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Utilizing Slow Reading Techniques to Promote Deep Learning

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Abstract

Slow reading has long been viewed as a teaching technique that engages students more deeply with course readings. Little systematic research, however, has been done to understand how this pedagogical strategy works in college classrooms. This study investigated how slow reading techniques promoted deep learning among undergraduate college students across two disciplines. Utilizing two food essays as the basis for a reading assignment, students in two courses participated in an intentionally scaffolded and paced slow reading exercise designed to encourage deeper personal engagement with course concepts. Theoretical implications from the research demonstrate connections between slow reading techniques and the existing literature on both significant and deep learning. More practically, this study found that slow reading techniques fostered personal storytelling as a means of developing deeper connections to assigned texts, presenting an opportunity for instructors hoping to facilitate the meaningful integration of course concepts into students' lives.

Keywords

Contemplative Pedagogy, Deep Learning, Personal Storytelling, Interdisciplinary, Higher Education, Food Writing

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Slow reading has long been viewed as a teaching technique that engages students more deeply with course readings. Little systematic research, however, has been done to understand how this pedagogical strategy works in college classrooms. This study investigated how slow reading techniques promoted deep learning among undergraduate college students across two disciplines. Utilizing two food essays as the basis for a reading assignment, students in two courses participated in an intentionally scaffolded and paced slow reading exercise designed to encourage deeper personal engagement with course concepts. Theoretical implications from the research demonstrate connections between slow reading techniques and the existing literature on both significant and deep learning. More practically, this study found that slow reading techniques fostered personal storytelling as a means of developing deeper connections to assigned texts, presenting an opportunity for instructors hoping to facilitate the meaningful integration of course concepts into students' lives.

INTRODUCTION

In the 1980s, Italian food writer and activist Carlo Petrini, railing against the boom of industrialized food production, founded what would soon be called the slow food movement, building on writer Anthelme Brillat-Savarin's declaration that people should "eat slowly and savor thoughtfully" (Petrini, 2006, p. 9). Slow reading, much like Petrini's concept of "slow food," derives from an interest in eschewing quick production in order to gain wisdom, greater sensory awareness, and a higher quality of experience. The concept of slow reading is not new. As early as the third century C.E., Christian monks practiced *lectio divina*, a sacred form of reading in which they exposed themselves repeatedly to texts to deepen their understanding (Keater, 2018). Initially, texts were spoken aloud and the monks listened. Later, staged involvement with texts came to include both listening and reading, involving distinct stages: (1) text selection and preparation; (2) listening; (3) slow deliberate reading; and (4) performative reading (Keator, 2018). Modern adaptations of contemplative or slow reading take many forms, but commonly involve reading, pausing for introspection, re-reading (often aloud), further rumination on the text, and writing a response (Bach and Alexander, 2015; Corrigan, 2013; Elkins et al., 2019; Haight, 2010; Kahane, 2014; Keator, 2018; Lichtmann, 2005).

The purpose of this Scholarship of Teaching and Learning (SoTL) study was to introduce slow reading techniques to undergraduate college students and investigate the relationship between these learning experiences and deep learning.

LITERATURE REVIEW
Purpose and Benefits of Slow Reading

Advocates for slow reading cite a range of purposes and benefits. Some encourage readers to provide enough time to develop deeper emotional connections to texts (Wessel-Powell, 2020). Others promote the savoring of texts, calling for repeated readings and suggesting that texts are not simply unknown and then known (Newkirk, 2010). Rather, readings are "inexhaustible, continuing to move us, support us, and even surprise us" (Newkirk, 2010, p. 11). In essence, slow reading can yield deeper meanings through intentionally-paced engagement.

Scholars have posited an ethical and philosophical dimension to paced, deep interaction with readings. Salvo (2020) argued against quoting a text without first thoroughly engaging with it, seeing quick apprehension as extractive and a form of intellectual violence. He was particularly concerned with academic writing that is larded with citations out of a sense of utility rather than a sense of deep engagement. Salvo (2020) identified successful reading in physical terms, describing a sort of co-location with a text, a form of "be[ing] with the work," a sense of "with-ness," or "being alongside" (p. 796). Slow reading shares many of these attributes. Brookfield (2012) identified in his description of critical reading a process of careful discernment and connection to a text. According to Brookfield, this form of reading is a practice in which readers "pay attention to our emotions, as well as our intellect" (p. 135).

Some theorists on writing posit a process that corresponds closely to the contours of slow reading. Murray (1978) identified a stage of writing called "prevision," which he defined to include "receptive experience, such as awareness (conscious or unconscious), observation, remembering; and exploratory experience, such as research, reading, interviewing, and notetaking" (p. 86). Murray was careful to separate "receptive" and "exploratory" effort, identifying in the former a type of effort that is personal, paced, and ruminative. Peary (2018) built on the work of Murray, naming his concept of prevision as "not-writing." According to Peary, creating intentional pauses before writing increases receptiveness to new ideas and awareness of a text. These intentional pauses are mediated experiences close in kinship to Keator's (2018) description of slow reading as something that "creates stable boundaries around the reading of a text, creating space for students to encounter and enter into a deeper relationship with the text" (p. 110). Other scholars have focused on the benefits to student attention. Wenger (2019) invoked composition theory on the multimodality of writing to call for greater awareness of "lived attentional strategies from readers," resulting in a greater sense of "attunement" (pp. 54-55).

Carillo (2016) has explored a kind of mindful reading designed to help students develop awareness of their reading habits in order to facilitate metacognitive transfer of concepts and enhance learning in writing classes. Carillo defined the process as one in which "students become knowledgeable, deliberate, and reflective about how they read and the demands that contexts place on their reading" (p. 11). In this method, instructor-led journal prompts encouraged students to think about the specific internal metacognitive decisions they made as they read. Carillo linked the practice of journal writing not only to more effective reading, but also to better metacognition about the process of reading.

More broadly, instructors in higher education are increasingly advocating for more paced, contemplative forms of instruction. Arthur Zajonc (2009) has documented the proliferation of contemplative practices in colleges and universities. He further described *lectio divina* as a process by which a reader "befriend[s]" a text through deep contemplative regard (p. 128). Barbezat and Bush (2013) have asserted that "contemplative modes of instruction provide the opportunity for students to develop insight and creativity, hone their concentration skills, and deeply inquire about what means the most to them" (p.8), specifically mentioning that slow reading techniques like *lectio divina* "allow students to sink into their experience of reading, a rare opportunity given the amount of reading they are assigned daily" (p.10). Their book contains numerous examples of contemplative reading and writing across the disciplines as practiced at institutions such as Bryn Mawr, Colgate University, University of South Florida, Wake Forest University, Temple University, Georgetown University, Georgia State University, and West Point. Seeber and Berg (2016) advocated for the development of "a pedagogy of pleasure" (p. 35) inspired by, among other things, the slow food movement, and which resists the corporate tendencies of higher education by prioritizing presence and feeling. Specifically, they advocated for pausing in teaching, developing an awareness of breath, and pacing our teaching preparation carefully.

From Slow Reading to Deep Learning

Significant Learning
The individuated learning processes involved in slow reading and writing can be understood through Fink's (2013) taxonomy of significant learning. Expanding beyond the popular focus on cognitive learning in Bloom's Taxonomy (Bloom, 1956), Fink identified and articulated categories of learning that also included affective and metacognitive development, including: foundational knowledge, application, integration, human dimension, caring, and learning how to learn. While traditional reading might be categorized as an application task involving sub-tasks such as critical and creative thinking, slow reading as described in the literature—with a focus on careful discernment, personal connection, emotions, and appreciation—can involve integration, human dimension, caring, and learning how to learn sub-tasks, such as connecting prior and new understandings, learning about oneself, developing feelings and values, and becoming more self-directed as a learner. Significant learning, then, is a valuable taxonomy for understanding the student experience when engaged in slow reading, and its inclusion of affective forms of learning serves as a bridge to further understanding slow reading's relationship to deep learning.

Deep Learning
Deep learning – a type of knowledge acquisition characterized by a full and integrated understanding of concepts as opposed to a cursory understanding – derives from research on undergraduate student processing tasks while engaged in reading, and identifies two types of learning: deep and surface (Marton and Säljö, 1976; Millis, 2010). Rhem (1995) identified characteristics of courses that hinder meaningful contemplation and promote surface learning, positing that excessive material and daunting assessment structures can lead to "short-range aims and outcomes" (p. 4). Biggs (1999) attributed successful deep learning with "engagement with content that is personally meaningful" (p. 38) and increased student confidence about learning, further asserting that deep engagement can be thwarted by the time demands of poorly-designed instruction. Bain (2012) posited that: "To take a deep approach means to take control of your own education, to decide that you want to understand, to create something new, to search for the meaning that lies behind the text, to realize that words on a page are mere symbols, and that behind those symbols lies a meaning that has a connection with a thousand other aspects of life and with your own personal development." (p. 38) Yew, et al, also connected meaning and personal experience, claiming that "[a] deep approach arises from the need to understand and seek meaning, leading students to attempt to relate concepts and ideas to existing experience, and critically evaluate the emerging knowledge for patterns and meanings" (2016). While a number of scholars have implemented slow reading and slow writing techniques in their classrooms and described a resulting depth of student understanding (Elkins et al., 2019; Haight, 2010; Kahane, 2014; Keator, 2018; Lichtmann, 2005), few, if any, have intimately and systematically analyzed student writing to better understand how these techniques manifest learning.

As mentioned, the purpose of this SoTL study was to investigate the relationship between slow reading techniques and their effect on deep learning among undergraduate students. Through the implementation of qualitative analytical techniques to our objectives were to: (1) generate themes from a grounded approach; and (2) map a learning process and trajectory based on those slow reading techniques.

METHODOLOGY
This Scholarship of Teaching and Learning (SoTL) study was a joint effort between researchers from two different universities in the United States, one from a Restaurant and Foodservice Management degree program located within a metropolitan university system in the Southeast, and the other from a large flagship public university located in the Northeast region. Although the contexts of the two courses differed (the former was a foodservice operations course, and the latter was a first-year literature course), they both endeavored to engage students in deep learning through meaningful, paced, personally-relevant engagement with food literature.

The aim of this study was in alignment with good practices of SoTL research, guided by the following five principles for assessing SoTL work (Felten, 2013): (1) Inquiry into student learning; (2) Grounded in context; (3) Methodologically sound; (4) Conducted in partnership with students; and (5) Appropriately public.

Study Design

The researchers utilized a common "slow" reading and writing assignment, from which the student participants provided the answers that were utilized as the data in this study. The instructions of the reading and writing assignment were as follows: (1) Students were instructed to read two essays, *The Pleasures of Eating* (Berry, 1990) and *Why McDonald's Fries Taste So Good* (Schlosser, 2001) all the way through without taking notes; (2) Students were asked to reflect on the essays and think about the main points of each, in addition to the authors' language choices and the intended audience(s); (3) Students were instructed to re-read each essay out loud, and prepare notes in the margins, on a separate piece of paper, or digitally; and finally, (3) Students were instructed to write a 1 - 2 page reflection paper aided by guided questions pre-organized by the researchers (*How did each essay inform your own personal thoughts and beliefs around the food you eat?*; and *How did the specific writing choices in each essay inform your views on what's possible in writing?*).

The rationale for the assignment design and the use of the guided questions was based on slow reading and writing techniques and deep learning strategies established in the literature. In addition, the researchers aligned the assignment with their course learning objectives to promote a sense of attunement and deep critical engagement with food-related literature and commentary.

Sample and Data Collection Procedure

While both researchers utilized this common slow reading and writing assignment in their courses, the topic and context of those courses were different. Researcher #1 utilized the assignment as a component of extra credit in Spring 2019 within a lower-level undergraduate quantity food preparation course in which 55 students were enrolled, with 16 participating in the extra credit opportunity. The extra credit was worth 2% of the total points in the course. Researcher #2 utilized the assignment as a regular component of the course's deliverables in a first-year undergraduate literature course in Fall 2019 with 19 students enrolled from a variety of majors, and 12 students participating. In all cases, students completed the assignment outside of class within a one- to two-week time period, and submitted their reflection papers electronically via their respective learning management systems.

Data Analysis

Following IRB procedures and protecting the participants' anonymity and confidentiality, once the 1-2-page reflection assignments were submitted, the researchers de-identified the reflections and consolidated the narrative data for analysis. Utilizing an inductive approach (Creswell & Creswell, 2018), qualitative analytical techniques were conducted using Maxqda v.20 qualitative analytical software (Kuckartz & Rädiker, 2019). The researchers coded the data using a grounded theory approach, from which emergent themes and sub-themes were generated and organized based on frequencies and in congruence with prior literature. One of the researchers completed the coding, while the other researcher conducted regular checks for meaning and consistency. Over several iterations, the research team distilled and organized the themes, triangulating the findings. Using the concept mapping features in the software, linkages between the highest frequency codes were detected to generate a heatmap and a conceptual map of the findings (Kuckartz & Rädiker, 2019). The results are presented in the following sections, together with representative coded segments that provide rich descriptions of the findings and therefore validate the source data, ensuring credibility of the findings through transparency and discussion (Creswell & Miller, 2000) (see Appendix for Participants' ID's and Course Context).

RESULTS AND DISCUSSION

From 993 coded segments, two overarching themes and nine sub-themes (see Table 1) emerged in the analysis. The first major theme was '*Content & Material*' (217) and referred to the participants' explicit interpretation of the content within the essays, from which two sub-themes emerged: '*Stylistic*' (123) and '*Critical*' (22). The second overarching theme emergent from the data was '*Contemplation/Reflection*', producing seven sub-themes: '*New Awareness/Enlightenment*' (183); '*Broader Generalization*' (148); '*New Awareness/Disappointment*' (122); '*Personal/Storytelling*' (75); '*Connection/ Linkage to the Real World*' (54); '*Prior Knowledge*' (30); and '*Coming to Terms*' (16).

Table 1. Frequencies and percentages of themes and sub-themes.		
Theme/Sub-Theme	**Frequency**	**Percentage**
Content & Material	217	21.85
Stylistic	123	12.39
Critical	22	2.22
Contemplation/Reflection	3	0.30
New Awareness/Enlightenment	183	18.43
Broader Generalization	148	14.90
New Awareness/Disappointment	122	12.29
Personal/Storytelling	75	7.55
Connection/Linkage to Real World	54	5.44
Prior Knowledge	30	3.02
Coming to Terms	16	1.61
TOTAL	993	100.00

Content and Material

The first overarching theme revealed in the data was deemed "*Content and Material,*" from which two sub-themes emerged: (1) "*Stylistic*" (123) referred to the participants' critique of the authors' stylistic writing choices; and (2) *"Critical"* (22) referred to the participants' critique of the content, mostly judgmental in nature. As part of the instructions for the assignment, student participants were asked to identify the authors' stylistic writing choices and comment on how the writing styles informed a point of view. While the coding procedure for this component of the analysis was informed *a priori*, the sub-themes revealed more nuanced information as to how students interpreted the readings. "*Content and Material*" reflected the instructions and thus served as the basis for level-setting student participants within the assignment. In addition, this exercise provided a framework from which students were able to advance from their own understanding to their own interpretations of the readings based on their individual knowledge and life experiences.

Stylistic

When prompted to analyze the stylistic writing choices in the two food essays, the participants were descriptive in their evaluations and provided a wide range of commentary:

Why McDonalds Fries Taste So Good was overwhelming, but extremely interesting, and contained scientific and personal appeal through language to both entice and encroach fear upon the reader. [R5b]

[The author] started off talking about what makes McDonald's fries taste so distinctive and that started the whole reasoning for natural flavors and flavor additives. This could be a skill that I would be able to use in my future essays because it is something that catches the reader's attention. The hook of the whole article was something everyone knows well and can relate to. [R10b]

The specific writing choices in the Wendell Berry *The Pleasures of Eating* essay are very influential and persuasive. The author gives evidence and facts as to why he believes the pleasure of eating comes from knowing where your food was produced. [R10m]

The sample narratives above revealed that the student participants relied heavily on generalized stylistic and critical analyses. These were the typical range of responses offered early in their written reflections, demonstrating a common rhetorical strategy among beginning writers -- overgeneralization -- that is marked by language ("extremely," "very," "everyone knows") indicating a desire for authoritative conclusiveness, or generality (Gere, 2019; Aull, 2015).

Critical

The sub-theme deemed "Critical" highlighted a range of positive and negative interpretations of the essays, also revealing the student participants' prior knowledge and depth of analytical engagement:

Schlosser's writing uses a lot of set ups, that is the first part of the sentence acts as a trampoline for the second part of the sentence. He also uses hyphens often to interject some important or interesting fact. I found it really strange that he devoted an entire paragraph to just the list of ingredients for artificial strawberry flavor. [R8b]

Rather than labeling it as food coloring, the article gave the official chemical name for food coloring, which is very good for those who are inclined to read through it, but for those like me, it was more of a slog so it was difficult. [R6m]

[The] specific writing choices in this essay really solidify that writing can be a very influential thing, and if the author has evidence to back them up, their writing can be very persuasive, even if the reader doesn't necessarily agree with what the author is saying. [R10m]

In these instances, the students began to move from a generalized critique of the authors' writing choices into identifying the author's argumentation choices, and providing some judgment on these strategies' rhetorical effectiveness. This slight shift indicates an entry into Fink's (2013) application or Bloom's (1956) analysis domains of learning, in which critical thinking is cultivated and relationships between concepts are more intently weighed.

Contemplation and Reflection

The second overarching theme emergent from the data was "*Contemplation/Reflection*," which elicited seven sub-themes (see Table 1): (1) "*New Awareness/Enlightenment*" (183); (2) "*Broader Generalization*" (148); (3) "*New Awareness/Disappointment*" (122);

(4) "*Personal/Storytelling*" (75); (5) "*Connection/Linkage to Real World*" (54); (6) "*Prior Knowledge*" (30); and (7) "*Coming to Terms*" (16). For "*Contemplation/Reflection*," the seven sub-themes emerged as a result of grounded theory coding procedures (Cresswell & Cresswell, 2018), with the details further elucidated below.

New Awareness and Enlightenment

The sub-theme, "*New Awareness/Enlightenment*," was characterized by the student participants' self-reported new discoveries about food in general and about their own future motivations to eat healthy and be more actively engaged in healthy food systems:

There is a subtle call to action [in the essays] and I definitely feel motivated to understand the truth of the food industry. [R1m]

The essay reminded me that I should return to gardening with my mother, because when you know where your food comes from, you can feel a bit safer when you eat. This is why it's important to grow and plant your own food. Those are immediate healthier choices that will benefit me in the long run. [R1b]

It would be beneficial to grow some of my vegetables myself so that I know exactly what I am consuming. Although I live a busy life, I will start to prepare more of my own meals instead of buying quick, convenient and processed foods. This would be both healthy and cost effective. I will also try as best I can to buy from local merchants and farmers, who I can trust to supply the freshest and healthiest products. [R15m]

Within these narratives, participants began to internalize the content of the essays, providing more personal testimonies, remembrances, and discoveries. Evoking intentions to "prepare meals" and "grow gardens," the students exhibited greater internalization, empathy, and personal connection with the topic, outcomes consistent with the literature on deep and contemplative learning (Bain, 2012; Brookfield, 2012; Fink, 2013; Keator, 2018; Yew, 2016).

Broader Generalization

"*Broader Generalization*" was identified as a high-frequency sub-theme, in which students shared their rationale for applying what they had read to a context beyond themselves. This sub-theme revealed a transition from connecting the content of the essays to the participants' own knowledge base to identifying broader societal patterns:

Most people are more likely to pick a bright orange carrot than a dull battered carrot because the brightness gives the illusion that it'll taste better. [R1b]

Food is a means of survival. However, in modern civilizations, food has become so much more than that. It has become a way to express ourselves, our culture, and even make us feel better about ourselves. In the modern age of convenience, food has become so easily attainable that most people don't even think about the way food is made. [R7m]

These industries tricked myself as well as I'm sure thousands of other consumers into believing they were selling a natural product just with a play with words. People don't even know where these flavors even come from. Which arose

the debate of adding the flavor origins to the labels in order to inform customers who could have potential food allergies. [R12m]

As with writing categorized under "*New Awareness and Enlightenment*," these statements contain evidence of overly-broad or generalized personal revelations. In many instances, these statements seemed to serve not only as pivots into deeper connection with the essays, but as evidence of integrating concepts across new topical areas (Fink, 2013). Also, to be fair, student participants were not required to research any content for their responses, nor were they required to cite any materials. As a result, the students may have offered generalized connections to the content as a proxy for doing further research, a rhetorical move common in short assignments that do not require students to seek out further sources (Aull, 2015).

New Awareness and Disappointment

"*New Awareness/Disappointment*" was a relatively high-frequency sub-theme, closely related and yet opposite to the highest frequency sub-theme, "*New Awareness/Enlightenment*." Coded segments captured under this sub-theme illustrated the students' self-awareness about how little they knew about food and the manufacturing processes. While these self-discoveries were illuminating, the participants also revealed disappointment with this new knowledge and uncertainty about what they might do with this disappointing knowledge in the future:

> I was yet again faced with the reality that I knew very little about the food I was consuming from where it was grown, to how it was being transported; I essentially knew nothing. [R7b]

> Companies do not want to share with you the cons of their items being sold to you, so they become sneaky and misleading. [R2b]

> To think that people can really be oblivious about food production really makes me lose faith in humanity, I surround myself with people who are conscious of the process because most of my close friends have parents who worked in the fields and farms their whole life, so knowing where food came from was something we learned from a very young age. [R1m]

In these narratives, the student participants revealed a sense of fragility and disappointment in not knowing the truth about processed foods. Some students blamed others for this lack of knowledge, and some took personal responsibility for not knowing this information. Regardless, this disappointment served as a turning point leading to deeper engagement with the content, with students frequently moving to "Personal Storytelling" for the next part of their learning process.

Personal Storytelling

The sub-theme, "*Personal/Storytelling*," was characterized by narratives that contextualized the student participants' interpretation and understanding of the essays. In particular, several narratives described memorable cooking and eating experiences with their family members:

> I think back to some of my most favorite dining experiences, yes, the food was delicious! However, the best things that come to mind are the people I shared the experience with,

the presentation of the food items and menu, the server, and the entire atmosphere of the restaurant. [R10m]

> From my experience with a family garden, there is a type of satisfaction, involved with growing food and cooking it with my family, that I cannot find by just purchasing the premade meal in a grocery store. [R4b]

> For example, my mother and I used to grow these large gardens full of produce. We grew eggplants, bell peppers, tomatoes, cucumbers, and one summer we stopped. We stopped because we grew lazy and would rather buy an eggplant who has traveled thousands of miles to get into the produce aisle. The essay reminded me that I should return to gardening with my mother, because when you know where your food comes from, you can feel a bit safer when you eat. [R1b]

In these example narratives, student participants reached back into their family histories, reflecting on mostly happy and positive meals with friends and family. Students used their personal experiences to apply concepts from the readings and reflect metacognitively on their values, and in doing so learned about themselves (Fink, 2013). They also demonstrated increased confidence in interpreting the essays, leading to new and more expansive understandings.

Connection and Linkage to the Real World

In the writing identified under this sub-theme, students applied the concepts in the essays to the practicalities of their own lives and food consumption habits. Topics such as artificial flavorings, agriculture, and the importance of eating healthier emerged as opportunities to explore their values and experiences with food systems:

> The concept that [the] flavoring industry was so secretive about who it provided products for seemed suspicious to me. It forced me to, for maybe the first time in a long time, consider that my favorite ready-made foods may be worse for me than I had previously assumed. [R7b]

> If I wasn't assigned this article then I would never have gone out of my way to research the topic, and now I know that "artificial" and "natural flavors" are essentially the same thing, meaning there is nothing natural about it.... It made me realize how complex this industry really is. [R1m]

> I hope to one day see the world encouraging a healthier lifestyle even if that means just a small diet change and some exercise. I would love to see a decrease in diseases and deaths caused by a lifetime of bad food filled with sugars and fats. [R14m]

These sample narratives were evidence of significant progress along the deep learning trajectory. The students increasingly connected the concepts in the essays to the real world. Moreover, these narratives also demonstrated a move toward the significant learning domains of integrating new understandings and becoming more self-directed as learners by considering the impact of those new understandings on their lives (Fink, 2013).

Prior Knowledge

The sub-theme, "*Prior Knowledge*," while not at the highest frequency, was present throughout the data. Many students

approached the slow food readings and writing assignment with prior experience with the topics:

> I had already done prior research that exposed me to these food production horrors. [R8b]

> I have been pretty health conscious all of my life, even when eating fast food. A few years ago, I read a book called, "*Fast Food Nation*," it tells the history of fast food and even shares personal stories of those who have worked in fast food restaurants and factories that supply the food sold in these restaurants. Since then, I realized that I needed to limit my intake of fast food. [R2m]

In these instances, the example narratives of "Prior Knowledge" were declarative and confident, but brief and surface-level, suggesting involvement in Fink's (2013) foundational levels of learning and showing some initial hesitation to engage more deeply with the texts. Interestingly, there were hints of disappointment in some narratives within this sub-theme, perhaps showing frustration with not learning anything new.

Coming to Terms

The final sub-theme which emerged from the data was "*Coming to Terms*," in which students expressed new awareness that was either were enlightening or disappointing:

> The article has brought my attention to the fact that I had never considered what I was actually putting into my body beyond [the food's] flavor. [R7b]

> I should look into where [food] products really come from and try to buy locally. I know that it sounds like such a small step, but it's better to start with that than nothing at all. [R9b]

In this final sub-theme, students sometimes named a potential change in belief or behavior, displaying a form of self-directed learning. While the analytical reasoning was not particularly deep, these sample narratives show a sense of agency among the participants.

THE SLOW READING-DEEP LEARNING CONNECTION

In addition to the detection of emergent themes and sub-themes from the data via frequency of coded segments, a heatmap feature in the Maxqda v.20 software (Kuckartz & Rädiker, 2019) enabled a higher-level interpretation of the phenomenon under investigation. Figure 1 portrays the heatmap associated with the coding frequencies in this study, and illustrates clusters based on magni-

tude. For example, those cells in Figure 1 colored bright red depict groupings and patterns which informed the conceptual model (see Figure 2) based on the results of the data analysis. Specifically, "*Content & Material*" intersected with "*Broader Generalization*," "*New Awareness/Enlightenment*," and "*New Awareness/Disappointment*" at a higher frequency than the other themes and sub-themes, thus suggesting a pattern in the data.

The data were subject to a code co-occurrence analytical technique, available within the software package (Kuckartz & Rädiker, 2019), which generated a map of the themes and sub-themes according to groupings (see Figure 2). This map was based on the frequency of intersections and the proximity of the codes to each other (Kuckartz & Rädiker, 2019). Despite the differences in learning contexts (disciplinary, institutional, student level), and after careful triangulation procedures, the researchers detected no meaningful differences in findings across data from the two courses. Together with the heatmap visualization, the researchers' interpretations and iterative triangulation of the data, and prior literature on slow reading techniques, significant learning, and deep learning, Figure 2 was annotated to illustrate the student participants' process toward deep learning. With the slow reading assignment and techniques as the mechanism (I. Content), the student participants made connections via real world and practical interpretations (II. Connecting/Understanding), and as a result, experienced deep learning (III. Deep Learning) through new awareness and self-discovery (see Figure 2).

I. Content

Given the instructions of the slow reading assignment which included: (1) to read two essays, *The Pleasures of Eating* (Berry, 1990) and *Why McDonald's Fries Taste So Good* (Schlosser, 2001) all the way through without taking notes; (2) to reflect on the essays and think about the main points of each, in addition to the authors' language choices and the intended audience(s); (3) to re-read each essay out loud, and prepare notes in the margins, on a separate piece of paper, or digitally; and finally, (4) to write a 1 - 2 page reflection paper aided by guided questions, the student participants were shepherded through an intentional process that encouraged them to interact more deeply with the content for more time than they might otherwise. Therefore, it is not surprising that "*Content & Material*" had the highest frequency of coded segments and the highest proximities to other codes. In addition, "*Content & Material*" clustered farther away from the other code clusters, which can be interpreted that the content was a salient stand-alone theme.

Code System	Content/ material	Critical	Stylistic/ critical analysis	Contemplation/ reflection	Prior knowledge	Connection/ linkage to real world	Coming to terms	Broader generalization	Personal/ storytelling	New awareness/ enlightenment	New awareness/ disappointment
Content/material	0	3	15	1	6	12	3	19	9	25	19
Critical	3	0	8	0	2	1	0	0	0	1	1
Stylistic/critical analysis	15	8	0	0	3	5	1	11	4	16	6
Contemplation/reflection	1	0	0	0	0	0	0	1	1	1	1
Prior knowledge	6	2	3	0	0	3	0	2	7	3	4
Connection/linkage to real world	12	1	5	0	3	0	1	10	8	11	8
Coming to terms	3	0	1	0	0	1	0	2	3	5	2
Broader generalization	19	0	11	1	2	10	2	0	10	13	11
Personal/storytelling	9	0	4	1	7	8	3	10	0	14	9
New awareness/enlightenment	25	1	16	1	3	11	5	13	14	0	9
New awareness/disappointment	19	1	6	1	4	8	2	11	9	9	0

Figure 1. **Heatmap of themes and sub-themes in reference to coding proximity generated by the Maxqda v.20 software (Kuckartz & Rädiker, 2019).**
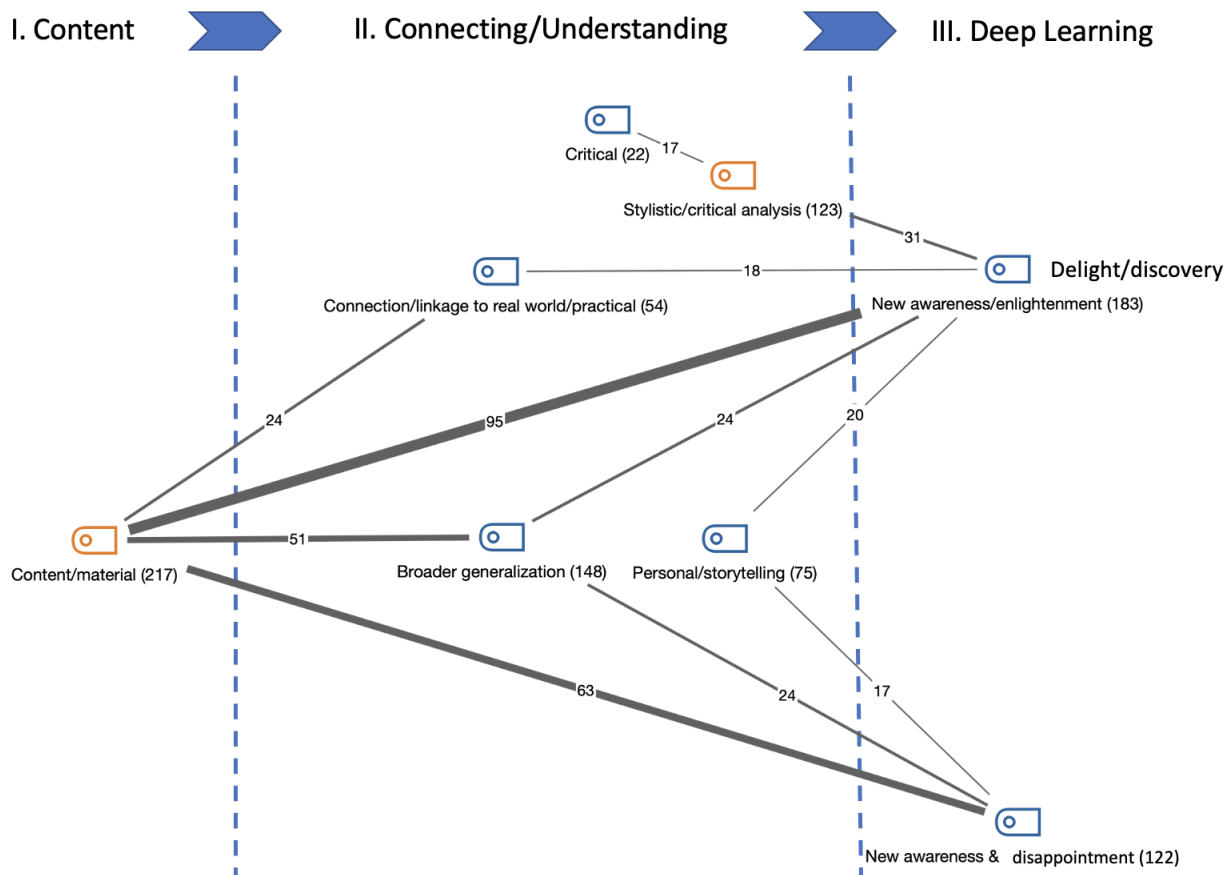
Figure 2. **Conceptual model of thematic relationships (according to frequency and code proximity) depicting the learning journey via slow reading techniques from I. Content → II. Connecting/Understanding → III. Deep Learning.**

II. Connecting and Understanding

Emanating from **I. Content**, we interpreted that the student participants moved to a phase in their learning, deemed **II. Connecting/Understanding**. The codes which clustered together in this section of the mapping included "*Stylistic/Critical Analysis," "Connection/Linkage to Real World," "Broader Generalization,"* and "*Personal/Storytelling.*" We interpreted these themes and sub-themes as metacognitive moves that connect content to learning through interpretation, critical analysis, application, and generalization. This finding adds to the body of literature on significant learning and slow reading by demonstrating not only a progression of learning through Fink's (2013) domains of learning, but also which domains were more deeply associated with, and perhaps stimulated by, slow reading's intentionally-paced and delineated assignment instructions. Notably, the data revealed a progression toward personal storytelling, a metacognitive component of significant learning in the human dimension through which students learn about themselves, and described in the literature on transformative learning as self-knowledge and perspective-taking (Fink, 2013; Meziow, 1997).

III. Deep Learning

Finally, we interpreted student work exhibiting "*New Awareness,*" whether in the form of enlightenment or disappointment, as displaying deep learning. Seen through the lens of significant learning, students operated within Fink's (2013) category of "foundational knowledge" (identifying themes and details), but progressed

to deeper awareness through activities most associated with Fink's (2013) categories of "integration" (making connections to other concepts), "application" (critically analyzing and creatively responding to the topics), and "human" (personal story-telling and self-authorship) (p. 35). These various methods of apprehending the concepts in the readings led to deeper connections, resulting in new awareness, and in some cases, delight. This learning trajectory paralleled the slow reading and slow writing process of encountering ideas, allowing time to develop close intellectual and emotional connections to those ideas, and ultimately experiencing a transformative sense of attunement.

CONCLUSION

The purpose of this SoTL study was to investigate how slow reading techniques promoted deep learning. The results were consistent across course content and context and revealed that through purposeful slow reading techniques, the student participants moved through understanding content, to connecting and understanding, and finally to deep learning. Perhaps more intriguing than the process itself was the relative prominence of different methods of engagement *within the process*. Unsurprisingly, the students most commonly reacted to the essays by making broad generalizations, a common rhetorical move for beginning writers (Gere, 2019; Aull, 2015). Students also engaged in stylistic and critical analysis, resulting in new awareness that sometimes led to disappointment. Interestingly, personal storytelling surpassed making linkages to practical, real-world concerns as a common response strategy. One possible conclusion is that slow reading

and writing techniques -- which prioritize self-awareness and metacognition -- are particularly effective at helping students develop personal connections to course concepts, a claim associated with both slow reading and deep learning (Bain, 2012; Biggs, 1999; Keater, 2018; Yew, 2016).

Theoretical Implications

While a review of the literature on slow reading, significant learning, and deep learning suggests a general congruence of approach between these forms of learning, this research connects the theories and approaches through their granular features. Slow reading's focus on appraisal, for example, accords with significant learning's focus on the application task of critical thinking. Similarly, slow reading's focus on awareness and connectedness can be categorized in significant learning as integration tasks that knit together different ideas and life understandings. Slow reading's regard for emotions, personal experience, and prior understandings similarly connects to the significant learning concept of the human dimension in learning. Many of these ideas are mentioned in the literature on deep learning -- specifically, the focus on controlling the pace of learning, looking for deeper meaning, involving prior understandings, and tending to the affective nature of learning (Biggs, 1999; University of New South Wales; Yew, et al, 2016). One might reasonably ask if the controlled structure of slow reading is a profitable learning strategy for all students, especially given Ken Bain's assertion that, in deep learning, a student is "in control of their own education" and not "manipulated by requirements" (2012, p. 230). Slow reading in the classroom is, admittedly, a highly mediated activity. Our two student samples showed no noticeable difference in approach to the learning tasks, but it remains possible that slow reading and writing techniques might not suit all learners. It is also paradoxically possible that a structured learning activity might give students the protected cognitive space needed to truly and freely explore a topic.

Practical Implications

The findings from this study suggest a range of practical implications for how instructors pace instruction, design assignments, and communicate the purpose of learning to students. Intentionally slowing down instruction and adding deliberate instructions about learning subtasks (reading aloud, active note taking) may lead to deeper critical reflection. Likewise, designing assignments to encourage emotional and values-based responses accords with transformative modes of learning (Mezirow, 1997). A key finding of our research was that slow reading techniques helped students develop deeper connections to course concepts and attain new awareness through personal storytelling. Instructors hoping to facilitate the meaningful integration of course concepts into students' lives -- for example, into the realms of ethics, civic engagement, professional practice, or aesthetic appreciation -- may find these techniques particularly suited to their pedagogical goals.

Finally, much like the deliberate design of assignments can lead to more meaningful learning, the deliberate *communication* of the purpose of that learning, and clear directions on how to proceed through assignment tasks, can help students better orient themselves in their learning process and achieve learning outcomes (Winkelmes, 2016). Enhanced scaffolding may better support ESL, first-generation, and or any other students who might benefit from more contextual clues on how to approach a slow reading assignment.

LIMITATIONS AND FUTURE RESEARCH

This study was subject to limitations. For example, the two groups of student participants from which the data were collected were not homogeneous, particularly in demographics (i.e., age, year in college, program of study, etc.). While the researchers knew in general the demographics of the student participants, no demographic data were collected. Future research should collect this information and conduct this study across a larger sample size within one program of study, and then slowly move to other programs of study for greater consistency. Future research should build upon this qualitative foundation and work toward developing a model to test this phenomenon quantitatively, or in a mixed-method design.

Another potential limitation exists in the assignment design: students may not have followed the instructions closely. For example, students were asked to read the texts all the way through and contemplate the narratives before proceeding. In the next step, we asked students to read the texts again slowly while taking notes. It is possible that students skipped this step and moved on to the reflection exercise, thus not participating fully according to the intentions of the assignment. Future research could break the exercise down into individual sub-assignments to hold students more accountable to the instructions and incremental steps critical for the benefits of slow reading.

While sufficient for qualitative research, the sample size in this study was relatively small and future research should draw upon a larger sample. This research was targeted at undergraduate students, and future studies could replicate investigations with non-traditional, graduate-level, and doctoral students. In terms of generalizability, future studies should be conducted across multiple cultural contexts and generational cohorts.

Finally, though the data for this study were collected prior to the Covid-19 pandemic when a majority of programs in U.S. higher education transitioned to full online course delivery in early March 2020 (Chronicle Staff, 2020), the slow reading assignment used in the present research utilized electronic documents and learning management systems for submission. We want to affirm the adaptability of this assignment to the current, pandemic-influenced era in which online assignments are more popular (Dhawan, 2020). For this reason, we advocate for the use of online-friendly slow reading assignments and platforms for teaching and future research. Potential digital optimization for the slow reading assignment in this study might include the use of Google Docs, Microsoft Word track changes, and other cloud-based software for digital notetaking in step two of the assignment. The use of concept mapping software, such as Coggle (https://coggle.it/) might also help students to organize and categorize thought stemming from the readings. The use of virtual voice and video software, such as VoiceThread (https://voicethread.com), would enable students to share thoughts captured with their peers in an audible format. Allowing for some variability in the notetaking' requirement may be especially helpful for ESL and other students with limited language proficiency who might struggle with translating texts and personal responses into the written word.

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REFERENCES

Aull, L. (2015). *First-year university writing: A corpus-based study with implications for pedagogy.* Basingstoke: Palgrave Macmillan. http://dx.doi.org/10.1057/9781137350466

Bach, D. J., & Alexander, J. (2015). Contemplative approaches to reading and writing: Cultivating choice, connectedness, and wholeheartedness in the critical humanities. *The Journal of Contemplative Inquiry*, 2(1). https://journal.contemplativeinquiry.org/index.php/joci/article/view/41

Bain, K. (2012). *What the best college students do.* The Belknap Press of Harvard University Press.

Barbezat, D. P., & Bush, M. (2014). *Contemplative practices in higher education: Powerful methods to transform teaching and learning.* San Francisco, CA: John Wiley & Sons.

Berg, M. & Seeber, B.K. (2016). *The slow professor: Challenging the culture of speed in the academy.* Toronto, Canada: The University of Toronto Press.

Berry, Wendell. (1990). The pleasures of eating. In *What Are People For? Essays.* New York: North Point/Farrar, Straus and Giroux.

Biggs, J. (1999). *Teaching for quality learning at university.* Berkshire, England: SHRE and Open University Press.

Bloom, B.S. (Ed.) (1956). *Taxonomy of educational objectives, handbook I: Cognitive domain.* New York: David McKay Co Inc.

Brookfield, S. D. (2012). *Teaching for critical thinking: Tools and techniques to help students question their assumptions.* San Francisco: Jossey-Bass.

Carillo, Ellen C. (2016). Creating mindful writers in first-year composition courses: A strategy to facilitate transfer. *Pedagogy* 16.1: 9–22. https://doi.org/10.1215/15314200-3158573

Chronicle Staff. (2020). The Coronavirus is upending higher ed. Here are the latest developments (March 3, 2020). *The Chronicle of Higher Education.* https://www.chronicle.com/article/the-coronavirus-is-upending-higher-ed-here-are-the-latest-developments/

Corrigan, P.T. (2013). Attending to the act of reading: Critical reading, contemplative reading, and active reading. *Essays in Reader-Oriented Theory, Criticism, and Pedagogy*, 63(2012), 146. https://firescholars.seu.edu/cgi/viewcontent.cgi?article=1000&context=seu_papers

Creswell, J. W. & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches, 5th Ed..* SAGE Publications, Inc.: Thousand Oaks, CA.

Cresswell, J. & Miller, D. (2000). Getting good qualitative data to improve. *Theory Into Practice*, 39(3), 124-130. https://doi.org/10.1207/s15430421tip3903_2

Dewey, J. (1916/1944). *Democracy and education: An introduction to the philosophy of education.* New York, NY: The Free Press.

Dhawan, S. (2020). Online learning: A panacea in the time of COVID-19 crisis. *Journal of Educational Technology Systems,* 49(1), 5-22. https://doi.org/10.1177%2F0047239520934018

Elkins, K. G., Gallagher Elkins, K., Elkins, K., & Gallagher, K. (2019). Using *lectio divina* for non-scriptural texts: A successful classroom teaching tactic that other instructors can replicate. *Teaching Theology & Religion*, 22(2), 128. https://doi-org.silk.library.umass.edu/10.1111/teth.12480

Felten, P. (2013). Principles of good practice in SoTL. *Teaching and Learning Inquiry, 1*(1), 121-125. https://www.jstor.org/stable/10.2979/teachlearninqu.1.1.121

Fink, L. D. (2013). *Creating significant learning experiences, revised and updated: An integrated approach to designing college courses.* San Francisco: Jossey-Bass.

Gere, A. R. (2019). Section Three: Writing (and Writing Instruction) Benefits from Attention to Language-Level Features. In *Developing Writers in Higher Education : A Longitudinal Study.* University of Michigan Press.

Habermas, J. (1981). *The Theory of Communicative Action. Vol. 1: Reason and the Realization of Society.* Boston: Beacon Press.

Haight, R. (2010). The classroom is a Sangha: Contemplative education in the community college. *New Directions for Community Colleges*, 2010(151), 29–38. https://doi-org.silk.library.umass.edu/10.1002/cc.413

Kahane, D. (2014) Learning about obligation, compassion, and global justice: The place of contemplative pedagogy. In Gunnlaugson, O., Sarath, E., Scott, C., & Bai, H. (Eds.) *Contemplative learning and inquiry across disciplines.* State University of New York Press. (pp. 119-132). https://doi.org/10.1002/tl.352

Keator, Mary. (2018). *Lectio divina as contemplative pedagogy.* New York, NY: Routledge.

Kuckartz, U. & Radiker, S. (2019), *Analyzing qualitative data with MAXQDA: Text, audio, and video.* Springer Nature, Switzerland AG. https://doi.org/10.1007/978-3-030-15671-8

Lichtmann, M. (2005) *The teacher's way: Teaching and the contemplative life.* Mahwah, N.J.: Paulist Press.

Marton, F. and Säljö, R. (1976), On qualitative differences in learning: I—outcome and process. *British Journal of Educational Psychology*, 46, 4-11. https://doi.org/10.1111/j.2044-8279.1976.tb02980.x

Mezirow, J. (1997). Transformative learning: Theory to practice. *New Directions for Adult and Continuing Education, 1997*(74), 5-12.

Mezirow, J. (2003). Transformative learning as discourse. *Journal of Transformative Education, 1*(1), 58-63. https://doi.org/10.1177%2F1541344603252172

Millis, B. (2010) Promoting deep learning. *IDEA Paper*, No. 47.

Murray, Donald M. (1978) Internal revision: A process of discovery. In Cooper, Charles R.; Lee Odell (Eds.), *Research on composing: Points of departure.* Urbana, IL: National Council of Teachers of English. 85-104.

Newkirk, T. (2010). The case for slow reading. *Educational Leadership, 67*(6), 6–11. https://www.learntechlib.org/p/106974/.

Peary, A. (2018). *Prolific moment : theory and practice of mindfulness for writing.* New York: Routledge.

Petrini, Carlo. (2006). *Slow food revolution.* Translated by Francesca Santovetti. New York, NY: Rizzoli International.

Rhem, J. (1995). Close-up: Going deep. *The National Teaching & Learning Forum*, 5(1), 4.

Rodgers, C. (2002). Defining reflection: Another look at John Dewey and reflective thinking. *The Teachers College Record, 104*(4), 842-866. https://www.tcrecord.org/Content.asp?ContentId=10890

Salvo, J. (2020). Slow reading: Reflections on Jasmine Ulmer's "Writing Slow Ontology." *Qualitative Inquiry*, 26(7), 790–797. https://doi-org.silk.library.umass.edu/10.1177/1077800418808540

Schlosser, Eric. (2001). Why McDonald's fries taste so good. *Atlantic Monthly,* 287.1.

University of New South Wales. *Characteristics of Deep and Surface Approaches to Learning.* https://www.teaching.unsw.edu.au/sites/default/files/upload-files/deep_and_surface_learning.pdf

Wenger, C. I. (2019). Teaching attention literacy: A case for mindfulness in the composition classroom. *Pedagogy: Critical Approaches to Teaching Literature, Language, Composition, and Culture*, 19(1), 53–78. https://doi.org/10.1215/15314200-7173752

Wessel-Powell, C., Buchholz, B. A., Rust, J., Husbye, N. E., & Zanden, S. V. (2020). The promise of slow reading. *Educational Leadership*, 77(5), 32–37. https://www.ascd.org/el/articles/the-promise-of-slow-reading

Western Governors University (WGU). (2020, July 17). Teaching & Education: What is transformative learning theory? Retrieved August 8, 2021 from https://www.wgu.edu/blog/what-transformative-learning-theory2007.html#close

Winkelmes, M.-A., Bernacki, M., Butler, J., Zochowski, M., Golanics, J., & Weavil, K. H. (2016). A teaching intervention that increases underserved college students' success. *Peer Review*, 18(1/2), 31–36. https://cte.ku.edu/sites/cte.ku.edu/files/docs/Branding/Winkelmes%20et%20al%202016%20Transparency%20and%20Underserved%20Students.pdf

Yew, T.M., Dawood, F.K., a, K., Narayansany, P.S., Manickam, P., Jen, L.S., & Hoay, K.C. (2016). Stimulating deep learning using active learning techniques. *Malaysian Online Journal of Educational Sciences, 4*, 49-57. https://eric.ed.gov/?id=EJ1106447

Zajonc, A. (2009). *Meditation as contemplative inquiry: When knowing becomes love.* Great Barrington, MA: Lindisfarne Books.

APPENDIX

PARTICIPANT IDENTIFICATION AND COURSE CONTEXT

Participant ID	Course Context
R1m - R16m	Researcher #1 utilized this assignment as a component of extra credit in Spring 2019 within a lower-level undergraduate quantity food preparation course in which 55 students were enrolled, with 16 participating in the extra credit opportunity. The extra credit was worth 2% of the total points in the course.
R1b - R12b	Researcher #2 utilized this assignment as a regular component of the course's deliverables in a first-year undergraduate literature course in Fall 2019, with 19 student participants from a variety of majors, and 12 students participating.