

TRACING THE DEVELOPMENT OF LITERACY PRACTICES FOR INTEGRATING INTERDISCIPLINARY CURRICULUM IN HIGHER EDUCATION: INTERACTIONAL ETHNOGRAPHIC STUDY

TRAÇANDO O DESENVOLVIMENTO DE PRÁTICAS DE LETRAMENTO NA INTEGRAÇÃO DE UM CURRÍCULO INTERDISCIPLINAR NO ENSINO SUPERIOR: UM ESTUDO DE ETNOGRAFIA INTERACIONAL

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ABSTRACT

In this paper, I present an ethnographic approach that guided multiple cycles of analysis undertaken to trace the developing history of the decisions and actions taken by the lead professor and his design team as they engaged in iterative and recursive phases of development of an interdisciplinary course of study. This study was undertaken in an undergraduate Organizational Communication Program in a public regional university in the United States over a two-year period. The goal of this study was to identify factors that were critical in developing the interdisciplinary curriculum that met the university's and department's learning objectives. The microethnographic discourse analysis undertaken provided warranted evidence of how the interdisciplinary curriculum afforded students opportunities to develop conceptual understandings of practices of long-term and futures thinking critical for studying societies from an organizational communication perspective. **Keywords:** literacy practices, interdisciplinary curriculum development, interactional ethnography.

RESUMO

Nesse artigo, apresento uma abordagem etnográfica que orientou múltiplos ciclos de análise realizados para traçar a história de desenvolvimento das decisões e ações tomadas pelo professor-coordenador e seu time a medida que se engajavam em fases interativas e recursivas para o desenvolvimento de um curso interdisciplinar. Esse estudo foi realizado em um curso de graduação em Comunicação Organizacional em uma universidade regional pública dos Estados Unidos em um período de dois anos. O objetivo do estudo foi identificar fatores que foram críticos para o desenvolvimento de um currículo interdisciplinar que atendesse aos objetivos de aprendizagem da universidade e do departamento. A análise do discurso microetnográfica realizada retrata como o currículo interdisciplinar propiciou aos alunos oportunidades

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de desenvolver compreensão conceitual de práticas de longo prazo e futuras e de pensar criticamente no estudo de sociedades sob a perspectiva da comunicação organizacional.

Palavras-chave: práticas de letramento, desenvolvimento de currículo interdisciplinar, etnografia interacional.

INTRODUCTION

The evolving and exponential growth of knowledge and technological advances in the 21st Century has challenged higher education to develop interdisciplinary curricula (e.g., ASHBY & EXTER, 2019; HOLLEY, 2017). Underlying the conceptualization of interdisciplinary processes, literacies, and languages in this paper, is the following definition of interdisciplinary -- "a knowledge view and curriculum approach that consciously applies methodology and language from more than one discipline to examine a central theme, issue, problem, topic, or experience" (JACOBS, 1989, p. 8). Further contributing to this study, is the argument that not only is there a scarcity of research studies that examine how and in what ways curriculum are developed at institutional levels, analysis of situated broader contexts in which such curriculum is embedded are often omitted (KHAN & LAW, 2015) as are ways instructors develop the components of interdisciplinary curriculum that promote particular student competencies in innovative contexts of the developing course of study (GREEN, BAKER, AUTHOR, VANDERHOOF, HOOPER, KELLY, SKUKAUSKAITE & KALAINOFF, in press).

The focus of the study presented in this paper addresses these issues by examining literacy practices that were designed to engaged students as well as teachers in developing knowledge and epistemic practices through interdisciplinary dialogues and actions (e.g., KELLY, 2006). Adopting the perspective of literacy as a social practice (e.g., STREET, 1984; BLOOME, CASTANHEIRA, LEUNG & ROWSELL, 2019), this paper traces the historical pathways of a developing interdisciplinary curriculum that integrated the concepts of long-term thinking and forecasting into established courses (n=8) within an Organizational Communication Bachelor of Arts program, as part of an initiative called Long Term and Futures Thinking (LTFT) at a public regional university (PRU) in the United States.

1. CONTEXTUALIZING THE LTFT PROJECT

The university, in which the study was conducted, is one of the four comprehensive, regional, urban public universities in northern California that is on

a quarter-system schedule (10 weeks plus exams). The university has an average student body of more than 14,000 linguistically, culturally, and economically diverse students at the undergraduate, graduate, and post-baccalaureate levels. While most of the students are at full-time status, the university serves a high percentage of upper-division transfer and returning students (part-time, older, and working), including a large number of “first-generation” college students.

At the time of this study (2012-2014), a total of 450 students registered for the eight courses within the pilot interdisciplinary curriculum development grounded by the integration of LTFT with the Organizational Communication Program’s Curriculum. The students’ diverse demographics included ranges of learning experiences, academic levels, resources, and perspectives that were being brought into the courses, which were consequential to the development and reformulation of the course content and to the construction of literacy practices in which students were engaged across the course of study.

The LTFT was a two-year (2012-2014) initiative that was supported by an external funder, who was interested in supporting faculty members at PRU in designing an interdisciplinary curriculum that integrated concepts of long-term thinking (futures thinking) and forecasting into an established curriculum in a higher education setting. Through many negotiations, a curriculum design team was formulated, consisting of a Lead Professor (Prof. L) from the Communication Department and a Project Consultant (Dr. A), who will be referred to as the curriculum design team, hereafter. Prof. L, an Associate Professor, within the Organizational Communication BA program, was appointed as lead instructor given his expertise in futures thinking. Dr. A, an expert in forecasting, was hired to support Prof. L in designing an interdisciplinary curriculum, which will be referred to as the LTFT curriculum for the remainder of the paper.

Central to the negotiation process was the formulation of a research team to conduct an ethnographic research study to identify the underlying work required in developing the LTFT curriculum. The internal ethnographic research team led by Dr. C, the principal investigator of the initiative, collected, archived and managed ethnographic records consisting of video records of LTFT meetings, LTFT documents, course syllabi, materials, students’ artifacts, and video records of selected face-to-face class sessions. Dr. C also supported the curriculum design team as they engaged in ongoing dialogues and reflexive design processes to develop, through annual reports and public websites, their local definition of LTFT and ways of integrating this interdisciplinary framework with the Organizational

Communication Program's content and goals. The following is a summary of LTFT's goals derived from the analysis of these dialogues and the websites.

Grounded in the integration of theories of Organizational Communication and concepts of futures thinking and forecasting, LTFT engages students in developing ways of thinking beyond typical horizons (e.g., quarterly, annually, fiscal reports, four-year elections, 10-20-30 year strategic planning). That is, this process engages them in thinking of more distant years into the future as well as the past, 5-10,000 years to forecast, design, and articulate potential future and understandings of societal scenarios to recommend solutions with ideas and theories to understand the past challenges that can inform potential problems in the future.

At the end of the first year of implementation, Dr. C added an additional research component by recruiting a team of external Interactional Ethnographers to support the research process. At this point in the LTFT project, I became the leader of the analysis team and the principal collaborator with Prof. L. This decision by Dr. C, therefore, provided additional support to the developing research project and the collaborative conduct of analyses of archived records from the first and second years of LTFT implementation. This collaboration was designed to provide bases for tracing the processes that the curriculum design team undertook to integrate the two disciplinary areas conceptually and how that led to the development of particular material resources as well as literacy practices that engaged students in learning how to think from the LTFT and Organizational Communications perspectives.

2. THE DESIGN OF THE ANALYTIC PROCESSES

In the sections that follow, by (re)constructing and unfolding the multiple levels and cycles of microethnographic-discourse analyses undertaken in a two-year collaborative research project (AUTHOR 2016), I (re)construct the levels of decision making, resource development, and actions undertaken by Prof. L and his curriculum design team to integrate LTFT with the existing Organizational Communication Program's curriculum. Given that this project was central to the course of study in the Organizational Communications program, I adopted the concept of curriculum in higher education as consisting of multiple classes, a *course of study*, that supports students in the ongoing development of understandings and practices of a discipline, in this case, interdisciplinary ways of knowing, being, and preparing to engage in professional work.

Thus, the analyses that my external research team undertook, as I will show, involved (re)examining the decisions and literacy practices for 8 courses that were

archived by Dr. C and the internal ethnography team in collaboration with Prof. L for each phase of the developing LTFT curriculum project. The goal of the external ethnographic analysis team was to identify literacy practices that promoted students in developing a repertoire of ways of thinking, talking, writing, and taking actions (HOLLEY, 2017) that enabled them to integrate the concepts within the LTFT curriculum to achieve the learning objectives of Prof. L as well as the university and the Communication department.

As my (re)presentation of the cycles of analyses will show, the Interactional Ethnography epistemological logic-of-analysis, which is also interdisciplinary -- i.e., grounded in sociocultural and discourse analytic perspectives from anthropology, ethnomethodology, applied linguistics, interactional sociolinguistics, and sociology, provided a framework for uncovering how and in what ways the LTFT curriculum was developed at this PRU over two years (cf., CASTANHEIRA, CRAWFORD, DIXON & GREEN, 2000; GREEN & BRIDGES, 2018). Insights generated from this study address the call for *re-theorizing literacy* in dynamic and complex contexts (BLOOME ET AL., 2019). The multiple levels of analyses presented in the sections that follow also provide a foundation for developing deeper understandings of how interdisciplinary curricula involve recursive and non-linear actions by instructors that meet the learning objectives of the university and the Communication department.

3. CONCEPTUAL FRAMEWORK: CONSTRUCTING AN ANALYTIC LOGIC-IN-USE

This study adopted Interactional Ethnography (IE), an epistemology (a way of knowing), that supports a systemic approach to exploring how members of a particular social group (co)construct ways of being, (inter)acting, and knowing through social and discursive interactions, drawing on each other's references as well as on references grounded in past histories, artifacts, and resources (e.g., BLOOME & BAILEY, 1992; GEE & GREEN, 1998, CASTANHEIRA ET AL., 2000; GREEN & CASTANHEIRA, 2012). At the center of the logic-of-inquiry guiding IE is the understanding that knowledge and the processes of meaning-making are (co)constructed as individuals actively interact with and interpret each other's discourse and actions in and across times, events, and different configurations of actors in particular environments. Such knowledge creation is shared and evolves through social negotiations of meaning and discourse interactions across times, events, material resources, and configurations of actors (e.g., PRAWATT &

FLODEN, 1994; BLOOME, CARTER, CHRISTIAN, OTTO, SHUART-FARIS, 2005; BLOOME ET AL., 2019).

From this perspective, members are (co)constructing common knowledge, local artifacts, and cultural meanings for local processes and practices over time, events, and configuration of participants (e.g., EDWARDS & MERCER, 1987; GREEN, DIXON & ZAHARLICK, 2003) and literacy practices (e.g., STREET, 1984; BLOOME ET AL., 2019). Underlying this perspective is the conceptual understanding of *literacy* as a social practice that is dynamically (re)formulated by individuals as they interact with other members of a social group such as in a small group, a whole class, family, or community (e.g., STREET, 1984; SCRIBNER & COLE, 1999; LEA & STREET, 2006; COOK-GUMPERZ, 2006; BLOOME ET AL., 2019). Thus, what counts as literacy is contextually and situationally defined by what members acknowledge and orient to and how they engage with, interpret, and (re)construct texts (e.g., BLOOME & BAILEY, 1993; GREEN & HARKER, 1988; HEAP, 1995). Through this process, they construct local and situated literacies and may use one or more depending on the literacy events (cf, STREET, 1984).

By unpacking the actions and decisions undertaken by Prof. L with the support of Dr. A to reformulate the courses within the Organizational Communication Program, I make visible the literacy practices that were developed to support students in engaging in the concepts of LTFT, e.g., Brand's (1999) pace layers of change, Saffo's (2007) cone of uncertainty, Diamond's (2011) 5-point collapse, in the contexts of Organizational Communication theories, e.g., Bolman & Deal's (2013) 4-frame model of organizations. Through this iterative and recursive process of analyses, I make transparent cycles of analyses necessary to build warranted accounts (HEAP, 1995) and understandings of how interdisciplinary constructs were central to developing this novel LTFT curriculum.

As I will unfold in the following sections, the microethnographic discourse analyses that constituted my logic-in-use formed an analytical frame to (re)examine a purposefully selected set of archive records which include the LTFT's Year I Annual Report, course syllabi, course materials, the PRU's and LTFT's website, and transcripts of the series of interviews with Prof. L, Dr. A, and Dr. C. As I will make transparent, by tracing Prof. L's processes, I decided to maintain the analytic tracer unit constant to make visible the layers of work undertaken in this project. Additionally, by tracing Prof. L's interactions with Dr. A, the curriculum design team, students, and my external ethnographic team (AUTHOR, 2016), I identified what texts were proposed, oriented to, acknowledged and recognized as socially,

academically, and institutionally significant within and across the classes as well as within each class.

Triangulations (GREEN & AUTHOR, 2018) of project's documents, websites, class session, and syllabi with multiple interview-conversations with the insiders (i.e., Prof. L, Dr. A, and Dr. C) and ongoing email conversations (n = 300 over two years) with Prof. L. were undertaken to clarify and trace the meaning of particular phenomena identified (e.g., literacy practices, disciplinary languages, and institutional processes and practices). This process was central to uncovering the layers of decisions made and actions taken by the curriculum design team in developing the LTFT curriculum at PRU. The need for triangulation of data analyses of archived records, as I will demonstrate, was vital to gain insider's perspectives from multiple points of view, since, as argued by Green, Dixon, Zaharlick (2003),

"...no individual holds all cultural knowledge; cultural knowledge is of a group, and individuals, depending on what cultural activities and practices they have access to, will have a particular knowledge of particular aspects of a culture. Thus, an ethnographer cannot rely on a single informant to assess the adequacy of the interpretations of the data" (p.207)

4. LOGIC-IN-USE: TRACING THE DEVELOPMENT OF AN INTERDISCIPLINARY CURRICULUM

To trace phases of development of the LTFT curriculum developed by Prof. L and LTFT team over two years, I adopted ethnographic principles of operations to guide my logic-in-use (GREEN, SKUKAUSKAITE, BAKER, 2012). The first principle was the understanding that *ethnography is a non-linear system* that requires abductive, iterative, and recursive analytical processes. Based on this principle, the cycles of analyses were guided by the questions arising from the initiating question to seek a comprehensive understanding of the phenomenon under study, i.e., the LTFT curriculum development. This process involved tracing the historical roots and connection of the referential systems across times and events (BLOOME ET AL., 2005). Specifically, analyses of the intertextual references inscribed within the institutional and LTFT's public websites, annual report, and syllabi provided explanations that were not previously known but also raised new questions, i.e., rich points (AGAR, 1994), which led to subsequent (re)analyses of the same texts, analyses of new texts and/or collection of additional records for analysis (e.g., interviews, email threads, course materials).

The second principle of operation that I adopted was to *leave ethnocentrism aside*, which required me to suspend my personal and professional beliefs, biases,

and expectations and maintain receptivity in understanding emic (insider) language and references as much as possible. This process involved identifying domain-specific terms and definitions (e.g., time horizons, pace layers, long term, and futures thinking, cone of uncertainty).

The third principle of operation was the process of *identifying the boundaries of events*. It involved the unfolding of the decisions and actions I undertook to bound my units of analysis. Specifically, it required that I provided explanations on how I entered the site (i.e., meet with the LTFT team) and inventoried the archived records to identify artifacts and documents to be analyzed as well as what further actions I took to answer unanticipated questions that arose from the analyses. This principle also required transparency of what kind of interviews were conducted of whom, under what conditions, and for what purpose and how event maps of activity were constructed to locate or situate actors and contexts in times and spaces.

The fourth principle of operation adopted in this study was the process of *connecting evidence across events and times to develop* grounded claims and explanations of processes and practices in developing the LTFT curriculum. This principle involved longitudinal tracing of overtime development of the LTFT curriculum as well as contrastive analysis of the performances of two students with different levels of development.

Applying these four principles of operations, I undertook four cycles of analyses to develop warranted accounts (HEAP, 1995) of the different phases of the development of the LTFT curriculum at the PRU over two years, as represented in Figure 1.

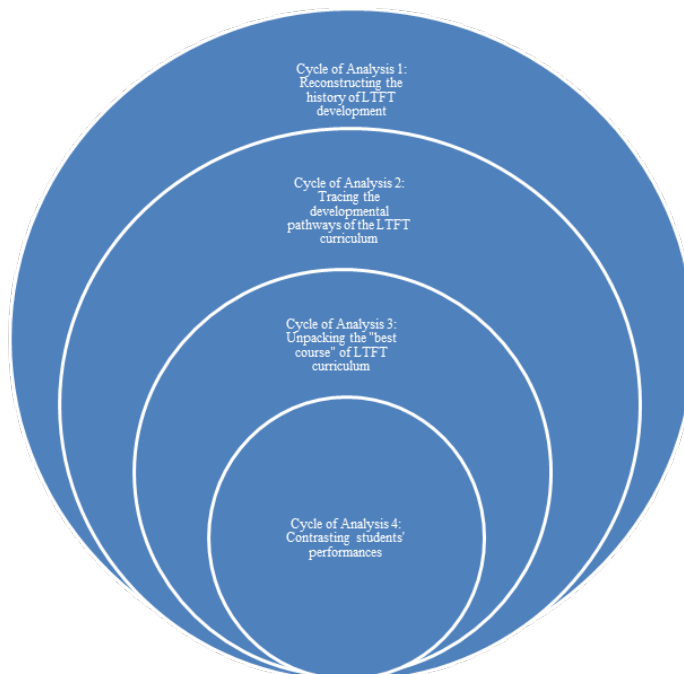


Figure 1: Logic-in-use to examine the construction of a LTFL curriculum

5. CYCLE OF ANALYSIS 1: RECONSTRUCTING THE HISTORY OF THE LTFT DEVELOPMENT

As indicated in Figure 1, the first cycle of analyses, a macro-level analysis, involved multiple (re) analyses of the websites, LTFT's Annual Report, and interviews of Dr. C, Prof L, and Dr. A to reconstruct the history of the development of the LTFT Project. Drawing on Heath's preface to Bloome et al.'s (2019) volume that builds on the work of Brian Street on literacy practices, my goal in reconstructing the history of the development of the LTFT curriculum was to engage in what Heath (2019) framed as a "full exploration of ideas of their inventions, reconsiderations, and fixings" (HEATH, 2019, p.ix)

As the analyses that follow will show, development, implementation, and reformulation of the LTFT curriculum were developed in three phases: securing layers of resources, conceptualizing the description and goals of the project, and designing-evaluating-refining the courses. Together, these phases influenced the creation of literacy practices afforded to and constructed by the students and the instructor (Prof L) across the course of study.

6. PHASE 1: SECURING LAYERS OF RESOURCES

The acquisition of financial resources and the recruitment of human resources were fundamental in the onset of the development of the project. This process involved a series of negotiations among representatives from the university, a potential external funder, who had an interest in futures thinking, and a non-profit organization, whose mission was to promote long term thinking. As indicated previously, the negotiations resulted in LTFT being funded by an external funder, while the non-profit foundation provided material resources for the courses and whose leaders became members of the advisory committee.

The following excerpt from an interview with Dr. C, the PI for the LTFT project, provides a basis for understanding the selection of Prof. L as the lead instructor and head of the curriculum design team for this project. In this excerpt, Dr. C (re)constructs what she learned when she visited Prof. L in his office:

“... looking at the books he has on his bookshelves, I understood that we came from similar places in terms of thinking about how students develop, what they need, different forms of research, including understanding LTFT research and studies and so there was a real sense that we are so alike in our theoretical backgrounds, what we believe in terms of research traditions that the project will work... and so that is when I knew that even if it might be a little bit of work that it could be successful... that we were going to be a good team... There was a common base with which to work” (Dr. C/PI, LTFT interview, Jan 2015).

In this excerpt, Dr. C emphasizes her understanding that the foundation of LTFT was a set of shared conceptual and theoretical perspectives. These commonalities in backgrounds and intellectual histories constitute *human resources* that were foundational to the development of the LTFT project.

Analyses of the interview of the intellectual histories of Prof. L and Dr. A revealed that they also shared a common employment history and had experience in conducting or participating in ethnographic studies. Thus, the ethnographic component was a critical element in the course design as well as in the collaborative research project. Both Prof L and Dr. A acknowledged that their individual expertise—Prof. L in organizational communication and futures thinking and Dr. A in forecasting and ethnography, along with their shared knowledge and experience in long-term and futures thinking, were essential in their collaborative work in (re) formulating the courses and in developing course materials and deciding on course textbooks and media resources. These shared intellectual histories and perspectives, therefore, facilitated the LTFT team to explore common disciplinary languages that they were all able to understand. Thus, critical to forming the human resources was the need for team members with particular expertise that could help to achieve the

goals of the LTFT initiative, through a common philosophy of learning, teaching, and research.

As indicated in this section, the acceptance by Prof. L to undertake the role as both curriculum designer and instructor of the 8 courses was not only vital in developing the LTFT project; it was also crucial in securing the support of the Department of Communication as the site of the program. This process led Dr. C and the university administration to conclude that Organizational Communication was the logical established discipline to integrate LTFT perspectives, given that this project would influence the development of the course of study and the literacy practices made available to the students.

A macro analysis of PRU and its organizational structure and the Communication Department were undertaken and represented in Table 1 to situate the interdisciplinary curriculum within the contexts of the university created by the LTFT team.

Table 1. Situating the interdisciplinary curriculum within the broader university contexts

| | | | | | |
|---|---|--|---|--|--|
| Public Regional University Academic Degrees: 50 Baccalaureate Degrees and 62 Undergraduate Minors; 35 Master's Degrees; 39 Credentials and Certificates; Doctorate Degree in Education | | | | | |
| College of Business and Economics | College of Letters, Arts, and Social Sciences (CLASS) | | College of Education and Allied Studies | College of Science | |
| College of Letters, Arts, and Social Sciences (CLASS) 17 Departments including Communication, 5 Programs, 38 Degrees | | | | | |
| Department of Communication | | | | | |
| Chair -Person (1) | Professor (1) | Lead Professors (7) | Teaching Assistants (7) | Lecturers (7) | Staff (2) |
| Degree Requirements: 52-unit core courses ad 44 units in 1 of 2 options | | | | | |
| Professional, Pubic, and Organizational Communication | | | Media Production | | |
| Organizational Communication | | | | | |
| Lead Professor for Long Term and Futures Thinking (LTFT) Initiative, (Appointed 2003): | | | | | |
| LTFT Pilot Interdisciplinary Curriculum | | | | | |
| Academic Year One: 2012-2013 | | | Academic Year 2: 2013-2014 | | |
| Fall Quarter | Winter Quarter | Spring | Fall Quarter | Winter | Spring |
| COMM 4107 Relational Communication: New Media and Organizational Life COMM 4510 Public Relations Theory and Practice: Long Term Thinking in Public Relations: Energy Innovations in 2031 COMM 4500: Gender Identity and Representation in Media: Envisioning Gender Roles in 2112 | COMM 3107 Introduction to Organizational Communication: Taking a Long-Term Futures Thinking Perspective | COMM 4207 Introduction to Communication: Organizational Transformation | COMM 4107 Relational Communication: Personal and Collective Futures | COMM 4207 Introduction to Communication: Organizational Transformation | COMM 4107 Relational Communication: Exploring Responses to Societies Collapse: Past, Present, and Future |

Table 1 makes visible the layers of contexts that shaped the development of the 8 courses within this course of study. Table 1 also makes transparent titles and subtitles of the 8 courses embedded within the LTFT curriculum. It shows that after the first quarter of implementation, which offered 3 courses, only 1 course

was offered in the subsequent quarters. Further, it shows that the courses offered in the second year were an iteration of the courses from the first year. However, the course, COMM 4107, was offered twice in the second year and was also one of the first three courses offered in the first quarter of the project. Besides being offered three times in the course of study, each offering had a different subtitle. This observation became what Agar (1994) called a “rich point”, a juncture where it required further exploration, which will be presented in another cycle of analysis

7. PHASE 2: CYCLES OF ANALYSES TO CONCEPTUALIZE THE LTFT PROJECT

In Table 2, I (re)present the first phase of the analysis: goals identified for students and faculty members from the LTFT website. Table 2 (re)presents inscribed goals identified by my ethnographic team of students’ and faculty members’ goals placed in individual columns as well as a column for the collective goals of students and faculty members.

As indicated in Table 2, the goals of LTFT were designed for both students and faculty members to support the achievement of the institution’s learning outcomes. Specifically, it aimed to foster the development of critical and creative thinking and to encourage collaborative thinking as well as to think long term and understand the value of long- term thinking. Further, students were expected to discuss issues at different time horizons and explore ways of taking actions that have the potential impact 5-10,000 years in the future.

Table 2. Inscribed goals of the LTFT for students and faculty members in the LTFT website

| Students | Faculty Members | Students and Faculty Members |
|---|--|---|
| to think long-term | to incorporate long-term thinking into the curriculum | to think more critically and creatively about long-term futures |
| to explore ways of taking actions that have the potential for impact 5-10,000 years into the future | to provide student development in support of university's learning outcomes | to understand long-term thinking |
| to do critical thinking | to develop, test and apply lesson models and teaching techniques of long-term and future thinking | to develop long-term thinking practices |
| to do creative thinking | create a framework for an academic field of study | to practice long-term thinking |
| to do collaborative thinking | teach students how to understand the value of long-term thinking | to value long-term thinking |
| to understand the value of long-term thinking | to build students' skills to discuss issues appropriately at various time horizons (decades, century, millennia) | |
| to discuss issues appropriately at various time horizons (decades, century, millennia) | | |

The goals for faculty members were inscribed on the university website to make visible learning activities designed to support students in achieving the goals of the LTFT project. Further analyses showed that these goals also aligned with the goals of the Communication department to provide novel ways for students to integrate concepts acquired in the Organizational Communication courses to think beyond the typical horizons as presented previously.

Findings of this cycle of analysis not only uncovered layers of contexts that were involved in the development of the LTFT curriculum, but also made visible how they were consequential to its development and, by extension, the literacy practices. The following section unfolds multiple phases of analyses that traced how and in what ways the integration of LTFT developed across the 8 courses over a two-year period.

8. CYCLE OF ANALYSIS 2: TRACING THE DEVELOPMENTAL PATHWAYS OF THE LTFT CURRICULUM

In this section, I present the cycles of analyses undertaken to identify the processes of the third phase in developing the LTFT curriculum within the PRU. It involved analyses of the joint interview of the curriculum design team (Prof. Land Dr. A), LTFT's Year 1 Annual Report, 8 syllabi, and the email threads between Prof. L and me. The focus of the analyses was to trace how the design-evaluation-reformulation processes were undertaken by the curriculum design team to uncover the decisions, actions, and considerations that informed the development of the 8 courses. Further, in implementing the second phase of analysis in this cycle of analysis, I identify literacy practices that the curriculum design team considered as essential to guide students in developing a deeper understanding of Organizational Communication theories and LTFT perspectives. Thus, the analysis focused on identifying referential systems that signaled the (re)development processes of the courses and identification of the literacy practices across the courses.

9. SECOND CYCLE, ANALYSIS 1: JOINT INTERVIEW OF THE CURRICULUM DESIGN TEAM

In analyzing the joint interview of the curriculum design team, I focused on their references of the actions and considerations they undertook to (re)design the courses as well as the literacy practices they created within the courses. Adopting a conversation-interview method (GULBRIUM & HOLSTEIN, 2003), my team and I conducted the face-to-face interview of the curriculum design team (i.e., Prof. L & Dr. A) to gain an emic understanding of how and in what ways they designed the courses together. This process was a form of conversation-interview, in which we opened with a grand question, "Tell us about your process of designing the courses?" The conversation-interview was video and audio-recorded and subsequently transcribed by members of our external ethnographic research team. Thus, Prof. L and Dr. A's responses guided the follow-up questions; in turn, they shaped the conversation.

The following excerpts (re)presented in Table 3 provide a representation of the kinds of actions and considerations Prof. L and Dr. A individually and collectively undertook throughout the process of designing and reformulating 5 courses in Year 1. It also makes visible their level of collaboration and how they supported each other throughout the process.

Table 3. Excerpts from a joint interview of the curriculum design team on their process

| Prof. L Excerpts | Dr. A Excerpts |
|--|---|
| <ul style="list-style-type: none"> – Fall 2012, added LTFT to 3 classes, way too much – DR. A helped to create scenario structure for each one of those courses – 2112 what would gender look like, Public Relations looking at energy in 2025 – I asked myself, “how do I become an apprentice and in turn, pass it along to others.” – teach the practice of mind and look from multiple angles | <ul style="list-style-type: none"> – Private funder wanted long term used in 3-time horizons but chose for Public Relations and energy eco-zones (put students in the future) – first realizations about what teaching about LTFT (student should develop future scenarios, and content needed, where the students located specific content knowledge) – asked Prof. L the outcomes for their students in communication-presenting a campaign, what PR involved in a syllabus, some of the goals – consider the first-year student- learning how they were going to do it, – consider what Prof. L needs to teach, – how does he (Prof. L) want students to practice it, - – what are the concepts of the forecast, trends, scenarios, uncertainty, change, references, an example on Ecozones and 100 years for bio-innovation (different types of humans) – trends in bio-innovation-how trends in bio innovation would impact the role of media – teach them to develop questions about change or phenomenon and then being able to think ahead about possible outcomes of future will look like, so when you come back to the present, you can make changes (you have a prepared mind) |

The excerpts in Table 3 provide evidence that the design of the courses and the development of course materials focused on the processes (i.e., “how they are going to do it”) and practices (i.e., “how they are going to practice it”) and department learning outcomes (i.e., what were the outcomes for the students in communication”). Further analysis made transparent explicit and implicit literacy practices that students were engaged in to develop forecasting and long-term thinking concepts in the context of Organizational Communication. Literacy practices included:

- Reading and understanding given scenarios
- Reading technical information on energy and zones
- Predicting gender issues in 2112
- Projecting energy issues in 2025
- Developing visions of the future (long term)
- Envisioning themselves in the future
- Creating and presenting a campaign
- Thinking as futurists
- Analyzing and evaluating current trends
- Developing questions about change or a particular phenomenon
- Projecting potential future problems
- Developing potential solutions to potential future problems

The analysis of the curriculum design team's logic and rationale in the design of the first five courses, therefore, led to the identification of the implicit and explicit literacy practices embedded within the students' activities and tasks.

10. SECOND CYCLE ANALYSIS 2: YEAR 1 ANNUAL REPORT

The analysis of the LTFT Year 1 Annual Report was undertaken to identify the activities and tasks that were created within the five courses offered in Year 1 of implementation. Thus, the analysis revealed that the students engaged in the literacy practices identified in the section above by participating in a range of individual and collective activities that were done in a face-to-face or through virtual settings. These activities required students to share their understanding with Prof. L and their peers, in oral, digital, and written forms. For example, students engaged in literacy practices virtually by creating their blog following the guidelines by Prof. L, by writing a journal entry in relation to their topic of discussion, and by participating in an online discussion facilitated by Prof. L. Students also engaged in field ethnographic interpretations and video analysis.

In a face-to-face classroom interaction, the collaborative group activities included writing a group "wiki" page, "white paper" as well as creating and presenting final group presentations. These group activities demanded from the students that they listen to the ideas that were being proposed, recognized, and acknowledged as academically relevant; to interpret peers' ideas; and to incorporate his/her ideas to the developing collective ideas. These literacy demands required students to read additional texts, to ask questions to peers and to the professor, to

(re)search for answers, to discuss developing understanding, and among others to applicably participate in these literacy activities.

The second objective of this phase of analysis of the LTFT Year 1 Annual Report was to understand further the curriculum design team's logic in (re)designing the five courses in Year 1 implementation. This level of analysis revealed the iterative and recursive design-implementation-reflection-revision process undertaken by the curriculum design team as (re)presented in Figure 2:

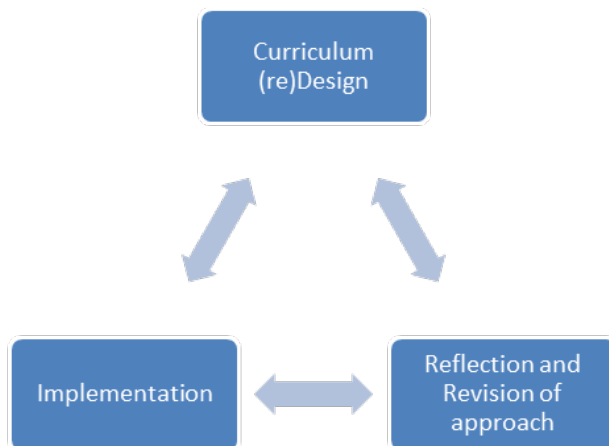


Figure 2. LTFT curriculum design processes

As indicated in Figure 2, the LTFT curriculum design began with the initial design of the three courses before the first implementation in the first Quarter of 2012. After completion of each quarter, the curriculum design team with the LTFT IE team reflected on their processes and students' performances, which guided the revisions of the course materials, content, and activities the shaped the (re)design of the courses, by extension, the literacy practices. For instance, after Quarter 1, Fall 2012, the curriculum design team identified the following need of students as represented in the following excerpt: "Need to help students ground their forecast in evidence as opposed to making guesses about the future in ways there are little evidence or a clear logic to support (their) claims" (LTFT Year 1 Annual Report, 2013).

Based on what they learned through this process, for the next course offered in Winter 2013, the curriculum design team created opportunities for students to study and to learn literacy practices of "long-term thinkers" and "forecasters" by engaging students in conducting an ethnographic study of the "long-term thinkers and their ways of knowing and being." They also engaged students in "analyzing the discourse surrounding innovation in companies and organizations through interviews and on

the web. Further, they used what the Long Now Foundation framed as a collection of “Salt Talks”, which were retrievable through the foundation’s website. These talks were related to forecasting and long-term thinking. The students also learned the connection between innovation and long-term thinking. These activities were designed to enculturate students with the language and literacy practices of the disciplines.

As inscribed in Table 1 presented previously, the curriculum design team only offered one course the following quarter to provide more time and effort in their implementation-reflection-revision-redesign process. The curriculum design team reflected on this process in their collective interview and framed the revised approach they implemented in Winter 2013 as providing “more opportunities for students to gain a deeper understanding of long-term and futures thinking.” However, they acknowledged the imbalance of their planned activities and the allotted time in a quarter system. Therefore, in the next quarter (Spring 2013), while continuing the ethnographic approach, they used SALT talks as more of a resource, rather than a required “text” for the class. They also provided an actual context as they investigated a local city and its future development, interviewed city officials, and analyzed official public documents. This revised approach, implemented in Spring 2013, led the curriculum design team to conclude:

It (the course design) allowed for a more concentrated effort that required less effort on the part of the students and the instructors. However, teaching subjects still required a complex approach to the work, and students were still challenged with respect to their conceptualization of long term and futures thinking (LTFT Year 1 Annual Report, 2013).

This reflection of their last course of the Year 1 led to the analyses of the 8 syllabi to explore further how and in what ways the curriculum design team (re)formulated the courses to support students in developing conceptualization of long term and futures thinking.

11. SECOND CYCLE, ANALYSIS 3: 8 SYLLABI AND EMAIL THREADS

My analyses of the 8 course syllabi and 300 email responses of Prof. L provided a foundation for my team to explore how each courses’ design supported students’ conceptualization of LTFT and capacity to integrate the interdisciplinary perspectives. The analyses involved extracting the phrases that referred to the actions that students needed to integrate the interdisciplinary concepts in each course, which is (re)presented in Table 4. As indicated in Table 4, to construct this level of analysis, I included a column for course titles and subtitles as descriptions of

the course. Columns were also included that listed the focus of the Organizational Communication concepts and LTFT concepts that were critical in the development of the 8th course, which was described by Prof. L as the “best course”, as this course design facilitated a successful and complex interdisciplinary integration.

Table 4. Pathways of LTFT-Organizational Communication Integration

| Quarter/Year Year | Catalogue number/ title/subtitle | Organizational Communication Concepts | LTFT Concepts | Actions for Integration |
|----------------------|--|---|---|--|
| Fall 2012 | Comm 4107: Relational Communication: New Media and Organizational Life | New Media and Organizational life | Scenario constructs for 5000 years | <ul style="list-style-type: none"> – immerse themselves in a particular time horizon – use concepts and skills developed in their communication to address a particular future challenge |
| | Comm 4500: Gender Identity and Representation in Media-Envisioning Gender Roles 2112 | Media and Gendered lives | Gender roles in 2112 | <ul style="list-style-type: none"> – position self as a media professional – learn various bio-innovations that will emerge and develop over the next 100 years – explore how bio-innovation designs would have an impact on how we define and construct gender in society and the role of media – understand what issues may emerge after long term and widespread adoption of their product. – to explore gender in the year 2112 by developing a treatment for an episode of a reality series entitled Gendered Lives. |
| | Comm 4510: Public Relations Theory and Practice: Long Term Thinking in Public Relations: Energy Innovations in 2031 | Public relations | Scenario constructs- mixture of forecasting and long-term thinking focusing on long-term trends and create energy innovations (e.g., Paul Saffo, Rich Cline) | <ul style="list-style-type: none"> – explore and imagine energy innovation in 2037 (25 years in the future) – create a Public Relations campaign set in the year 2037 |

| | | | | |
|--------------------|---|--|---|--|
| <p>Winter 2013</p> | <p>Comm 3107: Introduction to Organizational Communication: Taking a Long Term and Futures Thinking Perspective</p> | <p>Organizational communication</p> | <p>Long term thinking and innovation in the organization SALT Talks from Long Now Foundation and interviews with the professionals in diverse organizations</p> | <p>– practice their long term thinking by making a forecast of innovation for their organization</p> |
| <p>Spring 2013</p> | <p>Comm 4207: Introduction to Communication: Organizational Transformation</p> | <p>Organizational transformation</p> | <p>Stewart Brand's (1999) Pace Layers of Change</p> | <p>– partner with the local city planning office – explore the city 2040 (Hayward's current future planning vision) and 2112 in terms of pace layers – look back 100 years to the city's native populations and communities – think more critically about the long view of the city's future. – pick a policy area included in the strategic plan and develop a 100-year foresight statement to describe the possible long term futures of the local city (group activity)</p> |

| | | | | |
|--------------------|--|---|---|--|
| <p>Fall 2013</p> | <p>Comm 4107: Relational Communication: Personal and Collective Futures</p> | <p>Organizational Communication in the present and imagined future-</p> | <p>Paul Saffo's (2007) Cone of Uncertainty-as a core forecasting concept</p> | <ul style="list-style-type: none"> – project how organizations might evolve in the future as they are shaped by future work structures, practices, and new kinds of digital technologies and automation/robotics at work – explore what kinds of changes in work and organization might emerge and with what level of certainty – create a story imagining their future career trajectory around a specific moment in time in 2040, thinking about their personal futures as well as outlining and imagining the institutional and organizational contexts. |
| <p>Winter 2014</p> | <p>Comm 4207: Introduction to Communication: Organizational Transformation</p> | <p>Organizational Transformation Theory of interactions between communication practice and culture in public and private communication situations</p> | <p>Deep time and enduring organizational constructs</p> | <ul style="list-style-type: none"> – analyze organizational communication from the perspective of theory, communication, and culture to foster and inhibit organizational change – reflect on present trends transforming organizations today – analyze how to sustain organizations over deeper periods and how organizations can adapt to change as humankind confronts challenges and moves beyond Earth. |
| <p>Spring 2014</p> | <p>Comm 4107: Relational Communication: Exploring Response to Societal Collapse: Present, Past, Future</p> | <p>Bohman and Deal (2013) Organizational 4-Frame Models of Organization</p> | <p>Stewart Brand's (1999) Pace Layers of Change Jared Diamond's (2011) Five Point Framework Societal Collapse</p> | <ul style="list-style-type: none"> – use the frameworks to look at the responses to societal collapse using Jared's (2011) account of the Norse in Greenland and the novel Creative Fire (Ruby's Song #1) by Brenda Cooper (2012) |

As indicated in Table 4, the integration of Organizational Communication and LTFT perspectives provide evidence of progression across the courses. To illustrate this progression, I draw your attention to the first quarter (Fall 2012) of implementation, which focused on the students' awareness of the concepts of LTFT by having them "immersed" in particular time zones and "imagined" themselves in some roles in the future while developing the various literacy practices to engage in these activities. In the following quarter (Winter 2013), the students were asked to extend their understanding of long-term thinking by making a forecast of a hypothetical organization. This interconnected chain of opportunities for learning the constructs that were central to LTFT led to the last quarter of Year 1, where students were required to work on a local project where they "looked 100 years back to think of the future," an activity that was also incorporated in Spring 2014, which was considered as the "best course."

Also indicated in Table 4, the collection of the courses in Year 2 was a reiterative form of the courses offered in Year 1, as was previously discussed in the first cycle of analysis. For Fall 2013, Comm 4107: Relational Communication: Personal and Collective Futures, was offered with a different subtitle. In this course, they introduced Paul Saffo's (2007) Cone of Uncertainty, a core concept in forecasting. They directed students to imagine their future career trajectories grounded on their forecast of institution and organization contexts in the future. In Winter 2014, a reiterative form of COMM 4207, Introduction to Communication: Organizational Transformation, was offered. Although the title of the course remained the same, the curriculum design team introduced new themes such as "deep time and enduring organizational constructs" to "reflect on present trends and how organizations can be sustained through changes over a deep period of time in light of humankind's' adaptation to global challenges and moves beyond Earth." The components of thinking of societal issues from "deep past-present-deep future beyond the earth" were a critical practice that was incorporated in the "best course", COMM 4107, Relational Communication: Exploring Responses to Societal Collapse: Present, Past, Future. This course was the third iteration of the same course number with different subtitles.

The differences in subtitles of the course COMM 4107 led to (re)analyses of the three syllabi, annual report, and reviews of the transcripts of the interviews to answer to the question concerning the different subtitles in COMM 4107. These data set did not provide the answer, which led me to send an email to Prof. L to ask the following questions: "Are the different subtitles (of the COMM 4107) serve a particular program (minor, certification)? Or is it the focus of the LTFT concept that shifted?" (Author, 10/25/2014).

Prof. L's response to my question was as follows:

"So, it really is a question of the LTFT concepts shifting with the catalog title staying constant, and at the same time, the subtitle shifted to signal to students what to expect and what I

wanted to emphasize. This wasn't going to be your ordinary course" (Email response by the Prof. L, 10/27/2014))

From this response, it was made apparent that Prof. L used a particular language to signal what students should expect from the courses. An excerpt from his extended rationale for the differences in the subtitle is presented in Table 5. I also analyzed to provide further insiders' perspectives on the (re)design process of the LTFT curriculum.

Table 5. Prof. L 's rationale for the differences in subtitles of COMM 4107

| Quarter/Year | Course Title/Subtitles | Prof. L 's rationale |
|--------------|---|--|
| Fall 2012 | COMM 4107-Relational Communication: New Media and Organizational Life | When I created this course, we (Prof. L and Dr. A) were using this first course as a platform for looking 500 years ahead with the students...I wanted to look to connect to student interests and my own from a communication perspective with New Media and to connect it to long term thinking. At the same time, I had to connect it to issues of relational communication. My question for the quarter was, how would we relate in the future with emerging new media, and how would we sustain organizations for 5000 years using new forms of media? |
| Fall 2013 | COMM 4107- Relational Communication in Organizations: Personal and Collective Futures | Dr. A and I lowered the time horizon to 2040 for this course and taught students with a specific forecasting framework known as the cone of uncertainty by Paul Saffo for mapping uncertainties based on Saffo's article in the Harvard Business Review. Students created a story imagining their future career trajectory around specific in time in 2040. Up to that point, they worked on exercises that prepared them to create a story. For this exercise, they had to think not only about their futures but had to outline and imagine what the institutional and organization contexts would be as well. So, the title reflects this approach. |
| Spring 2014 | COMM 4107: Relational Communication in Organizations | This course was our best course to date (emphasis and color added) in part because the framework we adopted was to look at responses to the societal collapse using Jared Diamond's account of the Norse in Greenland and using the novel Creative Fire. So, the title was the best fit for what we decided to do. |

As indicated in Table 5, Prof. L's response indicated that the concepts and the tasks the students were engaged in informed the subtitle of each iteration of COMM 4107. The fact that Prof. L described the 8th course, offered in the last quarter of the LTFT initiative, as the "*best course to date*" led me to conduct analyses of the syllabus and unpack how and in what ways he used the course resources to engage students to integrate concepts of LTFT and theories of Organizational Communication.

12. THIRD CYCLE OF ANALYSIS: UNPACKING THE "BEST COURSE" OF LTFT CURRICULUM

To unpack the component of the "best course" (COMM 4107, Spring 2014), I analyzed the syllabus and the video record of the first session of the course. I conducted multiple (re)views of the video to construct a running record of the activities of the first session. I conducted analyses of the syllabus to identify the inscribed activities, planned weekly topics, assignments, and materials presented. The goal of the analyses of the syllabus focused on how and in what ways these resources were consequential to achieving his goals for the course of study. Further analyses were conducted to identify the embedded literacy practices within the successful iteration from the LTFT curriculum. The first key element is the purposeful selection of three interdisciplinary frameworks that enabled students to examine societies of the deep past, present, and the deep future as represented in Figure 2.

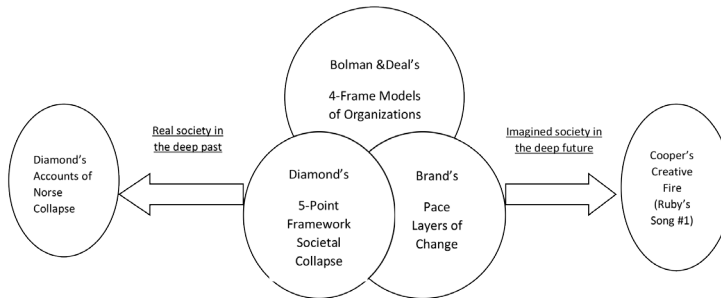


Figure 3. LTFT framework for interdisciplinary integration

As indicated in Figure 3 presented previously, the curriculum design team, after implementing 7 courses within the LTFT curriculum, developed a framework that supported students to integrate and inter-relate the interdisciplinary concepts (i.e., Organizational Communication and LTFT). Students used Bolman & Deal (2013) 4-frame model of Organizational Communication, Brand's (1999) framework of Pace Layers of Change, and Diamond's (2011) 5-point framework societal collapse to examine societies in the deep past, present, and the deep future. As indicated in Figure 3, two texts were used to provide students contexts set in different time horizons and written in different genres. The first text, by Brenda Cooper (2012), is a science fiction novel set in an imagined society in the deep future. This novel provided futuristic contexts guiding students to envision deep future scenarios in relation to Organizational theories and LTFT constructs.

In contrast, case studies of Diamond's (2011) accounts of the collapse of the Norse society provided students with historical accounts of actual society in the deep past. Invisible to this figure is the fact that the authors of the texts and the three frameworks are all futurists, a key finding from studying their backgrounds. These commonalities parallel with that of the curriculum design team and the PI suggesting that these materials were purposefully selected to provide students the language, literacy practices, and ways of thinking of the two disciplines.

The weekly learning activities replete with literacy practices are also crucial in supporting students' conceptualization of the LTFT and Organizational Communication perspectives, as represented in Figure 3.

| | | | | | | | | | |
|-------------------------------------|-------------------|------------------|--------------------------|------------------------------|----------------------------------|--------------------------------|-----------------------|------------------------------------|---------------------------------------|
| Week 1 | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | Week 7 | Week 8 | Week 9 | Week 10 |
| Reframing Organizations & Societies | Getting organized | Groups and Teams | People and Organizations | Investing in Human Resources | Interpersonal and Group Dynamics | Power, Conflict, and Coalition | Manager as Politician | Political Arenas, Political Agents | Organizations as Cultures and Theater |

| Required Readings | Online Assignments | Activities in class | Concepts introduced |
|---|--|--|---|
| Ch1. Introduction: The Power of Reframing Ch2. Simple Ideas, Complex organizations | Assigned: Quiz 1 Online Due Wednesday 11:59 4/9/14 | View image of pace layers Watch - a video clip of Brand's explanation of the meaning of the layers Reading part of the novel, Creative Fire (Ruby's Song) Simulating particular scenes role playing exercises-Creative Fire Group -select color represent a community | Brand's Pace Layers Organization Frames Long term societal change |

Figure 4. Weekly activities in COMM 4107- best course" of 8 interdisciplinary courses

As indicated in Figure 4, students were required to read assigned chapters of the textbook in Organizational Communication, complete online assignments (i.e., quiz, discussion, and journal reflection), participate in class activities that included, listening, reading, viewing, discussing, and engage in simulating and role-playing, among others. The concepts of LTFT were read, discussed, practiced, and applied in these class activities. The reading of the concepts of Organizational Communication was assigned independently before attending class sessions, thereby preparing students' minds to engage with these texts face-to-face in a whole-class setting. The weekly topics coincided with the titles of the chapters of required readings for the communication content: Reframing Organizations, Artistry, Choice, and Leadership, framed in Bolman and Deal (2013). In the first week of Course 8, the professor introduced three concepts of Organizational Communication and long-term societal change pace layers that were vital in the understanding and integrating

of the constructs of both Organizational Communication and LTFT. The figure also makes transparent the virtual component of the curriculum design, which enabled the students to complete their quiz, that was assigned a week ahead for the students to complete virtually.

The analyses of the first session of the “best course” (course 8) laid the foundation to conduct another analysis of the course syllabus to map learning activities across the 11 weeks to identify the literacy practices embedded within the course (see Table 6).

Table 6. Literacy practices across the best course

| Spaces | Wk 1 | Wk2 | Wk3 | Wk 4 | Wk5 | Wk6 | Wk7 | Wk8 | Wk9 | Wk10 | Finals |
|--------------------|--|---|---|------------------------------|-----------------|-----|-----|-----|-----|------|--------|
| Pre-class | Read assigned chapters of course textbooks, view related videos, prepare class assignments and presentations | | | | | | | | | | |
| Face-to-face class | Professor's lecture and whole-group discussion | | | | | | | | | | |
| | Reading of science fiction novel | | | | | | | | | | |
| | Group activities/discussion on a science fiction novel | | | | | | | | | | |
| | Simulation of the science fiction novel | | | | | | | | | | |
| | Role-playing on a science fiction novel | | | | | | | | | | |
| | Reading of the Diamond's Collapse | | | | | | | | | | |
| | Case study on Norse Society vs. Inuit societal structure | | | | | | | | | | |
| | Final Presentation | | | | | | | | | | |
| | Viewing visual/images | | | | | | | | | | |
| | View videos of pace layers | | | | | | | | | | |
| Virtual | Analysis of Long Now Foundation | | | | | | | | | | |
| | Complete Quiz 1 | Complete Quiz 2 | Complete Quiz 3 | Complete Quiz 4 | Complete Quiz 5 | | | | | | |
| | Complete Discussion Board Assignment #1 | Complete Discussion Board Assignment #2 | Complete Discussion Board Assignment #3 | Complete Board Assignment #3 | Complete Quiz 5 | | | | | | |
| | Comment on peers' answers | Comment on peers' answers | Comment on peers' answers | Comment on peers' answers | | | | | | | |

As indicated in Table 6, Prof. L created three learning spaces for students to engage in literacy practices individually and collectively across the duration of the course. As indicated in the Pre-Class column, students were required to read assigned chapters of the course texts, prepare any relevant materials, and view videos in preparation for the face-to-face classroom interactions.

The table also makes visible that during the face-to-face interactions, students engaged in a wide range of literacy practices across the 11 weeks. These literacy practices included the process of reformulating and extending their prior knowledge as they listened to Prof. L's lectures providing professional knowledge of the discipline and understanding of the content while modeling ways of engaging with the texts, thinking, talking, interpreting texts while building on each other's perspectives through the group discussions. Other forms of literacy practices include negotiating and (co)constructing knowledge and interpretation as they discussed, performed, and produced a product collaboratively to demonstrate their understanding of the required learning tasks. The table also makes visible that students engaged in reading and analyzing different forms of genres.

The virtual component of the course also afforded students opportunities to engage in literacy practices to demonstrate their developing understanding of the interwoven concepts by completing an online quiz, answering to sets of questions, and commenting on peer's responses to the questions. The virtual platform provided opportunities for Prof. L to conduct formative assessments and to provide feedback on whether to modify or extend students' understanding of the course.

The contrastive analysis of the performance of two students that Prof L identified as achieving differing levels of development was undertaken to explore how they inscribed their understanding of the learning activities and abilities to integrate the required concepts through their response to the first discussion board assignment. There were 3 discussion board assignments to be completed via the virtual platform for this course.

13. FOURTH CYCLE OF ANALYSIS: CONTRASTIVE ANALYSIS OF STUDENTS' PERFORMANCE

To conduct a contrastive analysis of the two students' performances, their responses to discussion board assignments were separated by paragraph and placed in a series of tables side-by-side (See Table 7). I analyzed the responses by sentence unit and identified the intertextual references that each student made. Then, I conducted a contrastive analysis of the ideas and content presented in response to

the discussion board assignment holistically. Positioning their responses side-by-side enabled analysis of how each student proposed, recognized, and acknowledged what was academically significant in this course in relation to the prompt framed by Prof. L. The comments by Prof. L was place on the first row to the right side of each student's response.

The contrastive analysis of the two student's responses to questions framed for the first of three discussion board assignments is (re)presented in Table 7.

Table 7. Two students' responses to discussion board assignment #1 and instructor's feedback

| Paragraph | Kristen | Prof. LAB's Response to Kristela | Anthony | Prof. LAB' Response to Anthony |
|-----------|--|--|--|--|
| 1 | <p>The collapse of the Norse was an event that had multiple factors involved, and three pace layers can be applied. To begin, the pace layers that I am choosing to apply are nature, culture, and infrastructure. When it comes to the infrastructure, we see how the Norse (poorly) ran their villages because they were very hostile towards their neighbors. Rather than building bridges with the Inuit whom they could've traded supplies and goods with, they brutally murdered them. I think this was detrimental to their demise because them coming into a land that they were unsure how to utilize due to the different weather than what they were used to in Iceland, they could have asked or worked with the natives to learn of ways to better use the land as opposed to overusing what they had and slowly killing what little they had to work with.</p> | <p>Very well stated! Good work, Kristela! Now, how did the Norse organize themselves and their Christian society to respond to internal and external threats? How would one of Mintzberg's structures apply here? How would Theory X or Theory Y apply here? Let me know in the next assignment How were the Inuit innovative? See pp. 244-250 in Jared Diamond's book Collapse on PDF. See the folder on course materials Discussion Board 2 resources. Go into more detail about Norse and Inuit organizational culture.</p> | <p>When looking back at the collapse of the Greenland Norse civilization, it is hard to pinpoint a certain pace layer that played the biggest role in the demise of the Norse other than Mother Nature herself. Nature is a very powerful force that can destroy, revive, or create life in many ways. Nature can be slow and deliberate or quick and immediate. Two of the five factors listed in Jared Diamond's book Collapse deal directly with nature. The first of the two factors that Jared Diamond writes about is environmental degradation, and the second most influential factor was climate change. These changes were both slow in their maturation, but overtime played the biggest role. The role they played was changing the landscape the Norse people lived on and adjusting the number of resources available to them.</p> | <p>Be more specific. What changed in nature exactly? Which trading partners? What types of fish were taboo? Now, I would like you to apply a multi-frame approach to this case study and provide more detail and bring in contemporary and future organizational comparisons. See my recent emailed announcement about this. How did the Norse organize themselves and their Christian society to respond to internal and external threats? How would one of Mintzberg's structures apply here? How would Theory X or Theory Y apply here? Let me know in the next assignment How were the Inuit innovative? See pp. 244-250 in Jared Diamond's book Collapse on PDF. See the folder on course materials Discussion Board 2 resources. Go into more detail about Norse and Inuit organizational culture.</p> |

| | | | | |
|---|---|--|---|--|
| 2 | <p>The second pace layer that I want to apply is culture because it goes hand in hand with the previous layer. As mentioned in Diamond's readings, he states that the Norse actually brought their farming techniques that they used in their homeland but failed in Greenland because of the differences in the soil. They also refused to change their eating habits from farming foods to fishing because they believed it to be taboo. Furthermore, they refused to learn or adapt to any techniques their fellow Inuit neighbors were using to gather and hunt their food because they believed themselves to be above them.</p> | | <p>Secondly, the Norse people were faced with a faster moving pace layer known as infrastructure. Infrastructure is the fastest moving pace layer of the three. Infrastructure for the Norse was difficult because they had bad relations with neighbors. The Inuit and the Norse did not get along and often would fight. Along with having bad relations with neighbors, the Norse also over time lost the trust of their trade partners and therefore cost them valuable resources they earned from trade prior. Because the Norse began to lack imports and exports from trade, there became a serious deficiency in their economy and ultimately destroyed their infrastructure.</p> | |
|---|---|--|---|--|

| | | | | |
|----------|--|--|---|--|
| <p>3</p> | <p>The final pace layer I chose to relate to the demise of the Norse was something that was beyond their control, nature. The climate change that occurred was not a big problem to them, but their footprint on their surrounding nature didn't help the situation either. The Norse kept animals which they herded, such as cows and sheep, but these animals also required food (in this case hay, grass...etc.), which also dug up the land and made it unable to be used for more farming. Also, since they chopped most of the timber in their area, it further destroyed their natural environment. Putting all these pace layers together, we can easily see how it was almost a domino effect of bad choices that led to the fall of the Norse.</p> | | <p>As a result of the collapse of the Norse's infrastructure and their change in their surroundings, the culture, a slow moving pace layer, changed over time. Because of their prolonged bad relations with the Inuit the culture suffered because of their physical ways. As mother nature changed the landscape around the Norse, they refused to change their diets to the food that was available to them because eating fish, was known as a social taboo. When the farmland changed, the Norse were never able to change their culture and social norms, and because of it, they perished.</p> | |
|----------|--|--|---|--|

Table 7 reveals that Kristella demonstrated what Prof. L framed as mastery level in her response to the prompt drawing on multiple texts in (course texts) and out of the context of the course (her personal experiences). Further, Kristella demonstrated her ability to navigate the genre in the discussion board by providing relevant evidence to support her claims.

Contrastively, Anthony's response supports Prof. L's assessment of Anthony as a student with developing mastery. As opposed to Kristen, Anthony provided definitions and claims but failed to provide evidence to support his claims. Further, he was unable to integrate and inter-relate the two concepts of LTFT concepts as directed. The examples that Anthony provided were more inferences and less concrete and are general.

Prof. L's differential feedback also supported these students' performances in different ways. Kristela, identified by Prof. L as having gained mastery, received an affirmative phrase, "Very well stated. Good work, Kristela!" Contrastingly, Prof. L inscribed his feedback to Anthony by giving him suggestions and raising questions to signal to Anthony what he could include in his paper: "Be more specific. What changed in nature exactly? Which trading partners? What types of fish were taboo?"

To gain a better understanding of the roots of the differences in their performance, I conducted further analysis tracing the enrollment history of the two students. This phase of the analysis showed that even though they were both in their fourth-year, Kristela took one more course of the eight courses than Anthony, that is, she completed 4 courses while Anthony completed three courses. Kristela also completed her first course of the interdisciplinary curriculum a year ahead of Anthony. What this suggests was that Kristela's earlier and prolonged exposure and additional learning opportunities to the language and epistemic practices of the profession provided her a more significant advantage in understanding and using the language of the discipline to integrate interdisciplinary concepts.

CLOSING AND OPENING

In the preface to *Rethorizing Literacy Practices Complex Social and Cultural Contexts*, Heath, based on her work with Brian Street (e.g., HEATH & STREET, 2008), raises a critical issue that this study sought to address. That is, the need to "take into account, contrast, comparisons, and continuities across different situations, contexts, (in this study, different iterations of the courses, and learning spaces), mixtures of languages and ethnicities, and institutions" (HEATH, 2019, vii), when conducting a research study particularly when exploring literacy. By undertaking the principles set forth by Heath (2019) in studying literary practices within an interdisciplinary curriculum in higher education, I addressed the call to uncover not only the micro and situated processes of developing interdisciplinary curriculum but also the institutional contexts that contributed the phases of development (KHAN & LAW, 2015). The cycles of analyses also made visible how and in what ways, the curriculum design team constructed learning activities that supported students in learning the "methodology and languages of the discipline" (HOLLEY, 2017).

The abductive logic-of-inquiry analyses made visible the phases of the interdisciplinary curriculum in higher education and uncover, the often invisible, broader institutional contexts that contributed to the development of an

interdisciplinary curriculum (KHAN & LAW, 2015). Securing human and financial resources were vital at the onset of the early phase of the development of the LTFT curriculum. The formulation of the team was dependent on the levels of expertise necessary to achieve the goals of the project initiative. The academic and intellectual histories of the members of the team provided a shared understanding and shared language when collaborating throughout the project effectively. The findings of the analyses reinforced the value of the complementary expertise of the curriculum design team (BAKER & DAUMER, 2015; ASHBY & EXTER, 2019). This principle enabled the creation of learning activities whereby the students engaged in literacy practices using numerous texts in diverse genres and various resources; The university learning outcomes guided the conceptualization of the project and its goals, which in turn influenced the learning activities within the courses (BIGGS & TANG, 2011).

The triangulations of multiple archive records (i.e., annual report, syllabi, public websites) and point of views (i.e., lead professor, consultant, and principal investigator) supported the tracing of the iterative, recursive, and reflexive processes of (re)design- implementation- reflection-revision logic of design developed by the curriculum design team over a two-year period. The (re)formulation of the courses was influenced by recurring and critical reflection of students' performance and course designs. This process enabled the curriculum design team to curate and to develop material resources to facilitate the learning of disciplinary languages and epistemic practices of the disciplines, promoting multiple literacy practices within and across the course of study.

Multiple opportunities to develop, practice, and apply student's developing repertoire of literacy practices in different learning spaces both within and across courses, are crucial to facilitate the integration of interdisciplinary concepts. Throughout the eight courses, particularly in the "best course," students interacted and produced multimodal texts (oral, visual, written, videos, pictures) either individually or collectively in a face-to-face classroom interaction or a virtual setting facilitated by the instructor. As they engaged with multiple and various written, oral, visual texts, they interactionally and socially (co)construct ways of reading, discussing, analyzing, interpreting, reflecting, applying, and transforming texts as the students build their developing understandings of disciplinary knowledge. Through this process, they applied and socially constructed various literacy practices across learning spaces over time. The contrastive analysis of the students' performances demonstrated their capacity to apply the epistemic practices of

integrating interdisciplinary concepts by using the language of the disciplines (HOLLEY, 2017).

Findings from this study provided both theoretical and practice-based insights that lay a foundation for understanding the challenges facing faculty in planning for and designing interdisciplinary curriculum in higher education and contribute to the ongoing discussions of literacy practices as social in dynamic and complex academic contexts (BAKER & DAUMER, 2015; BLOOME ET AL, 2019). This study also elucidated how the transformation of the existing curriculum involves ongoing dialogues of the curriculum design team rather than individual faculty members to support the reflexive and recursive process that supports student learning in programs with an interdisciplinary curriculum (BAKER, & BAUMER, 2015; ASHBY & EXTER, 2019;). The multiple levels of analysis not only highlighted the multifaceted dimension of the curriculum but also provided a framework on ways to conduct an ethnographic research study. It made visible the decisions and actions undertaken by the curriculum design team as well as the layers of external sources of influence that contributed to the development of the courses over two years. Triangulations of analysis provided a holistic understanding of what is required in developing an interdisciplinary curriculum in higher education from multiple perspectives.

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