Certification requirements that mandated the substance of the course.

Designing Methods. Institutional decisions to change communication platforms in the past 5 years also impelled Comprehensive Design changes in Terry's course (which refers to the use of multimedia and other non-text based technologies for content delivery, course discussions, and assessment). Terry explained these changes during the "think-aloud":

ANGEL to D2L made no difference to my life whatsoever because I'm not using all the features of D2L. I'm using Google Docs for [the students] to turn in all their assignments. I mean, really, it's just a storehouse for information, and it just doesn't matter to me where that is. [The students] just aren't doing anything on it. I don't even grade on it, I send them back a rubric with my comments, and they don't drop things in the dropbox. I just don't use it that way. It's just a repository, so that could be anything in my mind.

Adobe Connect to Zoom. I mean, Zoom is way more useful for what we're doing now-- meetings. Zoom is not as good as Adobe Connect for teaching classes. What's great

about Adobe Connect for teaching classes is you could set it all up ahead of time. So, you would set up discussion groups[27] ahead of time using the [control panel]-- you could actually set up four separate groups that you could see at the same time. You could set up different [pods][28], but you could set your screen up so the video was in one section, a chat room was on there that was the shared chat room versus small group chats, and you could switch screens to each of the small groups. You could just prep your class for all the things you're going to want to do ahead of time. Zoom, if you want to share your screen you then are sharing your screen suddenly. It's not already uploaded. If you want to make discussion groups, they've added that feature but you have to do it in real-time. So, you can't put people in groups ahead of time per plan.

   I feel like Adobe Connect had more features for actual teaching, like a class. And Zoom is what it says it claims to be, which is a meeting software. I think you can get a version of Zoom that's more for conferences, where you have more bandwidth, but I still found Adobe Connect was better for instruction. As a teacher, I want everything prep'd-- you have all your materials prepared, who's going in which group; you have a plan for your class. In Zoom, a lot of that is on the fly.

As Terry noted, the institutional platform changes had little effect on the course because little time had been invested in leveraging different features of the technology. Thus, the LMS change was of little consequence because Terry treated the technology as "just a repository" for course content. In contrast, the changes in institutional communication tools--from Adobe Connect to Zoom--had

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[27] Adobe refers to these as "breakout sessions"

[28] This is the terminology adobe applies to the different content module options

considerably effect on the course because it disrupted the way Terry carried out one of the more significant aspects of the course: the synchronous discussion sessions. This disruption required Terry to invest additional time in learning the new Zoom technology and determining how best to employ it to meet the course needs that Adobe Connect features provided.

Establishing Time Parameters. Other noteworthy changes occurred to the three time indicators: Deadlines, Workload, and Pace (which serve to define the temporal structure of the course). Terry described these changes in the interview:

> I did a lot of synchronous meetings [in the first year]. I dropped that. I had them respond to every reading, send me their answers to their guiding questions, but that just felt like a check-in and it didn't do anything for anybody, so I dropped that. At one point I tried some quizzes, but I dropped that. They weren't useful; they weren't timed but an "answer a question kind of thing." That didn't seem particularly useful. I just really have moved more towards projects. Having projects that in order to do well on the project you really have had to participate in the experiences of the class, attend the Zoom meetings. Not holding them accountable in, I don't know, lower level kinds of ways, but holding them accountable ultimately for being able to do the work. [Now] it's just less about any of these other ways we check in on students.

The adjustments Terry made, such as reducing the number of synchronous discussion sessions and altering the times they met, were made early in the course development. The changes were a result of student feedback, Terry's observations of students struggling, and a commitment to maintaining the quality of the students' learning experience. The consequence of these decisions was for Terry to decide that a move towards projects made for better student learning instead of spending her

time reading student responses and correcting quizzes that "didn't do anything for anybody," and "weren't useful."

To summarize, there were several noteworthy changes to the three Design features in Terry's course. For the Alignment of Learning Objectives indicator, routine changes were made to the course content to ensure students were engaged with the most current materials. For the Comprehensive Design indicator, institutional decisions changed the communication technology available to carry out synchronous discussions. And for the Establishing Time Parameters feature, Terry removed a number of course assignments and changed the timing of the synchronous discussions.

Evolution of Organization Features. Terry's choice of an *inclusive design* model (which meant she used of a variety of technologies to provide students with multimodal resources) meant that the course included multimedia assets and digital communication tools since the beginning. The changes for each Organization feature is described below.

Utilizing the Medium. Little change in Terry's course occurred for this feature (which refers to the use of technology for course communication, like discussion boards). The slight change that did occur was because the institution decided to replace Adobe Connect with Zoom. The change in course communication technology prompted a very small update to be made in the student instructions for the new Zoom technology (which is the Multimedia Design indicator). Because this change was minor, it did not change the requirements for students when using multimedia assets to complete their assignments. No evidence could be found to show that these changes affected the indicators for Appropriate Communication Technology indicator or Responsive Communication.

Establishing Netiquette. Of the notable changes to Terry's course, only one was described for the Establishing Netiquette feature (which involved helping students identify and adopt behaviors that are deemed appropriate for online communication). Terry explained during the interview that, "I haven't really ever had any problem with [professional conduct in the course discussions] at this level-- I have, but it was my very first semester and then I put [the "Professional Conduct" guidelines] on the syllabus and I haven't had a problem since then." This single adjustment was indicative of the *principled laissez-faire* approach Terry used to organize the course in general and the discussion boards in particular. By establishing these "Professional Conduct" guidelines early in the course's history, Terry sought to maintain standards of communication and clarify expectations for student conduct in the course. In conclusion, the Organization of Terry's course changed slightly over the five years she taught it online. The noteworthy change occurred when "Professional Conduct" guidelines were added in response to an incident the first time Terry taught the course.

Summary of Terry's Evolution. The evidence indicates very few significant changes were made to Terry's course across semesters, with most of these minor changes being made immediately following the first semester it was taught. For instance, Terry made minor adjustments to the course in order to accommodate an institutional LMS technology change, which nominally affected how course content was delivered and how the course's synchronous discussion board was used. Another minor change occurred in response to student feedback after the first semester of the course: Terry reduced the number of activities slightly and a changed the synchronous sessions a bit to better accommodate student learning. And a final change that followed the course's first semester was the addition of "Professional Conduct" guidelines, which spelled out appropriate behavior in course communications. The one continuous change to the course was a

re-evaluation of course content each semester to ensure students are engaging with the most current materials, which typically involved the replacement or addition of one or two articles to the course reading list.

Research Question 2 Summary. Data collected for this study was examined in light of research question 2: *How has the conceptualization and enactment of the Design & Organization element evolved in these courses?* Answering this question began with the CoI framework as an interpretive lens for identifying key terrain in the data landscape. The data was then examined for signs of notable changes in the conceptualization of the courses or the way the courses were executed. The result was a data picture of how the instructors evolved both courses.

Pat has been shaping and sculpting his course for 15 years. The numerous changes it has undergone reflect Pat's continuing re-evaluation of the fundamental nature of online instruction and whether or not the course is providing the students the best possible opportunity to engage with the subject matter. This re-evaluation has led Pat to deliberately move the course from one that employed different technologies and multimedia assets to one that focused exclusively on text-based resources so that more time could be given to fully engaging with the course subject matter in an iterative manner.

Terry is, conversely, a relative newcomer to the field of online teaching, having only been doing so for five years. This online course has seen very few notable changes during that time. This stability reflects the significant amount of time Terry spent researching and thinking about effective ways to design and organize student online learning both before and during the first semester of teaching the course. This deliberative process led Terry to employ relatively novel online teaching strategies, only made possible by technological advances. The process also led to

the development of a multimodal course[29] which allowed students to engage with materials in the manner that best suits their own learning style.

Overall, the analysis of data identified two courses that included all the Design and Organization features outlined in the CoI framework, but differing in the way the framework's concepts were enacted. While the instructors' shared the same institutional context, their unique experiences with technology, content, students, and online teaching shaped the development, decisions, and different uses of technology. These differences belie the intention that both courses are the product of careful and considered decisions made by instructors with the intention of providing their students with what they believe is a high quality educational experience.

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[29] Multimodal courses involve the use of Information and Communication Technology (ICT) and multimedia creation tools to develop dynamic course content that engage different sensory modes and support students with a variety of learning styles (Sankey & Birch, 2005).

CHAPTER 5

Discussion

The Community of Inquiry (CoI) framework was used as a tool for examining two online graduate courses. The framework served as a lens through which to develop themes and subthemes from the data collected. As a result, two course profiles were built, making it possible to identify the subtle, ground-level features for the Design and Organization of the course. This chapter will discuss the meaning of the data analyzed in light of the CoI framework, its meaning, the limitations the data collection and analysis, and aspects of the subject that still require exploration.

The evidence collected from the course materials, interviews, and "think-aloud" sessions shows that both courses contained all of the features described in the Design & Organization Element of the Community of Inquiry (CoI) framework. Yet the two expressed these in substantially different ways, with fundamental differences in their presentation of course materials, course interactions, and the use of technology.

While the goal of this study was more academic, there are practical lessons to glean from that analysis that can be useful for those seeking information about the practical application of the CoI framework. For those preparing to take the leap into teaching online, or for someone who has been teaching online for a while and is looking to revise their class, the examples provided in the preceding chapter present a way to think about the practical application of the CoI Framework. Furthermore, the discussion of these results in this chapter highlight the lack of a "one size fits all" approach for developing the structure and organization of online courses. At the same time, the results present those same instructors with cases and vignettes for consideration when thinking about their own approach to course development.

Research indicates the Teaching Presence component of the CoI Framework can have a positive correlation to learning outcomes for students in online courses (Shea, Pickett, et al., 2003). Further analysis of the framework shows two of its three elements, Facilitating Discourse and Design & Organization, were strongly correlated with student learning (Shea, Fredericksen, et al., 2003). These studies, however, were large-scale, quantitative investigations that examined the mere presence or absence of CoI framework features; they did not produce thick descriptions of course design and organization, as its evolution. The starting point for this study, therefore, was the perspective that an up close and personal examination of online courses is needed to better complete the scholarly picture of online coursework. Because instructors, institutions, disciplines, technologies, and other factors shape how a course develops and subsequently evolves, there is variation in the manifestation of CoI Elements, even under similar circumstances. Thus, to communicate this variation more fully, the in-depth examination of a few cases is needed. For this study, detailed data was collected from two online courses taught at large Midwestern university's College of Education by instructors with different experiences of online teaching, in order to better understand the nature of any specific elements of Teaching Presence that might be manifest in the courses.

Based on the problem outlined above, the primary questions for this research were:

- How are features of the Organization & Design element conceptualized and enacted in the online courses selected for this study?

- How has the conceptualization and enactment of the Design & Organization element evolved in these courses?

Research Question 1

> *How are features of the Design & Organization element conceptualized and enacted in the*
>
> *online courses selected for this study?*

Summary of Results. Data collected from the two courses was examined in light of RQ1, which was answered by using the CoI framework as an interpretive lens. Although the data provided evidence for all the features in both courses, there were differences in how those features were manifested for most indicators (see Figure 42).

Design Aspect. Within this aspect there were predominantly differences between the two courses for all three of the main features: Setting Curriculum, Designing Methods, and Establishing Time Parameters.

Setting Curriculum. Evidence related to pre-course development showed that the guiding principles and role of technology differed between the courses (Pat's objectives integrated with program goals and selectively employed technology, Terry's objectives integrated with state certification standards and was inclusive of its technology use), while the overall organization and modes of assessment were similar (both defined their organization around their respective course objectives and using written and points based assessment). Although the objectives of both courses were vertically and horizontally integrated, these integrations differed in their nature and in their components (Pat's integrated at the program level and had iterative horizontal integrations among its modules, Terry's integrated at the state level and had progressive horizontal integration among its modules). Finally, the evidence indicated that course content aligned with course objectives in different ways (Pat's alignment was interactive while Terry's the product of backward-design).

Designing Methods. Evidence of the instructors' choices for their course designs showed that while there can be differences between courses, technical constraints can have a homogenizing

effect on their design. This was evident in the two different comprehensive models of design employed by the instructors (Pat employed a selective design, built around a single medium, while Terry used an inclusive design that employed diverse multimedia tools and assets). Despite these different approaches to designing the navigational design and course aesthetic were identical in both courses.

The evidence suggests the similar navigation and aesthetics were due to a homogenizing effect of the D2L LMS. For both instructors, the institution's decision to use this LMS constrained their options for developing a navigation style to a single LMS wide style (a two-tiered "breadcrumb" approach) and influenced the appearance of their courses by providing the same system default 'look' (a utilitarian design built around the university's 'brand' identity). Finally, the evidence showed that both instructors employed different approaches to the design of their units, modules, and lessons, in addition to their approaches to long term learning (Pat chose a design that emphasized revisiting concepts over a period of time, while Terry used an approach that progressed from one week to the next towards a final project).

Establishing Time Parameters. The evidence related to the temporal structure of the courses was also similar in that both instructors adhered to institutional and professional norms and traditions with regards to deadlines. The workload and pace of each course, however, differed in both nature (Pat employed a dual stream of projects and discussions, while Terry employed only a single stream encompassing all of the course work) and quality (Pat applied a variable timeline to the projects and constant timeline for discussions; Terry, on the other hand, used a variable timeline to the workload).

Organizational Aspect. The features of this aspect also showed differences, as well as some similarities, in several important respects (see Figure 43).

Utilizing the Medium. The evidence associated with this feature exhibited marked differences between the two courses for all indicators. Their approaches to engaging students in discussion board 'conversations' differed (one instructor used a traditional, highly routinized approach while the other used a more improvisational and connected approach). Evidence for the use of communication technology also showed differences between the two (Pat's only channel of communication was text, while Terry employed multiple channels). These differing approaches to communication paralleled a variation in the instructors' use of multimedia assets and technology in their courses as well (Pat used a *mono channel* approach, but left an option for students to use other channels of media for assignments, while Terry used a *multi-channel* approach and required that students employ similar technologies in their course work).

Establishing Netiquette. The evidence was very similar for how the instructors maintained appropriate discourse and writing standards. Both communicated a preference for qualitative approaches to course discussions (they did not have quantitative measures, such as minimum/maximum word counts), but they did provide rubrics that set expectations for the students. Evidence also showed that both instructors employed traditional, formal conventions for academic papers and larger course projects, while allowing limited informal conventions (such as the use of emoji, contractions, etc.) in course discussion to help students feel more comfortable in expressing their ideas. Finally, both instructors applied a principled laissez-faire approach to their guidance on the content of student discussions, relying largely on social and institutional norms to guide students in the language and tone of their course discussions rather than scripted or specified protocols for discussion board interaction.

Meaning of Results. Given the interpretation of evidence for Pat and Terry, what do the results for Organization and Design in their courses mean? Two conclusions stand out.

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Form follows tradition or function (except when the LMS dictates). The evidence indicated that the form of both courses (i.e., their Design and Organization) followed a *traditional* approach to online teaching presence or a *functional* approach. Specifically, the form of Pat's course followed a *traditional* conception of course Design and Organization while Terry's followed a *functional* one. The exception to these *form-follows-tradition* or *form-follows-function* enactments appeared where the form of the LMS constrained the Design and Organization of the courses.

The form of Pat's course, for instance, was modified in various ways over the past 15 years he taught it. But the movement of these modifications was increasingly toward *traditional* forms and norms of online teaching. Pat's decision to progressively employ more traditional forms (e.g., written communication; "Post Once, Respond Twice"; "Post First"; weekly asynchronous discussion; etc.) came after considerable contemplation each semester when he evaluated how well the design, organization, substance, and activity of the course met the purposes he had in mind.

The result was a consistent migration away from higher threshold technologies (i.e., newer, more involved, multimedia and multimodal ones) toward lower threshold technologies (older, less involved, single media and unimodal ones). To Pat's 'opportunity-cost' way of thinking, the potential gains of designing and organizing a course with higher threshold technologies seemed to repeatedly result in less effective teaching, decreased student learning, and under-achieved course objectives. For example, one of the technologies Pat has found helpful in the past was to create random discussion groups for each week through the LMS, however the new LMS does not offer a way to efficiently organize these and Pat found doing so manually was detracting from time spent developing better discussion prompts. Pat ultimately decided the best way to maintain focus

on the learning objectives was to conceptualize and enact a course whose form followed time-honored traditions structuring course content and setting up discussions.

The form of Terry's course, on the other hand, was modified very little over the five years she taught it. Early in the course's design she rejected the traditional forms of online teaching because of negative perceptions and experiences of a family member. Instead, Terry sought to develop a course that was more than "a correspondence course." From the start, Terry conceptualized the course's Design and Organization as one that followed *functional* forms and norms of online teaching. The course's shape employed forms, techniques, and tools based on their purpose, effectiveness, and efficiency for students and instructor. The result was an all-inclusive approach to technology use, but one that stripped away any technologies that did not efficiently support students' progress towards the learning objectives; similarly, Terry removed any activities that did not effectively move learning toward the course learning objective. To Terry's functional way of thinking, "Students need to have a sense of the 'grand design' of the course and reassurance that participating in the learning activities will lead to attainment of their learning goals" (Anderson et al., 2001a, p. 6). Despite Terry's reductionist efforts, there remain aspects of the course structure, such as the navigation and course page design, that are established via the LMS and cannot be efficiently altered by an instructor. These issues with the LMS do not, however, alter the decisions Terry made in order to maintain a focus on the learning objectives by conceptualizing and enacting a course whose Design and Organization followed a minimalist approach to online teaching.

Purpose drives technology (until it becomes gratuitous). One of the most striking differences between the two courses lay in the predominance of text-based technologies in Pat's course, and an extensive mix of text-based, advanced multimedia, and modern communication

technologies in Terry's. Were an observer to have learnt the background of the two instructors prior to looking at the Design & Organization element of each class, it might come as a surprise that Pat, the instructor with the broader base of experience with educational technology and teaching online, would be the one with the predominantly text-based course. This highlights one of the potential issues online instructors can face is the paradox of "technology will fix everything." This leads many to have experiences like Pat, who invested significant time in searching for the perfect piece of software and learning coding languages and advanced technology only to struggle either trying to keep the technology functioning or to keep up with the rapid innovation cycle of the technology. And in the end, to forgo the wide range of technology assets available in favor of a limited, text-based one.

Avoiding this paradox requires that instructors focus primarily on the pedagogical foundations of the course, and be deliberate in their selection of course technologies. In Pat's case the response to "being burned" by the technology paradox was to deliberately begin stripping technologies out of the course, reducing the course to the simplest Design and Organization possible, and heavily investing extra time in aligning purpose with technology. Pat's current thoughts on the purpose of course driving technology use were expressed in the interview:

> I'm almost appalled sometimes at some instructors who use technology gratuitously where, yeah, it's got a screen, it's got the bells and whistles, it can read our thoughts with a little click, things like that. But for what? I mean, are we teaching the technology, or are we teaching the course content? Obviously, there's value in technology that supports the learning objectives, but if the technology defeats the purpose of why you're taking the course [because you are struggling to learn or implement it], then it becomes gratuitous,

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and like gratuitous anything, it gets in the way, and it changes your focus in a negative

way. That, I think, is what I bristle at sometimes.

Similarly, Terry embraces the idea of purpose driving technology choices, and said this

about the selection process during the interview:

What's the pedagogical purpose of [the technology or technique]? How is it serving student

learning? That's how I feel about all of this. So, I'm never like, "Oh my gosh, there's this

cool, new thing where you can animate yourself. Should I put it in my class? Oh, it's so

cool. I'll put it in." I say, "What do I want my students to learn, and what technology would

help me best do that or give them feedback on their learning that's relatively efficient for

me?" I do think about efficiency to a point because sometimes there would be a better

option, but it's not reasonable for the amount of time I can possibly dedicate to teaching.

By focusing so heavily on the fundamentals of teaching, and putting pedagogy ahead of technical

acquisition, Terry is able to spend more time on course content, developing additional multimedia

materials, and conducting synchronous discussions.

Both Pat and Terry have opted to use only the technology that is necessary to deliver

content and that matches their specific pedagogical needs. By reducing their respective courses'

technological requirements, they reduce the burden of keeping pace with technological innovations

and avoid the drawbacks of gratuitous technology use.

Research Question 2

How has the conceptualization and enactment of the Design & Organization element

evolved in these courses?

Summary of Results. Data collected for this study was examined in light of research

question 2. Answering this question began with the CoI framework as an interpretive lens for

identifying key terrain features in the data landscape. The data was then examined for signs of notable changes in the conceptualization or enactment of the courses. The result was a data picture of how the instructors evolved both courses.

Pat has been shaping and sculpting his course for 15 years. The numerous changes it has undergone reflect Pat's continuing re-evaluation of the fundamental nature of online instruction and whether or not the course is providing students the best possible opportunity to engage with the subject matter. This re-evaluation has led Pat to deliberately move the course from one that employed different technologies and multimedia assets to one that focused exclusively on text-based resources so that more time could be given to fully engaging with the course subject matter in an iterative manner.

Conversely, Terry is a relative newcomer to the field of online teaching, having only done so for five years. The online course has seen very few notable changes during that time. This stability reflects the significant amount of up-front time Terry spent researching and thinking about effective ways to design and organize student online learning both before and during the first semester of teaching the course. This deliberative process led Terry to employ relatively novel online teaching strategies, only made possible by technological advances. The process also led to the development of a multimodal course[30] which allowed students to engage with materials in the manner that best suits their own learning style.

Overall, the analysis of data identified two courses that included all the Design and Organization features outlined in the CoI framework, but each course differed in the way the

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[30] Multimodal courses involve the use of Information and Communication Technology (ICT) and multimedia creation tools to develop dynamic course content that engage different sensory modes and support students with a variety of learning styles (Sankey & Birch, 2005).

framework's concepts were enacted. While the instructors' shared the same institutional context, their unique experiences with technology, content, students, and online teaching shaped the development, decisions, and different uses of technology. These differences belie the intention that both courses are the product of careful and considered decisions made by instructors with the intention of providing their students with a high quality educational experience.

Meaning of Results. The evolution of these courses is a reflection of not only the differences in the experience and knowledge of the instructors who created them, but also in the evolution of communication and multimedia technology in the past few decades. Two patterns stand out.

Persistence in design (the exception, not the rule). One of the counterintuitive findings of this study was the dissociation between the course Design and Organization and the LMS hosting the course. For instance, neither Pat or Terry was significantly affected by the institutional decision to change the LMS (from Angel to D2L). For Pat, the shift was marked more by the loss of specific tools in the LMS that helped implement the course concept, but the overall Design and Organization of the course remained the same. Similarly, Terry's approach to course Design and Organization regarded the LMS as little more than an "online repository" for course materials, which provided ample flexibility in the design to withstand the shift in technology.

Concepts of communication shape discussion enactment (except when there's no alternative). One of the most interesting changes that occurred in the two courses is the evolution of online discussions. At the heart of this change in the two instructor's conceptions of online discussion boards, particularly asynchronous discussion boards, is the nature of communication in the virtual environment itself. For Pat, the conception focuses on *written* communication, which

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is evident in the exclusive use of asynchronous discussion boards in the course which follow the traditional conventions described by Davis and Dykman (2008):

> Students are encouraged to write and post their answers online before looking at the postings of other students, although every student can see the postings that have been made by every other student once posted. Part of the requirements for each week's work should be that students read and consider the postings of other students and the instructor' s responses to them as part of the learning process in the course room. This is analogous to listening to class discussions in a conventional classroom. Students can also post comments to other student's postings, so students can (and should) dialog about issues in the course. Often, an online course will include a requirement that students dialog regularly with one another. This is accomplished by requiring students to comment substantively about the postings of several of their fellow students each week.

For Terry, the conception focuses on *spoken* communication, which is evident in the nearly exclusive use of synchronous discussion in the course.

Furthermore, as these differing conceptions are enacted in the respective courses, there are times when the instructors state that asynchronous discussions are the only viable options, such as is evident in the Week 6 discussion forum of Terry's course. Despite Terry's preference for synchronous sessions, the *milestone* approach to the Unit/Module/Lesson Design indicator employed in the course means that during week 6 the only viable option to ensure students have fully absorbed the material necessary for the following week's phase of the course project is an asynchronous discussion board. Terry's choice of this type of activity is an example of the still important function of asynchronous discussions in the virtual classroom.

The evolution of the guidelines for these discussions also reflect the different values the instructors maintain. In Pat's course the most significant change in the discussion forums was the addition of the "Post First" requirement. Here, the student was required to Post their response to the discussion prompt before they can read or respond to their classmates' posts. This approach emphasized the importance of all students expressing their own views and thoughts on the discussion topic first, regardless of others' opinions or views, and thereby ensuring that even minority opinions are given an equal opportunity to be expressed. Because of this emphasis, Pat perceived the "Post First" and "Post Once, Reply Twice," approach to asynchronous boards as the most authentic form of online discussion because of the value placed on written communication.

The evolution of discussions in Terry's course begins with the rejection of this more traditional value on written communication even before the course began. Terry expressed this in the "think-aloud":

> I just really hate the post once, respond twice thing, and when I surveyed students the first year I did it, they said, "This is not helpful. It's just like busy work. Everybody knows how to play the game. You post once. You wait until the end of the week. You go in and you write a sentence on two people's posts. You don't even have to read them. You just kind of say like, 'Good idea, I agree'"
>
> There's no cognitive work to that, and you would never do that in a brick-and-mortar class, "Everybody go around the room and say the same thing. Then respond to what everybody said." It just doesn't make any sense at all to me, and I don't understand it as a pedagogical strategy. Either you have social constructivist views about learning and you want people to work to make meaning together, in which case you have to listen to what the last person said and build on it, right? Or you want them to learn something

individually, in which case they can do an individual assignment. I don't know why I would put it on a public discussion board.

I don't understand, I can't for the life of me figure out the pedagogical goal, and I hate to say this. Maybe there is one and I just don't know what it is and that I have something I really need to learn, but I just don't know what it is. I'm just trying to think-- I'm sitting here right now even with you, and I'm like, "what's the learning goal here?"

I guess you get to see that they did the reading because they post something about the reading individually. And I guess you get to see that they went and read two other people's thing-- But, I mean, what does it do? We're not building up knowledge together. If I want to see if you did the reading I could give you an individual assignment where you tell me something about the reading. It's one thing if it becomes a topic that you can debate and take sides and then have a real conversation. I think a lot of people have it in their classes because it's the part, the so-called student interaction.

This emphasis on spoken communication is also reflected in the directions Terry provided for the asynchronous discussion boards (See Appendix E). By employing this Digital Dialogue approach, Terry is attempting to mimic in the spoken conversations of the F2F classroom. Because these discussions simulate the interaction of the traditional classroom, Terry perceives this Digital Dialogue to be the more authentic approach to online communication.

The fact that Terry was compelled to employ the asynchronous board because there was no viable alternative demonstrates the continuing relevance of these tools. How they are employed, appears to depend on the form of communication the instructor values--written or spoken. However, this leaves a lingering question: Does Terry's questioning of the pedagogical validity of

the traditional approach to asynchronous discussion boards and resulting *Digital Dialogue* approach represent an evolution in the way to set-up asynchronous discussions in general?

Everyone knows what's appropriate (except when they don't). A final result of the analysis worth discussing was the way in which the instructors chose to enact their respective concepts of proper online etiquette (Netiquette). The notable aspect of their netiquette was the absence of standards for conduct in the online courses. To be sure, there was mention of outside institutional standards. But specific instructions on how to behave and interact in the course--like a list of "do's and don'ts's"-- were not present. Instead, very general guidelines were outlined, describing the tone of communications and what constituted 'appropriate' dialogue. These general guidelines are surprising because they ran counter to the recommendation to have specific instructions proposed in the CoI literature (e.g., "keep your messages short," "follow APA writing guidelines," "use appropriate punctuation and capitalization," "when writing emails to your instructor, include an appropriate greeting, such as 'good afternoon'," etc.….).

One potential explanation for the general-ness of netiquette guidelines is that Pat and Terry were teaching graduate level courses comprised primarily of professional educators, most of whom already understood appropriate online conduct from their K-12 teaching experience or from prior courses they had taken in the graduate level program, where institutional and course-specific guidelines had already been internalized as the 'norm'. For both Pat and Terry, however, this assumption had been undercut by student behavior on a few occasions so they saw the need in one or two instances to develop additional guidance on netiquette.

A second explanation for the general-ness of the netiquette guidelines may be that the students and instructors in these two courses have moved into a new era of digital communication

in general, which the CoI framework was not designed to account for in its first iteration. For instance, Shea et al. (Shea, Fredericksen, et al., 2003) said:

> Newcomers to online communication are often unaware that certain acts may violate established norms. One example is typing in uppercase, which is viewed as 'shouting' in online communication and thus inappropriate for most messages (p. 10).

Given Shea's conception of netiquette, students new to online communications are 'learning' the semantics and participatory structures of a new form of communication, so they need to be instructed on points of grammar, such as the proper use of all capital letters. Such a conception also frames students as newcomers to the genres and discourse forms of online communication (having little to no experience about what is considered socially appropriate online writing) and 'old hands' with offline writing genres and forms (essays, research papers, letters, cards, notes, etc.).

What may have been an accurate conception of student netiquette during a past decade may not be true in the current one, as exhibited by Pat and Terry's handling of course netiquette. With so many people communicating via digital platforms (text, Skype, Twitter, Facebook, Zoom, etc.) from very young ages, the conception expressed by Shea et al. (2003) may no longer be a valid one. Instead, what has emerged in the current decade is a more 'netiquette-minded' student population who no longer needs over-specified instruction on 'how' to communicate an idea online, but rather needs instruction and guidance on 'what to say.'

Knowing what's appropriate, and how to manage it, is an important issue because most institutional standards of online conduct were codified over a decade ago and based on common social experiences and understandings of 'proper etiquette' at that time. As those experiences and

understandings evolve (for the better or worse[31]), the assumptions about what students know about participation in online communication forums and writing activities has prompted a shift in the architecture used by instructors to manage it. Pat and Terry's courses, in some measure, represent this shift because of the way they handled issues of "professional conduct."

Limitations

  Design. In retrospect, a limitation in the design of this research stand out. The first is the lack of multiple, scheduled data-collection sessions throughout the semester. Because there were only a few data-collection sessions, information about change was reliant on the instructors' memory during the interview or "think-aloud" and the observable changes in course artifacts. Though this meant there was an element of human error and reduced the opportunities a deeper longitudinal analysis of each course, the changes that were observed and particularly those the instructors recalled, were the most prominent and data that might have been gathered during additional sessions would have ultimately diluted the picture. In the future, this limitation could be mitigated by adding additional scheduled data-collection sessions to the time frame, and extending the amount of time for analysis to allow for all of the additional data to be fully explored.

  Population. Another limitation of this research project was in the number of instructors involved, because it limited the amount of data could be collected for cross-comparison and it was not a representative sample of all online instructors at every level in different types of institutions. It is regrettable, as data collected from other instructor experiences may have helped refine labels

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[31] This may be a byproduct of the ability to communicate online anonymously, which has also led to the rise of 'trolling', and the de-emphasis on traditional types of formal writing (Rosen et Al, 2010)

for the quality of the different indicators in the analytic framework or allowed for an even greater emergence of variations in the conceptions and manifestations of CoI features. By limiting the focus of the research on only two tenure track professors teaching graduate level courses provided an opportunity to collect a large amount of qualitative data from courses developed in a similar teaching environment; this also allowed for a much deeper analysis of that thick data set, which better defined the nuanced variation between the course. Mitigating this limitation in future research might be done by employing the labels developed in this research as a starting point to delve deeper into additional data sets.

Analysis and Results. The greatest limitation of this research project was the CoI framework itself because it formed the basis for this investigation the weaknesses inherent in the use of the framework affect the research project itself. The CoI framework itself is a debated subject, as described in Chapter 2 there are a number of critiques and competing theories that suggest the framework is not the pinnacle of online learning theory; yet, it is one of the most widely employed theories in online education today, particularly as the Quality Matters program[32] has incorporated it into its own structure since 2011 (Quality Matters, n.d.) and this project recognized there was a need to explore the framework from a qualitative approach. The limitations and controversial nature of the CoI framework itself notwithstanding, future research similar to this project might mitigate those weaknesses by employing an alternative framework to explore the thick qualitative data generated.

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[32] The Quality Matters (QM) program is a nationally recognized certification for online courses and programs. More information can be found on their website: https://www.qualitymatters.org

Recommendations

There are several recommendations for future research to be drawn from the analysis and conclusions presented in the preceding chapters. They are detailed below.

Conditionalizing the Application of Results. It was the good fortune of this research project to examine two courses that met the selection criteria and that were taught by instructors who were willing to participate. The research also benefited from courses whose Design and Organization[33] highlighted differences between the DAM and GEM ends of the spectrum (See Chapter 1). Because the current state of online education is riddled with contesting frameworks and guidelines, some educators will invariably argue that one or both of these courses could serve as a model for some form of "best practices" in online education. As the limitations in the previous section point out, however, these two courses were taught in an environment considerably different than most others. While it might be useful to incorporate some of the specific Design and Organization features used by the instructors, the wholesale transfer of these features to undergraduate courses at a community college, for example, would not necessarily improve the quality of student learning there.

Recommendations from this study, then, need to be understood in terms of the conditions under which their Design and Organization took place and the type of analysis conducted. In particular, given the prominence of the CoI framework in online education, further research needs to examine how the use of CoI's framework as an interpretive lens compares to other frameworks, models, or theories. In thinking about the results of this research project, there is also a need for

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[33] Despite many fundamentally similar philosophies on the part of the course instructors, and that the two were developed in a similar education environment.

further study on the effects of at least four independent variables on the development needs of online courses at institutions of various levels; these are the nature of the instructor, the institution, the students, and the courses themselves.

Nature of the Instructor. This research project examined courses taught by education specialists, who have taken courses on pedagogy, but would similar manifestations of Design and Organization features work for instructors in other fields where prior training or classes have a focus on an entirely different subject? Similarly, the courses examined here were taught by tenure track professors, who are able develop and refine a course over several years; would an adjunct faculty member or teaching assistant be afforded that same opportunity, or if given one of these courses would they conduct it in the same manner. Finally, the two instructors were professors in a highly ranked College of Education at a major Midwestern university whose prestige allows it to be much more selective in its recruiting of full-time faculty members, this is not always the case at smaller institutions who may have to accept faculty members who lack the same background, experience or skills.

Nature of the Institution. As just noted, the prestige of an institution can affect its ability to hire faculty with the necessary skills to develop high quality online courses, but even at prestigious institutions there are a number of factors that may affect the best choice of course design. For instance, even though the university where these courses were taught is well regarded and able to recruit experience professors, many of the courses taught across its various colleges are taught by graduate students who may only be at the institution for a few years; this high instructor turnover may require institutions implement policies that minimize the involvement of course instructors if there are to maintain consistency across sections and semester. Similarly, the courses examined in this research project were taught at a major university with a generous

operating budget so the institution can invest significantly more in developing or updating online courses each semester than many smaller institutions. A larger budget also means the ability to purchase more advanced technologies, build production facilities for video lectures, and hire support staff like instructional designers, web developers, etc. so that instructors have better support infrastructures when they do develop or maintain courses.

Nature of the Students. The course examined in this research project were graduate level courses, with many students who were already educators working at schools and taking these courses as part of their professional development. These students have different pedagogical needs than, for instance High School students who may be taking an online course at a local community college as part of an advanced studies program. Even courses developed for undergraduate students may require different approaches to development depending on whether they are for pre-professional students, liberal arts majors, or those completing certification degrees. Future research into the application of the CoI framework, or other models of course development, needs to be conducted to explore the different approaches to course development that may be necessary given specific student populations.

Nature of the Course. For instance, the courses that were the subject of this investigation were only taught once a semester and are not meant to have more than 25 students so there is an opportunity for more in-depth engagement by the instructor; however, general education courses that are taught multiple times a year with many sections each time may require different approaches to Design and Organization features. Similarly, courses developed for students may require different approaches to development and instruction depending on whether they are general education courses at a tier-2 college, specialized pre-professional courses (pre-med, pre-law, etc.) at a tier-1 research university, or a professional certification degree (aircraft maintenance, certified

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welder, diesel engine mechanic, etc.) at a community college. Furthermore, specialized course like foreign languages or digital art & design courses that all require significant instructor feedback in order to develop mastery may have similarly specialized design and development needs.

In Conclusion. This research project examined two online courses using the features in the CoI framework as an interpretive lens. As case studies, the results are specific to the conditions under which they were developed: experienced and knowledgeable tenure track instructors with pedagogic backgrounds who were invested in the long-term development of these specific courses for a small number of graduate students pursuing professional development at an institution with a large support and development infrastructure. Rather than set these two courses as models or templates for the development of other courses in general, these should be recognized as examples of possible variations of any course developed under similar conditions. Given the variables just described, there are a number of permutations of similar qualitative research that need to be undertaken in order to define the design approaches best suited to differing circumstances.

Checking all the boxes (except when they don't). There is one final point for consideration: were someone to simply apply the Community of Inquiry Framework as a "standards checklist" or in a "quality control" evaluation, these courses would have shown mixed results, with Pat's course scoring worse for its lack of multimedia, and yet those scores would not reflect the realities of either course. Furthermore, both would have checked many of the same boxes, and yet they are very different courses that is only seen when examining their Design and Organization in great detail to understand the conceptions and enactments in each area and the reasons behind it.

Anyone who might like to use the CoI framework as an evaluative tool in the future should take this into consideration; this might be accomplished by establishing a matrix that included the

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area aligned with the framework, a set of naming guidelines that could be used to describe the way a feature or indicator is manifest in that area, and a means of establishing the pedagogical rationale behind that particular manifestation. Establishing such a matrix would, however, require considerable care and need to be validated through rigorous study.

Furthermore, one of the more notable findings of this study is how much personal experience and institutional factors undermined the development of a course's structure and organization as seen through a traditional CoI lens. For example, in the case of Pat, previous multimedia-based failures detracted from time spent on course content, which in turn led to developing a purely text-based course. Similarly, the institutions' choice to change the LMS showed the significant impact institutional decisions have on online courses; yet institutional decisions that manage F2F learning affect offline learning in courses far less. This latter point also highlights the fundamental misunderstanding of the limitations and constraints offered by medium in which online learning takes place.

Much like the medium of paper and pencil, the LMS itself becomes "invisible" to those involved in the development and conduct of online courses. Yet the LMS constrains the way instructors develop courses and present materials[34]. Furthermore, as Stephanie Coopman (2009) points out in her essay on the Blackboard LMS:

> The intensely hierarchical nature of Blackboard persists producing a textualized approach to teaching and learning. This hierarchy reflects the power structure embedded in e–learning management systems: Blackboard Inc. designers and marketers who determine

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[34] Though we tend not to think of paper and pencil as being constrained when we are using them, the medium is in fact limited, for example, the amount of information that can be presented is bound by the size of the paper and limited to presenting monochromatic still images

the learning environment's structure; university administrators who determine which features should and should not be included as well as instructor access to managing features; instructors who determine which features should be available to students and how the class website should be structured within the platform's parameters; and, students, who determine how they will use the interface within the structure designed by Blackboard Inc., university administrators, and instructors. (section 10)

This hierarchy of control is much like an inverse pyramid, with the greatest power to structure course interactions and communications laying with the LMS development team, the next greatest power with the institutional administrators, etc. Thus, instructors are constrained in their course development by a system over which they have very little control.

Finally, as the results of this research have shown, a qualitative examination of the one element of Teaching Presence shows variations across many of the features and indicators used in previous quantitative research on the CoI framework. Future qualitative research needs to be conducted to explore the variation that might exist in the remaining elements, or in the other two Presences? In addition, a more extensive project that compares the results when the same course is explored following both a quantitative and a qualitative approach, needs to be done to better define what it means for a feature to be manifest because, as in this research project, there are a number of features that may be present in a course even though they are unlikely to appear in the results of studies employing quantitative methods similar to those previously employed to study the CoI framework. There may also be an underlying principle, as the analysis for this study suggests, that instructor involvement and pedagogically driven activities and content are far more important to the quality of an educational experience than the CoI framework currently allows for.

APPENDICES

APPENDIX A

Interview Protocol[35]

Date _____

Time _____

Location _____

Interviewer _____

Interviewee _____

Release form signed (Circle One)? YES / NO

Script for Interview[36]

Thank you for participating in this interview. Your thoughts will make a valuable contribution to our understanding of online education. Your identity and responses will be kept confidential. This interview will take approximately one and a half hours. I may ask to conduct a follow up interview at a later date to clarify any points.

Before we begin, I need confirm that you consent to be a part of this study. Here is the form you'll sign if you agree to be part of the study. Let's take a few minutes and go over it. [Review the consent form with the Interviewee.]

_____

[35] This Interview Protocol was piloted with the generous assistance of my peers in the Fall of 2016

[36] Starter prompts are preceded by a solid bullet (●) while possible follow-up prompts are preceded by an open bullet (○). In most cases starter prompts are opened-ended, however in some instances they are not

The purpose of this interview is to discuss how your course is designed and organized ... how you have used digital technologies to structure your course … and your philosophy or thoughts on online teaching.

- I would like to begin by asking you to please state your name, your institutional affiliation, and your current position.

Thank you very much

Objectives & Design

- If you were asked to teach any new online course next semester, take me through the process you would use to develop the curriculum for this course.
    - Briefly describe how you develop the course's learning objectives or outcomes?
    - How do you align the learning objectives and the learning activities within the course?
    - How do you develop your syllabi in accordance with the learning objectives and learning activities.
- Could you take me through the process you used to develop the curriculum for _____ (write in the name of the online course you will be discussing) when you were first given it.
    - Briefly describe how you developed the course's learning objectives/outcomes?
    - How did you align the learning objectives and the learning activities within the course?

○ How did you develop your syllabi in accordance with the learning objectives and learning activities.

Navigation & Design

- Thank you, I appreciate your answers. I would like to now move on to the design of the course. Describe the way you think about designing your course. Where do you begin and how do you move forward?

  ○ What are your thoughts on course navigation?

  ○ When you think of designing a course, do you give any consideration to user experience, or the aesthetic design of the course, or is the focus primarily on the content and the aesthetic while user experience grows from this?

  ○ Describe how you organize your course. Do you use modular designs, weekly layouts, or something else? Why do you choose this particular organizational practice?

  ○ What is the biggest part of your planning process when it comes to thinking about how students are learning and retaining course materials? What are the things you think about and do when developing your course to help students retain skills and concepts over time?

Timeliness & Design

- Moving on, I would like to talk about time management. In general, what role do you think time management plays in how you design the course for delivery? What, if any,

consideration to you give to developing the course so that it will help students to manage their time? How do you incorporate time management into your course?

- ○ Describe how you determine due dates. ad What types of suggestions do you make to students that help them learn how to manage their time in order to meet due dates?

- ○ What process do you go through when you think about the content to be included in this course? Is the content something that is dictated to you by a departmental or college guideline, state degree or certification requirement, previous iteration of the course, or do you have a free hand in determining the content?

- When you think about the pacing, or the week-to-week schedule of assignments and work throughout the semester, of a course you are developing, what consideration do you give to it?

- ○ How do you determine pacing for the course? Do you think you've given ample consideration to the pace your students are going to find manageable? And how do you know the pacing is manageable?

Communication & Organization

- When you originally designed and organized your course, what communication technologies did you have available?

- ○ Were they text based technologies, such as discussion boards, or were they voice or video recording technologies? Or both? Or others?

- ○ Did you feel comfortable enough to use them in your course?

- ○ Did you establish peer-to-peer interactions or teacher-student interactions on a regular basis? Why or why not?

- How do you define communication in an online course?

  - ○ What should/does it look like, in your view, between students and faculty?

  - ○ What about between students only?

- What are your thoughts on discussion board assignments?

  - ○ What do you think about online students being required to work with partners or in small groups?

  - ○ How do you feel about using activities like peer feedback, or partner work, via discussion boards as a means of increasing student-student engagement; how do address these?

    - ■ If you use these types of activities, what concerns do you have about students completing their portion of the assignments, and how do you address these?

    - ■ If you use these types of activities, what concerns are raised by the students themselves, if any, about this type of work, and how do you address these?

  - ○ In your view, are these activities productive or counterproductive for student learning and Why?

  - ○ Can you please describe your thoughts on requiring instructors to include these types of activities in their courses?

Multimedia & Organization

- I appreciate your responses so far, and your patience, and would like to continue now by discussing the multimedia technologies that have become available in the last 10 years. When you think about developing a course, or updating a course, what kind of multimedia elements do you think about including, if any at all?
  - Do you ever require students to submit multimedia projects or use multimedia tools to complete projects or assignments ?
  - If you expect students to use multimedia tools, do you recommend certain tools or require them to use specific tools? Or both.
  - If you do not expect students to use multimedia tools, please explain why you choose not to.

Netiquette & Organization

- The next area I would like to discuss with you is netiquette, or establishing proper protocol and etiquette in your online courses. Have you found this to be an issue, or is this something that you specifically plan for during your course design - in other words what kinds of behavior do you expect of your online students, and how do you convey it if you do?
  - When you have discussion forums and other forms of communication between students, do you ever put a word limit on these discussions, or how do you encourage students to be efficient and effectively communicate their point in as few words as possible, or do you feel like that is not something that's really a problem and not something that you've had to worry about?

○ When you are working with students in these online courses, which are largely text based, what kinds of writing conventions, if any, do your require of your students?

○ What do you consider appropriate communication from your students, what are your thoughts and philosophies on things such as civil discourse, freedom of speech, etc., and how do you communicate these expectations with your students?

○ Do you have any explicit requirements for your students in terms of "academic honesty", such as requiring they use, for example, MLA citations when they are posting to discussion boards or in any other written communication in which they are expressing ideas or content that is clearly not their own

○ What expectations do you have, if any at all, about voice and writing convention when your students are submitting written work and communications - in other words are posts to discussion boards, class wikis, or blogs allowed to be more informal, for example using contractions or colloquial expressions? When and how do you convey these expectations, if present, to your students?

Medium & Organization

● To wrap up this interview, I would like to hear your thoughts and views on technology. Given that you are teaching online courses, which are generally seen as being more technologically intensive, do you have any thoughts or philosophies on technology, or its use in the classroom, and do you incorporate new technologies into your courses, or rely on more traditional technologies, such as those that might also be found in a face-to-face course?

○ In what ways have new technologies been incorporated into your course?

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○ Rather maybe I should say how do you go about researching, or learning about, new technologies that you might be able to incorporate into your course?

Closing Comments to Interviewee:

As we conclude this session, I would like to once again reassure you of the confidentiality of this interview. In addition, I would like to schedule a follow up interview to discuss any points that might need clarification or further explanation. Finally, I would like to thank you for participating in this project and taking the time to talk with me. Have a great day!

APPENDIX B

Artifact Review[37]

Introduction:

      This appendix outlines the definitions, tools, and procedures used for collecting material (i.e., artifacts) from the course website on the university's Learning Management System (LMS). Materials to be collected include: (a) information about the navigation of the course, (b) information contained on individual course webpages, and (c) documents available for download from the web pages. The materials collected will be examined for their Organization & Design elements, as well as used as the basis for developing the "think-aloud" sessions with course instructors.

Definitions:

Screencapture - refers to any method of collecting either a still or video image of any portion of a
        computer screen.

Screencast - refers specifically to the capture of video images, possibly including either system or
        external audio, of a computer screen.

Screenshot - refers specifically to the capture of still images of a portion of a computer screen.

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[37] This Artifact Review was piloted with the generous assistance of my peers in the Fall of 2016

Tools: The two primary tools for screencapture in this project are Camtasia and Snagit, both products of the Techsmith Corporation of Okemos, MI. Additional information on these tools can be found at https://www.techsmith.com/

Camtasia (MacOS ver.3/Windows ver.9) will be used for capturing screencasts of the course and its content hosted on the LMS. This software was chosen for its ease of use, cross-platform compatibility, and for its ability to capture both internal and external audio. Given the ease, compatibility, and ability of Camtasia, the researcher will be able to comment on features and issues that arise while recording the initial course exploration.

Snagit (MacOS ver.4/Windows ver.13) will be used for capturing screenshots of the LMS hosted course pages. This program was chosen because of its ability to capture high resolution single images of entire web pages, including pages that require scrolling, via its "panorama capture" function. Given the abilities of Snagit, the researcher will be able to capture full and complete pages of the entire course hosted on the LMS, including discussions and other content that would otherwise have required multiple files to completely capture.

Procedures:
- The initial screencapture will be a screencast that records the researcher navigating through the entire course on the LMS. The researcher will simulate the navigate path(s) of a student's first experience with the course's design, organization, and materials.
  - As the researcher navigates the content of the course , she will locate all major artifacts and features, such as the syllabus, course assignments, communication tools, discussion posts, etc.

- While the screencast is capturing the design and organization of artifacts and features, the researcher will speak aloud observations and first impressions about the organization and design of the course.

- The researcher will also note any problems, such as broken links, slow loading pages, etc. that would hinder or block courses of navigation.

- The screencast will record the complete set of navigational paths through the course, including each major and minor section, without interruption so that the video becomes raw data for analyzing the design and organization of the course .

- Subsequent screencapture data will consist of screenshots of each individual page in the course's LMS. These screenshots will be taken at the time as the initial screencast to ensure that the pages captured as photos are identical to those captured as videos .

  - Each screenshot will be labeled with the date, time, and location (within the course's LMS) of its being captured for later analysis.

  - Screenshots will be taken of the course pages and any content that is displayed on those pages, but not of external files - such as pdfs, MS Word documents, etc. These external files will be downloaded and saved in the format in which they were originally found.

  - External files will be downloaded and labeled with the same information as the screenshots.

All screenshots and related files will be securely stored in folders on the researcher's computer and a cloud-based backup server. They will be organized using the same scheme as the course (i.e. a folder for each of the major sections listed in the menu on the course homepage, and sub-folders

within each major folder for the sub-pages of each section. This archival scheme will create a

visual hierarchy of the course organization that can assist during the data analysis.

Think-aloud Protocol[38]

Think-aloud is a technique in which a researcher asks participants to verbalize their thoughts as they perform a task, engage with a system, or reflect on work they have completed (Nielsen, 2012). As an online research tool Think-aloud has been used primarily for evaluating "usability" of interface designs for websites and online applications (Ward & Hiller, 2005). Think-aloud has also been used to evaluate e-learning from a student's perspective (Armstrong, 2011; Cotton & Gresty, 2006). Despite the potential flaws cited by Charters (2003); Cotton and Gresty (2006); Nielsen (2012) this study will employ the technique to help develop a better understanding of the process online instructors go through when creating their courses[39].

Conduct

Think-aloud sessions will be conducted via computer using Skype. This will allow the researcher and the participant to simultaneously view the participant's online course while they verbalize their thought process behind the choices they have made for things such as navigation, content delivery, communication, etc. Because the conversation will be occurring via the computer, and online courses viewed on the computer, the research can use a program such as Camtasia Studio to capture a "screencast" of both the visual and audio components of the session.

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[38] This Think Aloud Protocol was piloted with the generous assistance of my peers in the Fall of 2016

[39] Though this protocol is similar to an interview, it differs in that the instructor will be asked to describe their processes as they review elements from their class; it therefore elicits much more specific feedback that speaks to the practical application of ideas an instructor may have expressed in the interview.

This will allow for subsequent review by the researcher during the data analysis segment of the study.

Each Session will begin with the researcher describing the following hypothetical situation to the participant:

> "Imagine that I am a new graduate teaching assistant who has been asked to teach this class next semester while you work on another. I have never taught online before and have only taken a few online courses in my undergraduate studies. Please walk me through this course and explain how it is laid out and why."

From this point forward the researcher will ask for further clarification when more information or greater detail about a point of the courses organization or design is needed. Examples of follow-up prompts are:

- "Where do the students find the due dates for assignments, and how do you know if they have seen them or not?"
- "Why did you decide to put them here, on the _____ page?"
- "What happens if a student misses a due date?"

By asking the participants to explain their thinking, walk through the course as they would if they were handing it off to another instructor, and think out loud about the reasoning behind certain design and organization features, it is expected that participants will deepen the story about their process for course development.

Potential Issues

The researcher will be mindful of two threats during the conduct of this portion of the research. First, they will avoid "leading the witness," which asking specific probing questions that distort the participant's thought processes more than necessary (Charters, 2003). The second potential issue is the participant may not provide adequate dialogue or filter their statements so there is insufficient information to develop a better understanding of their thought process (Nielsen, 2012).

The researcher may overcome this two issues by pre-planning phrases, such as "could you please describe that in more detail?", that will help elicit more information from the participant without biasing them. By repeating these phrases as necessary, (Nielsen, 2012) suggests, the participant will become so engaged in the task they will begin to provide more information without the prompts. Furthermore, in order to ensure the researcher is touching upon each of the Design and Organization elements necessary for this study, they will utilize the following checklist

Checklist for Analyzing Think-alouds

Home Page

- Themes: Navigation, Organization, Comprehensive Design, User Experience
- Notes:_____
_____
_____
_____
_____
_____

- Follow-up thoughts:_____
_____

_____

_____

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Course Concept (via the Syllabus)

- Themes: Learning Objectives, Course Content, Deadlines, Pace, Workload
- Notes:_____

_____

_____

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_____

_____

- Follow-up thoughts:_____

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_____

Discussion Forum

- Themes: Efficient Communication, Responsive Communication, Writing, Appropriate Communication

- Notes:_____

  _____

  _____

  _____

  _____

  _____

- Follow-up thoughts:_____

  _____

  _____

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  _____

  _____

  _____

  _____

Unit/Module/ Lesson

- Themes: Learning Objectives, Course Content, User Experience, Unit/Module/Lesson Design, Lesson Viability, Pace, Deadlines, Multimedia Design, Level Appropriate Writing, Appropriate Communication

- Notes:_____

  _____

  _____

  _____

  _____

  _____

- Follow-up thoughts:_____

  _____

  _____

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Course Specific Elements (this could be any additional elements unique to the course)

- Themes: Any of the Design and Organization elements that may apply

- Notes:_____

_____

_____

_____

_____

_____

- Follow-up thoughts:_____

_____

_____

_____

_____

_____

Table 1. Breakdown of Teaching Presence into Preliminary Themes

Design
Anderson et. al. (2001b) identified a number of design elements used by instructors to structure the shape of learning experiences for students as they navigate through and engage with course content online. To use these elements as preliminary themes for data analysis, they were grouped into three broad themes: setting curriculum, designing methods, establishing time parameters.

Setting Curriculum	
Syllabus*	The course syllabus identifies and clearly delineates the role of the online environment will play in the total course.
Learning Objectives	The course goals are clearly defined and aligned to learning objectives.
Learning Objectives Aligned to Course Content	Units/Modules/etc. are identified and learning activities are clearly integrated (based on objectives).
Designing Methods	
Navigational Approach	The way a student moves through the course experience.
Comprehensive Design	The course design reflects a clear understanding of the students' needs and incorporates varied ways to learn and multiple levels of mastery of the curriculum.
User Experience	Aesthetic design presents and communicates course information clearly throughout the course.
Unit/Module/Lesson Design	Each lesson/module/unit includes a lesson overview, content and activities, assignments and assessments to provide multiple learning opportunities for students to master the content
Lesson Viability	The course is designed to teach concepts and skills that students will retain over time.
Establishing Time Parameters	
Deadlines	Defined and easily discernable due dates are established for lessons and assignments.
Appropriate Workload	Quantity and difficulty of lectures, readings, assignments, etc. is appropriate for the course level.
Pace	The amount of material to be covered is appropriate for the length of the course

Organization
Anderson et. al. (2001b) identified a number of organization elements used by instructors to structure the shape of learning experiences for students as they navigate through and engage with course content online To use these elements as preliminary themes for data analysis, they were grouped into two broad themes: utilizing the medium effectively, and establishing netiquette.

Utilizing the Medium Effectively	
Responsive Communication	Students are strongly encouraged to engage in "conversations" on discussion boards; they are expected to respond to appropriate critiques, comments, or concerns raised by other students in responses to their own posts.
Appropriate Communication Technology	Course design encourages the appropriate use of communication technologies for course interactions. I.e. group discussions or forums may require simple text, peer-to-peer/teacher-student interactions may require voice or video technologies.
Multimedia Design	Assignments requiring visual elements are clearly marked and students are given suggestions on tools/resources to use in generating materials.
Establishing Netiquette	
Efficient Communication	Students are encouraged to keep their posts as short as possible while still maintaining the ability to effectively communicate their information or point.
Level Appropriate Writing	Students are encouraged to use appropriate writing conventions when posting to forums.
Appropriate Communication	Students are required to maintain civil discourse when communicating with others.

*In this research, the term "Course Concept" is used to identify this Feature, where previous literature employed the term "Syllabus," as this was a more useful idea to think about the questions for the Interview and think aloud.

APPENDIX E

Terry's Discussion Forum Conversation Instructions

(See Following Pages)

During the Intervention Section of the course, we will have two discussion forums. Please read these instructions carefully *because they are probably different from what you have been asked to do in previous courses.*

Most importantly, I would like you to think of these as REAL discussions where you are working with your colleagues to make meaning from the course texts using the prompts that I provide. Think about being part of a book club with colleagues or discussion group in a brick-and-mortar classroom. While discussion forums will be asynchronous (not everyone is there at the same time), please think of this as an opportunity to interact with your colleagues and have a good conversation over the course of a week.

How exactly will this work?

1) You will be assigned to a small discussion group (3-4 people in each group), so you will know exactly who is part of your conversation.
2) The four people in your group should have ONE ongoing discussion over the course of the week. That means that all responses should be in **ONE** thread. Unless you are first, just reply to the most recent comment. Do not start a new post or thread.
3) Please participate in to your conversation **about every other day** over the course of the week and respond in a *substantive* way. You are certainly welcome to participate more often if the conversation is useful to your learning. That means, you cannot just wait to participate at the end of the week!
   What is considered responding in a *substantive* way?
   - You respond in a new or different way to what has already been said in the thread.
   - You incorporate ideas/content from the reading that is relevant to the conversation.
   - You move the conversation forward by bringing up a new point or idea or asking an interesting question.
   - You respond to a question posed by someone else in the thread.
   - You do all of the things you would do in a regular, professional, conversation or book club.
4) Please read the entire conversation before responding so that your contribution is relevant to what has already been said.
5) Please don't repeat what a classmate has already said unless the purpose is to synthesize and then extend the conversation.
6) Posts and responses do not have a length requirement. Rather, I hope that you engage with your classmates and with course texts and experiences. Therefore, just posting, "Yes. I agree" does not really meet these standards.

Figure 44. PDF. Terry's Conversation Instructions.

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Figure 44 (cont'd)

Posting a long essay is also not very useful (i.e. I am NOT expecting the 250-500 word essay posts that you may have contributed in previous courses with Discussion forums). You probably would not talk for 5 minutes without interruption during a regular conversation, so keep comments to the length that you might contribute if you were speaking aloud in a class discussion.

7) Real-life examples are often a useful way to illustrate complex ideas. So, your experiences as a teacher or with your practicum students are always welcome, but please make sure that these are relevant to the discussion and are related to the content and readings from this course.

8) Please use professional standards for communication, but feel free to be informal in ways you would in a collaborative discussion with a colleague. I have no problem with emoticons ☺ or commonly-used chatting abbreviations (LOL!) if they are professional and appropriate, but please check your spelling and make sure writing is comprehensible to others in your group.

Q. What should we talk about?
A. ▮▮▮ will provide some questions to guide your conversation each week. You will find these questions when you click on your group's discussion forum.

Q. How will this be graded?
A. Participation in discussion forums is considered part of participating in the course. I assign participation points as part of each assignment. I *do* read the discussions even if I do not comment everyday, and I look for engaged and substantive participation (like I do during Adobe Connect Meetings). If I have questions or concerns about your participation, I will contact you individually. However, at this level, I expect that you are participating for your own professional learning. Therefore, I do not feel it is necessary to grade the content or each and every post.

Q. What if the discussion gets to a point where we want ▮▮▮ input or thoughts or we have a pressing question?
A. Two options: (1) Drop me an email and I'll make sure to participate in the conversation as soon as I can. (2) Ask the question on the Questions discussion board, and I'll respond to the whole class.

I really hope that you will use these discussions as a way to forge professional connections with your classmates in ▮▮▮ and that you enjoy some great conversations!!

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