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*Our thanks to the cadre of scholars who serve as reviewers without whose services the journal could not exist.

**Thanks to my wonderful graduate assistant, Naomi Tetteh-Batsa, for her assistance in formatting & publishing this issue of *CQIE*.

Critical Questions in Education: Volume 13, Issue 3

October 15, 2022

Hi Friends of the Academy,

Volume 13, Issue 3 of *CQIE* is now published! The regular readers of this issue will note a couple of changes: this completes our first full year of publishing three regular issues of each volume. We have also moved to publishing five manuscripts in each issue—"but wait," you say, there are six manuscripts in this issue! That is correct. We were in need of "catching up" in this one as we've had an uptick in both the quantity of submissions and the quality of submissions. Not a bad problem to have.

The first two manuscripts in Volume 13, Issue 3 are directly related to the Covid pandemic. Pearman, Chang, and McLean report on a study conducted with college freshman and their Covid educational experiences. Olha Ketsman follows that up with a mixed methods study on the impact of blended learning approaches to teaching. Our third article, penned by Renee Moran and colleagues, reports findings on Common Core's impact on teacher belief and action. Novakowski, Uhrmacher, and Tinkler provide an updated theoretical perspective (and practical classroom implications) on teaching about monuments and their recent removals around the country.

Our fifth manuscript returns to our new brave world of online learning. Gülçin Zeybek reports on her study in Turkey wherein she examined the correlation between computational thinking skill level and "online self-regulated learning." Our final regular manuscript, by Cheryl D. Ching, utilizes a "sensemaking" framework to examine power and politics at a community college. We close this issue with a review of Will Bunch's recent book, *After the Ivory Tower Falls: How College Broke the American Dream and Blew up our Politics—and how to Fix it* by Jeffrey Frenkiewich.

I hope those of you going to Denver enjoy your time there and come away refreshed and with some new ideas. And, don't forget San Diego at the end of February!

Happy reading.

PAX,

Eric C. Sheffield, Editor
Critical Questions in Education

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Book Review

Was it What You Expected? The Impact of COVID-19 on First-Year College Students

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Abstract

Fall 2020, COVID-19 restrictions in place on most college campuses may have resulted in the reality of college life not aligning with student expectations. This survey study, conducted at a university in the Midwest, sought to determine the perceptions of first-year college students regarding whether there was a misalignment with their prior expectations and in which areas these misalignments existed, if they did exist. At this university, the COVID-19 restrictions resulted in changes in the delivery formats of courses, and restrictions of social gatherings and on-campus activities. In addition, academic resources such as tutoring, writing center assistance, and study groups were unavailable or curtailed in scope and operating times. This study focused on student perceptions of the impact of course delivery, academics, and social opportunities. The majority of the first-year students in this study reported they were unsure if the restrictions impacted their expectations of what college would be like academically but did report their belief that blended/hybrid courses better supported their learning than either synchronous or asynchronous courses. The largest factor impacting the misalignment of prior student expectations and the Fall 2020 college campus reality was linked to social activities and interactions with 60% of participants listing this as an area where the Fall 2020 college experiences did not meet their expectations.

Keywords: *COVID-19 college expectations, first-year college COVID-19 experiences, COVID-19 impact on college students*

Introduction

As spring draws near on a high school campus, transitioning students look forward to graduation and enacting plans for their futures. Those who plan to attend college increasingly anticipate what they think college life will be like. Discussions of majors, classes, dorm room life, and more control over their social lives are topics they may examine. However, for students who began their college tenure during the COVID-19 pandemic, much of what they may have imagined did not transpire or did not transpire in alignment with their expectations. Courses were often converted to online, students could not gather in large numbers, social distancing was required, and masking became the norm. These students entered a college environment minus many of the elements they were excitedly looking forward to and minus interactions they thought they would have as more

than 1,300 colleges and universities across the nation canceled in-person classes (National Conference of State Legislature, 2020). It stands to reason that these factors, which were fundamentally altered by the circumstances of the pandemic, affected student impressions and feelings of their first immersion into college life. What cannot be assumed is the scope and depth of impact of these factors and whether they will have lasting effects.

Purpose of the Study

The purpose of this survey study was to investigate the perceptions of students attending a midwestern university for their first semester in Fall 2020. This was the first semester students were physically on campus following the pandemic campus closing of Spring 2020. The questionnaire survey focused on course delivery, future academic decisions, social experiences, and expectations of this group. Knowledge of student perceptions of these key components may help colleges and universities better meet the needs of this group of students as they move forward in their education.

Review of Literature

Students always have expectations of what university classes and university life will be. They usually think about it, talk about it, and maybe even fantasize about it (Balloo, 2018; Briggs, 2006). They wonder how they will be assessed, what their professors will be like, how much time they will have to spend studying, how many papers they will have to write, and how much autonomy they will have (Brinkworth, et al., 2009; Surgenor, 2013). Of course, students vary greatly in their personal circumstances, and their expectations of college life and the subsequent academic demands vary along with them, but regardless, expectations exist in some form.

These expectations may not always match the reality of college courses. Research by Brinkworth, et al. (2009) found evidence that students' expectations may not be aligned with what the university and professors intend or are able to provide. If expectations do not match those of the university, student experience may be negatively impacted. Unmet expectations may affect student academic performance, attendance, dropout risk, and their overall satisfaction with the university (Lobo & Gurney, 2014).

The above studies reflect the concerns of student expectations not being met while attending a university during, what is assumed, fairly normal times. During Spring 2020, education was anything but normal due to the abrupt change to online instruction because of the COVID-19 pandemic. Courses at the researchers' university were transitioned to online in either synchronous, asynchronous, or blended/hybrid formats, and the Zoom web conferencing platform became a common method of communicating "face to face." This transition was done midway through Spring 2020 on a short time frame and was the first time many faculty had contemplated teaching online. One benefit of this half-semester was that it did allow faculty to gain experience and receive training to better prepare for online teaching for the first-year students arriving for the fall semester.

Along with online learning, first-year students encountered other issues that may not have met their expectations of what their first semester of college would be like. Du (2016) considers peer mentoring, relationships with faculty, and quality of interaction as key components in first-year students' satisfaction with college life. These factors were greatly impacted by the COVID-19 safety precautions in place on many university and college campuses. Rather than having the

college experience they had imagined, students dealt with the reality of masking, quarantines, and restricted group activities and gatherings.

Güner (2021) examined the emotional mood of first-year students who were beginning their university education with distance learning because of COVID-19. The emotions of the students were categorized into four sub-themes as "emotion of shock, unfamiliarity to the systems, emotion of curiosity, and future anxiety" (p. 155). Students expressed curiosity about the efficiency of lessons, the exams, and the evaluation system. According to Güner (2021), these first-year undergraduate students "could not experience the excitement of starting the university face-to-face education like other undergraduate students, and instead of this excitement, they experienced sadness, anxiety, and bitterness that could be called shock emotions" (p. 156).

Hunter (2006) describes the first-year experience as underpinning the "entire undergraduate experience" (p. 7) and laments that administrators and professors overlook the most important resource— the students themselves—when developing strategies, methodologies, and identifying pertinent information to improve first-year student learning and subsequent success.

This study surveys students in a first-year program immediately following the Fall 2020 semester which was the first full semester students dealt with COVID-19 restrictions and academia's attempts at limiting student exposure through online formats such as synchronous online, asynchronous online, and blended/hybrid options for learning.

Methodology

Research Design

This study utilized a quantitative, cross-sectional survey design. "A cross-sectional survey is one in which data are collected from selected individuals at a single point in time. Cross-sectional designs are effective for providing a snapshot of the current behaviors, attitudes, and beliefs in a population" (Mills & Gay, 2019, p. 202).

Site of Study

This study took place at a 4-year public institution in the Midwest. There are approximately 23,500 students enrolled, of which over 19,000 are undergraduates and about 4,000 are graduate students. Approximately 9,000 of the students are males and over 14,000 are females. This institution is located in a metropolitan area with a population of slightly over 167,000 people.

Participants

The participants in this study were all first-year college students enrolled in an introduction to college life foundations course designed to orient new students to college life, provide strategies for time management and study habits, and familiarize new students with university policies, Title IX, and campus resources available to them.

While there were approximately 2,215 students enrolled in the first-year foundations of college life course across the university, not all sections of this course utilized the three delivery formats of synchronous, asynchronous, and blended/hybrid examined in this study. Researchers

utilized convenience sampling to recruit the participants from the researchers' classes where students were exposed to the three different delivery formats. This identifies a potential sample size of 120 students who could have responded to the survey.

There were 44 valid responses to the survey, of which 36 (82%) were female and four (9%) were male. One participant (2%) was non-binary/third gender, and three (7%) chose not to respond to this question. The majority of the participants were in the age range of 18-21. All the participants stated they were familiar with at least one of the learning management systems listed on the survey, indicating they had some level of experience with an online learning environment.

The ethnicity of the participants varied. Eighty-six percent (n=38) were White; 5% (n=2) were Black, and 2% (n=1) were Hispanic/Latinx. None of the participants identified as Asian or Native American. Three participants (7%) chose the "Prefer not to answer" option.

Procedures

A 43-question survey (see Appendix A) which included the informed consent, was developed in Qualtrics® and distributed to 120 students. Of that number, there were 44 valid responses netting a response rate of 37%. The three researchers sent the link to the Qualtrics survey to their classes through the campus email system. The survey responses were collected for two weeks, then a reminder email was sent out to the participants, and data was collected for an additional two weeks. An analysis of the data is presented in the Results section.

Ethical considerations were followed throughout the study. Institutional Review Board (IRB) approval (IRB-FY2019-662) was received prior to recruiting participants; the distribution of informed consent forms and the survey; and before any data was collected.

Participation in the study was completely voluntary. The informed consent (see Appendix B) was embedded as the first page of the survey, and students had to agree before they could access the questionnaire. A participant could withdraw from the study at any time without consequences.

The privacy and confidentiality of the participants were maintained throughout the study as well. No names, student numbers, or any other identifying information was requested on the survey in order to maintain the anonymity of the participants. Any data displayed is presented in aggregate and no individual responses are identifiable.

The data collected was stored in the cloud on a password-protected Qualtrics account accessible only to the researchers. There are no known risks to the participants.

Data Analysis

The data collected from the 44 valid responses to the survey were analyzed using descriptive statistics. The demographic data provided by the participants was presented above. The data collected from the remainder of the survey is presented in detail in the following Results section.

Results

This study examined the perceptions of first-year college students attending university for the first-time during Fall 2020 following the Spring 2020 COVID-19 campus closing. The following questions guided the research in determining the perceptions of these first-year students regarding course delivery, future academic decisions, social experiences, and expectations of this group. The research questions are as follows:

1. Did course delivery formats impact student learning during COVID-19 restrictions of Fall 2020?

2. Were student academic expectations affected by the restrictions of COVID-19 during Fall 2020?

3. Were student social expectations affected by the restrictions of COVID-19 during Fall 2020?

Research Question 1:

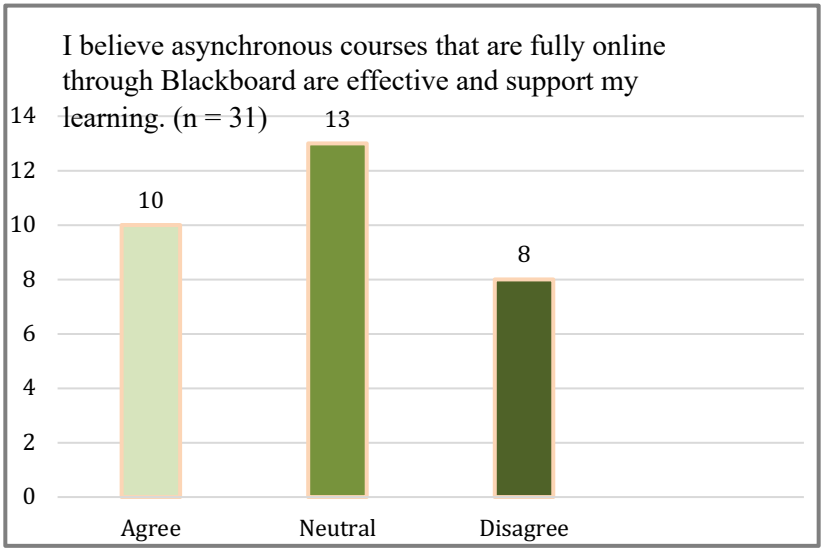
Did course delivery formats impact student learning during COVID-19 restrictions of Fall 2020?

Questions 14–26 of the survey asked students about their previous experience with learning management systems before attending university, and all participants *indicated* they had previous experience with at least one of the learning management systems listed. This suggests they had some level of experience with online learning or a blended/hybrid environment.

Asynchronous

Forty students answered the question, "Did you participate in at least one course during Fall 2020 at this university, that was fully online and managed through Blackboard?" The 31 students who responded "yes", answered the follow-up question giving their opinion of the effectiveness of asynchronous courses supporting their learning. It was determined that 78% (*n*=31) participated in at least one asynchronous course during Fall 2020 that was fully online and managed through the Learning Management System (LMS) of Blackboard. Twenty-three percent (*n*=9) of students did not participate in an asynchronous course. Asynchronous courses are defined by Abisado et al., (2020), as courses where students do not attend class or participate in class activities at a set time. In Figure 1, 32% (*n*=10) of students who responded reported they felt these classes effectively supported their learning while 26% (*n*=8) felt they were not supported. The largest number of students, 42% (*n*=13), were neutral on whether asynchronous classes were effective or not effective in supporting their learning.

Figure 1*: Asynchronous Courses—Blackboard Course*

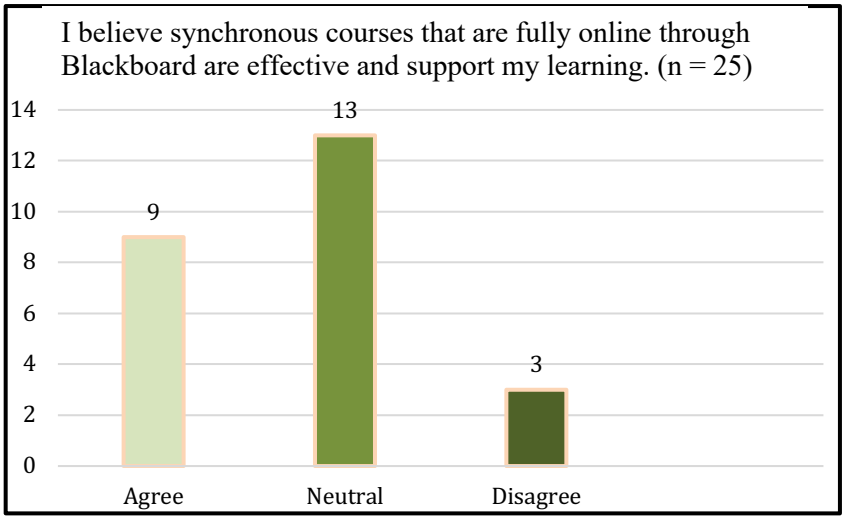


Synchronous

Synchronous courses are defined by Olt (2018) as online courses where students and instructors attend the course at the same time but from different places. In this study, attendance was usually through ZOOM, Collaborate, or another online conferencing platform.

Twenty-five of the participants (62.5%) in the study reported they had at least one course conducted in this format. Of the 25 participants who had at least one synchronous class, 36% (*n*=9) felt effectively supported in their learning with this format. This finding, in Figure 2, was similar to the responses of those participants who reported asynchronous classes were effective in supporting their learning. The percentage which showed a noticeable difference was among students who said they were not supported in their learning. Twelve percent (*n*=3) said they did not feel supported in synchronous classes while 26% (*n*=11) said they did not feel supported in asynchronous classes. Similar to the findings on asynchronous classes, the largest number of students, 52% (*n*=13), reported they were neutral on whether synchronous classes supported their learning.

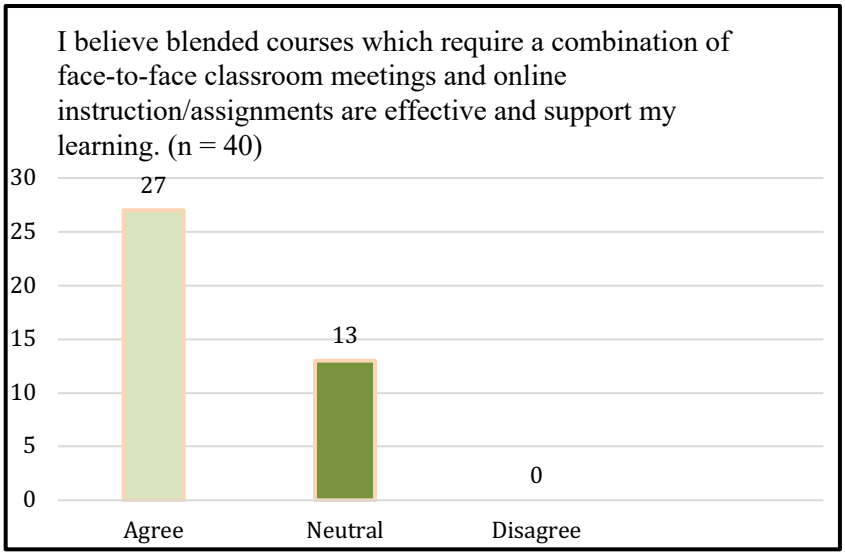
Figure 2: *Synchronous Courses Through Zoom, Collaborate, or Another Online Conferencing Platform*



Blended/Hybrid

The survey also asked students about courses offered in a blended/hybrid format. This format is defined by Singh et al., (2021) as a course which meets part of the time in a face-to-face classroom environment and part of the time virtually/online either synchronously or asynchronously. In Figure 3, 100% (*n*=40) of students reported having at least one course that was blended/hybrid, and 68% (*n*=27) felt supported in their learning when taking courses in this format. Thirty-three percent (*n*=13) of students were neutral on whether blended/hybrid courses effectively supported their learning. The largest difference in a comparison of the three course formats described in the survey was that no students reported they felt they were not effectively supported when using the blended/hybrid course format.

Figure 3*: Blended/Hybrid Courses—Asynchronous and Synchronous*



Perceptions of Course Delivery

Additionally, students were surveyed for their perceptions on the impact of course delivery systems on their learning. Students were asked about using a learning management system to navigate course content and whether online classes and ZOOM conferencing were as effective as face-to-face courses in supporting their academic success shown in Table 1. Students also addressed whether class schedules for the different learning formats were confusing and if the required technology was a hindrance. Lastly, students responded on how likely they were to include online courses in their future college plans.

Table 1*: Student Perceptions of the Impact of Course Delivery Formats on Learning*

Survey Questions	Strongly Agree or Somewhat Agree	Neither	Strongly Disagree or Somewhat Disagree
21. My previous experience in using a learning management system like Google Classroom, Canvas, or Moodle helped me be prepared to navigate course content through XXX Blackboard. (*n*=40)	28 (70%)	6 (15%)	6 (15%)
22. I believe having classes on Blackboard (online) is as effective as face-to-face classes in helping me access content and achieve academic success. (*n*=39)	8 (20%)	7(18%)	24(62%)
23. I believe having classes on Zoom is as effective as face-to-face classes in helping me access content and achieve academic success. (*n*=38)	12 (32%)	7 (18%)	19 (50%)
24. I am confused about all the different class schedules for online, in-person, and blended. (*n*=38)	14(37%)	5(13%)	19(50%)
25. I believe the technology requirements to access course content make it harder for me to succeed in college. (*n*=38)	5 (13%)	16 (42%)	17 (45%)
26. Due to the experiences of Fall 2020, I am more likely to include fully online courses in my college plans. (*n*=39)	16 (41%)	5 (13%)	18 (46%)

Research Question 2:

Were student academic expectations affected by the restrictions of COVID-19 during Fall 2020?

Questions 27-32 (shown in Table 2) explored whether students felt COVID-19 restrictions experienced during Fall 2020 impacted their ability to meet their academic expectations. Students answered questions on whether restricted activity on campus inhibited their ability to interact with study groups and seek additional academic support. Restrictions also lead to student difficulties in focusing and concentrating on their studies, thus leading some students to feel psychological stress which further impacted their learning. In addition, the majority of students who answered this question reported the experiences of Fall 2020 did not influence their decisions regarding the number of credit hours they would take in the future and a similar number indicated the restrictions were also not a factor in their actions regarding their living situations. Interestingly, students, as a group, did not largely favor one-course modality over another for future classes.

Table 2: *Student Perceptions of the Impact of COVID-19 Restrictions on Academic Expectations*

Survey Questions	Agree Strongly or Agree Somewhat	Neither	Disagree Strongly or Disagree Somewhat
27. Concerns about COVID-19 made it difficult for me to focus and concentrate on my studies. (*n*=38)	17 (45%)	6 (16%)	15(39%)
28. Due to COVID-19, I did not participate in study groups or other academic support opportunities. (*n*=37)	18 (49%)	5 (13%)	14 (38%)
29. Due to COVID-19, I experienced psychological stress that affected my learning. (*n*=39)	24 (61%)	8 (21%)	7 (18%)
30. My experiences during Fall 2020 influenced my decision to take. . . (n=39) More credit hours. 2 (5%) Fewer credit hours. 3 (8%) Had no impact on my decisions about the number of credit hours to take. 34 (87%)			
31. My experiences Fall 2020 influenced my decision to. . . (n=39) Take more face-to-face courses. 11 (28%) Take more blended courses. 8 (21%) Take more fully online courses. 9 (23%) Had no impact on my decision. 11 (28%)			
32. My experiences Fall 2020 caused me to. . .(n=39) Move home and take all online classes. 2 (5%)			

Move to off-campus housing/commute to campus. 5 (13%) Had no impact on my decision. 32 (82%)

Research Question 3:

Were student social expectations affected by the restrictions of COVID-19 during Fall 2020?

Questions 33-40 (shown in Table 3) surveyed student opinions on whether the COVID-19 restrictions of Fall 2020 changed their social expectations of attending college. Questions explored attendance of social events and feelings of isolation due, in part, to difficulty in making friends and interacting with roommates. These circumstances led to difficulty in developing a sense of college community and caused most students responding to this question to feel psychological stress.

Not all social interactions were negatively impacted. Participation in Greek life was not as adversely affected by COVID-19 as general social interactions. Additionally, concerns about COVID-19 constraints on students' economic situations were tenuous for most of the students who answered the survey question.

Table 3: *Student Perceptions of the Impact of COVID-19 Restrictions on Social Expectations*

Survey Questions	Agree or Strongly Agree	Neither	Disagree or Strongly Disagree
33. Due to COVID-19, I did not attend as many social events or join as many organizations as I thought I would in college. (*n*=37)	26 (70%)	1 (3%)	10 (27%)
34. My decision to participate or not participate in Greek life was influenced by COVID-19. (*n*=34)	8 (23%)	6 (18%)	20 (59%)
35. Due to COVID-19, I often felt isolated and lonely on campus. (*n*=37)	20 (54%)	7 (19%)	10 (27%)
36. I believe COVID-19 made it more difficult to make friends. (*n*=38)	29 (76%)	5 (13%)	4 (11%)
37. I believe I do not have the connections I expected with my roommates/ suitemates due to COVID-19 and social distancing. (*n*=35)	14 (40%)	8 (23%)	13 (37%)
38. Due to COVID-19, I did not feel the sense of community on this campus that I had expected. (*n*=38)	24 (63%)	9 (24%)	5 (13%)

39. COVID-19 had an economic impact on my situation that required me to work part-time or full-time. (*n*=34)	10 (29%)	8 (24%)	16 (47%)
40. Due to COVID-19, I experienced psychological stress that affected my desire to socialize. (*n*=36)	21 (58%)	8 (22%)	7 (20%)

Questions 41 and 42 (shown in Table 4) directly surveyed students on whether they perceived that the COVID-19 restrictions changed expectations of their college experience. With regard to academics, it did appear the restrictions in place during Fall 2020 were a factor in changing expectations for some students as 27% (*n*=10) felt there was an impact. A large number of students, 54% (*n*=20), seemed unsure whether the restrictions altered their expectations of their academic performance. Only 19% (*n*=7) felt the restrictions were not a definite cause for a change in their academic expectations. Very different responses from academic expectations were noted with regard to the impact of COVID-19 restrictions on expectations of the social aspects of college life. A majority of students, 60% (*n*=20), felt the restrictions in place during Fall 2020 had a definite impact on changing their expectations of what college social life would be. It was definitely not what they expected. Only one-third of the students who responded to this question, 33% (*n*=11), felt the restrictions might not be responsible for changing their social expectations, with 6% (*n*=2) relaying that their expectations of social life in college did not change as a result of the COVID-19 restrictions.

Table 4: *Responses About Expectation Related to First Semester College Experiences*

	Probably not			Probably yes		
	Definitely not		Might not;		Definitely yes	
Survey Questions	0	1	2	3	4	5	Total
41. Academically, when thinking about courses, instruction, learning experiences, how much was college what you expected? (*N*=37)	4 (11%)	6 (16%)	8 (22%)	12 (32%)	5 (14%)	2 (5%)	37
42. Socially, when thinking about college life, how much was the social aspect of college what you expected? (*N*=33)	10 (30%)	10 (30%)	6 (18%)	5 (15%)	1 (3%)	1 (3%)	33

Note. 0 -1: Definitely not; 1-2: Probably not; 2-3: Might not; 3-4: Probably yes; 4-5: Definitely yes

Discussion

All students have expectations of what life and studies will be like when they enter college. However, for students entering college for the first time in Fall 2020, many of these expectations

were unmet. Classes were offered online in a synchronous, asynchronous, or blended/hybrid format. Masking requirements were in place; quarantine plans were enacted; activities typically thought of as college staples did not take place; and opportunities to work with groups of potential friends were limited or non-existent. The researchers in this study explored to what degree first-year college students' expectations were met and whether the restrictions in place during their first semester on a college campus impacted their decisions with regard to taking future online courses, whether their academic learning was diminished, and if curtailed socialization experiences adversely impacted their college expectations.

Findings

The last question of the survey asked students to answer an open-ended prompt regarding their overall impression of their first-semester college experiences. Research Question 1 focused on course delivery formats. Student responses showed that Learning Management Systems and course modalities were prominent concerns for students with regard to their academic performance and success. Students also seemed to connect the online modalities of courses with the topic of academic success, which was related to Research Question 2. Students varied on their feelings of proficiency with online courses (see Appendix C). For example, one student felt they saw a "drastic change" in their academics when taking online courses but was not certain this could be attributed solely to COVID-19 restrictions. Negative outcomes of online courses were also reflected in one student's comments about blended courses being confusing because of problems accessing information and assignments through the learning management system. Another student voiced their frustration when they shared, "I think it was harder to make myself focus and study because I was constantly in my room, looking at a computer screen, and I could easily not do work and sit on my phone because my professor wasn't there to make it harder not to." Not all student comments were negative. One student "actually liked" the restrictions on class size and felt blended classes helped them adjust to college while another student felt they were now better able to be successful with online courses and will continue to take online courses in the future. A quote from one student conveyed that academic success was not only a function of the course modality. This student shared that, "The success of an online course depends on how communicative and clear the professor is."

The restrictions on socialization were a key source of dissatisfaction for most students as reflected in the analysis of responses of Research Question 3. Data reflected that many students felt isolated and psychologically stressed during the Fall 2020 semester. Their sense of isolation is apparent in comments such as "I could not do much or go out because of COVID and that was disappointing. I did not make many friends due to COVID and I was not expecting it to be so hard to make friends and socialize." Another expressed this feeling as "It was very overwhelming and not what I expected due to COVID. It was harder to get myself out there and make new friends and get involved. It stressed me out." However, many students were able to have some degree of socialization regardless of the restrictions in place. One student felt the events held on campus helped them to feel their "college experience was not hindered." This attitude of making things work was also reflected in the student quote of, "It wasn't as I thought it would be, but I have made friends and gotten involved on campus." Another student felt the semester did not have as many social activities but "overall was good." One student characterized their feelings on the semester by sharing, "I was a little disappointed but I also understand the circumstances. I just wish COVID

wouldn't have happened my freshman year." This disappointment was very evident in the statement of one student who said, "I was really lonely. It sucked."

Limitations

Approximately 2,215 students were enrolled in the foundations of college life course at this university. However, study participants were chosen from the researchers' classes as the researchers knew these students had been exposed to the three course delivery formats discussed in this study. Of the 120 possible participants from the researchers' classes, 44 responses were received netting a 37% response rate. It will be the responsibility of the reader to determine if these findings are generalizable to their students' experiences and course design

Future Research

This study explored the possibility of changes in the expectations of first-year college students due to the COVID-19 restrictions present during Fall 2020. Future research would benefit from a longitudinal study of this group of students to determine the success rate in completing a college degree while ascertaining if factors that surfaced in this study continued throughout the remaining college experience.

Also, results from this study indicated students were experiencing high stress due to COVID-19. Future research is necessary to determine the most effective means for colleges to address the social and emotional needs of students

Conclusion

Masking, social distancing, online courses, and few social activities were part of college life for students on campus during Fall 2020. This study explored the perceptions of first-year college students with regard to whether their expectations of college life were changed during the Fall 2020 environment of COVID-19 restrictions. During the semester selected for the study, academics contained some element of online instruction, perhaps navigating multiple courses online, and for some students, an increased responsibility for their own learning which may have been a new experience. The survey used in this study revealed that blended/hybrid courses appeared to best support student academic learning when compared to synchronous and asynchronous courses. Adjusting to online learning was not the only factor first-year students had to contend with when they arrived on campus. Activities that normally welcomed first-year students were canceled or held with social distancing, organizational and athletic social activities were canceled, and students could not gather in large groups. This led to dissatisfaction among most students and was reported as the major factor which affected their expectations of college life. Knowledge of this group of students' perceptions of a misalignment of their college expectations, and the reality that greeted them in Fall 2020, may help colleges address instruction that takes into account student feelings of success with certain course modalities and may highlight the value of social opportunities with regard to student satisfaction. Increased student satisfaction may well lead to increased retention for colleges and increased numbers of students reaching degree completion

No potential conflict of interest was reported by the authors.

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Appendix A

COVID-19 and First-year University Students Survey

Demographic Data
1. Year in a college or university? First-year Transfer student
2. First-generation college student Yes No
3. Age: 16-17 18-19 20-21 22-23 24-25 26 or older
4. Gender: Male Female Non-binary/third gender Prefer not to answer Other _____
5. Residency: [state] resident Out of State, not a [state] resident Resident of a country outside the United States or a US territory
6. Ethnicity: Black White Hispanic/Latinx Asian Native American Prefer not to answer Other _____
7. Is English your first/native language? Yes No
8. Housing status, Fall 2020? Live on-campus Live off-campus

9. Work status during Fall 2020?
Not employed
Working 20 hours or less weekly
Working over 20 hours weekly

10. Did you have a declared major in Fall 2020?
Yes
No

11. What major did you declare?
_____

12. In your [course], were you in a section primarily for students in your same major?
Yes
No
Not sure

13. How many total dual-enrollment credits and/or credits from other colleges or universities did you transfer to [institution]?
0, none
1 to 3
10 to 9
10 to 15
16 or more

14. Have you had experience with any of these learning management system before coming to [institution] (Mark all that apply)?
Canvas
Blackboard
Google Classroom
Moodle
Schoology
Other (please list) _____

For the purposes of this study
Asynchronous means the course is non-traditional and students do not attend class or participate in class activities at a set time. Participation in the course is at a time the student selects.

Synchronous means learning takes place virtually and not in a traditional classroom. You attend at least one-course session each week, at the same time as your **instructor** and **classmates**. Attendance is usually through Zoom, Collaborate, or another online meeting platform.

Blended/Hybrid means the course met part of the time in a face-to-face classroom environment and part of the time virtually/online either synchronously or asynchronously.

Asynchronous--Blackboard Course
15. Did you participate in at least one course during **Fall 2020** at [institution] that was fully online and managed through Blackboard? Yes No
16. I believe asynchronous courses that are fully online and managed through Blackboard are effective and support my learning. Agree Neutral-Neither agree or disagree Disagree
Synchronous Courses through Zoom, Collaborate, or another online meeting platform
17. Did you participate in at least one course **Fall 2020 at** [institution] which required synchronous meetings in real-time through a platform such a Zoom? Yes No
18. I believe synchronous courses that require meetings in real-time through a platform such as Zoom, are effective and support my learning. Agree Neutral- Neither agree or disagree Disagree
Blended/Hybrid Courses--Asynchronous and Synchronous
19. Did you participate in at least one course **Fall 2020** at [institution] which required some combination of face-to-face classroom meetings and online instruction/assignments? Yes No
20. I believe blended courses which required some combination of face-to-face classroom meetings and online instruction/assignments are effective and support my learning. Agree Neutral- Neither agree nor disagree Disagree

SA=Strongly Agree; A=Agree; N=Neither Agree nor Disagree; D=Disagree; SD=Strongly Disagree					
Survey Questions	SA	A	N	D	SD
21. My previous experience in using a learning management system like Google Classroom, Canvas, or Moodle helped me be prepared to navigate course content through XXX Blackboard.					
22. I believe having classes on Blackboard (online) is as effective as face-to-face classes in helping me access content and achieve academic success.					
23. I believe having classes on Zoom is as effective as face-to-face classes in helping me access content and achieve academic success.					
24. I am confused about all the different class schedules among online, in-person, and blended.					
25. I believe the technology requirements to access course content, make it harder for me to succeed in college.					
26. Due to the experiences Fall 2020 I am more likely to include fully online courses in my college plans.					
27. Concerns about COVID-19 made it difficult for me to focus and concentrate on my studies.					
28. Due to COVID-19, I did not participate in study groups or other academic support opportunities.					
29. Due to COVID-19, I experienced psychological stress that affected my learning.					

30. My experiences during Fall 2020 influenced my decision to take. . .
Fewer credit hours
More credit hours
Had no impact on my decisions about the number of credit hours to take

31. My experiences Fall 2020 influenced my decision to. . .
Take more face-to-face courses
Take more blended course
Take more fully online courses
Had no impact on my decision

32. My experiences Fall 2020 caused me to. . .
Move home and take all online classes
Move to off-campus housing/commute to campus
Had no impact on my decision

Social (Greek life, roommate, make friends, get to know classmates)

Strongly Agree; Agree; Neutral Neither Agree nor Disagree; Disagree; Strongly Disagree; Not Applicable

Survey Questions	SA	A	N	D	SD	N/A
33. Due to COVID-19, I did not attend as many social events or join as many organizations as I thought I would in college.						
34. My decision to participate or not participate in Greek life was influenced by COVID-19.						
35. Due to COVID-19, I often felt isolated and lonely on campus.						
36. I believe COVID-19 made it more difficult to make friends.						
37. I believe I do not have the connections I expected with my roommates/ suitemates due to COVID-19 and social distancing.						

38. Due to COVID-19, I did not feel the sense of community on this campus that I had expected.						
39. COVID-19 had an economic impact on my situation that required me to work part-time or full-time.						
40. Due to COVID-19, I experienced psychological stress that affected my desire to socialize.						

Was your first-semester college experience what you expected? (drag the bar to show your answer)

(1) Definitely not; (2) Probably not; (3) Might or might not;
(4) Probably yes; (5) Definitely yes

Survey Questions	1	2	3	4	5
41. Academically, when thinking about courses, instruction, learning experiences, how much was college what you expected?					
42. Socially, when thinking about college life, how much was the social aspect of college what you expected?		`			

Open-ended Question

43. What is your overall impression of your first semester college experiences (please type your answer)?

Appendix B

Informed Consent

You are being invited to participate in a research project by completing this anonymous survey about "**Was It What You Expected? The impact of COVID-19 on first-year college students."** The purpose of this study is to determine if COVID-19 had an impact on the college experience of first-year university students. This study is being conducted by [researchers] at [institution].

There are no known risks if you decide to participate in this study. There are no costs to you for participating in this study. The information you provide will form the basis for future research and may be used in scholarly publications. The short survey will take about 10 minutes to complete. The information collected may not benefit you directly, but the information gathered in this study should provide more general benefits to educators and students.

This survey is anonymous. We do not ask for your name on this survey. No one will know whether or not you participated in the study. Individuals from the Institutional Review Board may inspect these records. Should the data be published, it will be used in aggregate; individual participants cannot be identified.

Your participation in this study is completely voluntary. If you choose to participate, you are free to decline to answer any particular question you do not wish to answer for any reason. If you decide not to complete this survey after you begin, simply stop taking this survey. If you are willing to complete the survey, your assistance would be greatly appreciated. By completing this survey, you are voluntarily agreeing to participate.

If you have questions regarding the research, you may contact [researchers' contact information].

If you are willing to participate in the research, please click on the next button at the bottom of the page to begin. Thank you for your time and cooperation – it is greatly appreciated.

Appendix C

Student Responses to the Open-ended Question

Question 43. What is your overall impression of your first-semester college experiences?

1. The events that were held around campus really helped me feel like my college experience was not hindered.
2. disappointing
3. Very okay, glad I got through it and made the best of it!
4. I actually really liked how covid-19 restrictions on class size and blended classes helped me adjust to college. I didn't think I would join many organizations not because of covid-19, but because I was shy. I liked how my blended classes gave me a touch of what I would experience, and I appreciated it greatly.
5. It was fine. The success of an online course depends on how communicative and clear the professor is. My biggest source of stress was other students being careless about masking, particularly when walking in large crowds outside.
6. didn't like it
7. It was not as exciting as I wanted it to be.
8. Not as many social activities as expected but overall good
9. I could not do much or go out because of COVID and that was disappointing. I did not make many friends due to COVID and I was not expecting it to be so hard to make friends and socialize. Overall, it was not an ideal first semester of college but there's nothing I can do about it.
10. I don't want to blame it completely on COVID, but I could see a drastic change in my academics in the classes I had completely online. All together I believe XXX is doing their best to keep us safe!
11. It wasn't as I thought it would be, but I have made friends and gotten involved on campus.
12. It is what it is. I didn't ask for a pandemic to screw up my life but I got what I got.
13. Having to do blended courses was definitely confusing because it's hard to access information and assignments on blackboard. I feel like it was hard to meet new people because of covid.
14. I had to be a lot more self-reliant than what I was anticipating, due to the fact that I was either teaching myself all of the material or at least half of it
15. The workload for my classes were manageable but the pandemic made me feel lonely and made it hard to make friends.
16. Neutral - I have had lots of fun but also been very stressed and overwhelmed.
17. It was okay. I have nothing to compare it to so i dont really know if it was better or worse than "normal."
18. It was very overwhelming and not what I expected due to COIVD. It was harder to get myself out there and make new friends and get involved. It stressed me out.
19. I enjoyed college my first year but I definitely feel like I missed out on the real experience and wish I could have done it at a different time.
20. It was different than what I thought it was going to be like. Yet very little of that had to do with Covid.
21. I was a little disappointed but I also understand the circumstances. I just wish COVID wouldn't have happened my freshman year.
22. I loved it!

23. College is very stressful but my professors are very good about helping me when I need it.
24. I was really lonely. It sucked.
25. It was not what I expected at all. Obviously the pandemic played a huge role in it, but it definitely taught me how to take online courses and how I will continue to take online courses.
26. It was still fun, I just felt like I learned less because of the online classes. I think it was harder to make myself focus and study because I was constantly in my room, looking at a computer screen, and I could easily not do work and sit on my phone because my professor wasn't there to make it harder not to.
27. I hope when covid is over my experience will improve.
28. I have learned that I must find a balance in order to succeed as well as have fun!
29. It was alright, I just wish I could have made more friends

A Mixed Methods Study of Preservice Teachers' Perspectives and Experiences with Blended Learning

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Abstract

There is an increased need to examine how blended learning can be integrated in traditional preservice teacher education programs to support students' learning and meet the growing curricular demands of colleges and universities. This mixed methods study aimed to understand preservice teachers' perspectives towards blended technology integration courses that they participated in. Community of Inquiry Framework (CoI) and Activity Theory were used to design blended learning experience for students. Both quantitative and qualitative data were collected concurrently and merged in the interpretation phase of the study. Preservice teachers perceived blended technology integration course as a beneficial way to learn because it enabled them to spend their time effectively and efficiently allowing them to be more productive, independent, and self-regulated learners with opportunities to experience innovative learning firsthand. The study has implications for higher education faculty, K-12 teachers, administrators, instructional designers, and technology specialists

Keywords: *preservice teacher; technology integration; blended learning; teacher education; perspectives; experiences; mixed methods*

Introduction

Blended learning gained popularity as new low-cost technologies are becoming widely available in educational settings. Individual learning preferences change, and demands of everyday life play an essential role in how people access, process, and learn. Literature presents multiple definitions of blended learning. Bonk & Graham (2005) classified definitions of blended learning into three major groups of thought. Some authors define blended learning as a combination of instructional modalities and delivery methods (Bersin & Associates, 2003; Orrey, 2002; Singh & Reed, 2001). Some define it as a combination of instructional methods (Driscoll, 2002; House, 2002; Rossett, 2002). Others explain blended learning as a combination of online and face-to-face instruction (Reay, 2001; Roonney, 2003; Sands, 2002; Ward & LaBranche, 2003; Young, 2002). In this study, the author adopts the definition of blended learning provided by Horn and Staker (2014), according to which blended learning is a formal education practice in which students learn at least in part through online learning with some element of student control over time, place, path and pace.

More and more institutions, settings, and programs offer blended classes for their students. Research shows multiple benefits of blended learning for students. Previous studies discuss the

potential of blended learning to increase higher order thinking skills, provide a productive learning environment, and better manage daily responsibilities and learning (Garrison & Vaughan, 2008; Keengwe & Kang, 2013; Lzzio, Wilson, & Simons, 2002; Littlejohn & Pegler, 2007). Although multiple research studies on different aspects of blended learning in the classroom in K-12 and higher education settings are available, there is relatively limited empirical research on the blended learning approach in teacher education programs (Wang et al., 2009). The majority of research on blended learning examined nontraditional and graduate students (Martyn, 2003).

Clinical practice or field experiences are crucial aspects of teacher preparation programs. During this experience, teacher candidates are placed in a classroom and have a cooperating teacher mentor. The blended learning approach is an ideal instructional method during field experiences. It enables teacher candidates to fulfill field experience requirements. It reduces the number of hours that teacher candidates need to visit a physical classroom at the university campus to participate in a class. Therefore, when students are engaged in a field experience, blended learning offers an ideal setting that benefits teacher candidates (Duhaney, 2012; Reynolds & Greiner, 2006).

Another aspect of blended learning in the preservice teacher preparation context is changing workforce needs in K-12 education. Future teachers need to be prepared to teach in various environments and formats and learn pedagogy and instructional methods for blended teaching to develop and teach courses according to their students, schools, and districts (Kennedy & Archambault, 2012; Moore-Adams et al., 2016). Research shows that although many K-12 teachers are increasingly using technology in their classrooms for teaching and learning, few have formal preparation to design, teach and facilitate blended learning (Kennedy & Archambault, 2012; Moore-Adams, Jones & Cohen, 2016). Blended learning promotes active, student-centered, collaborative learning and may comprise multiple learning paths that provide opportunities for individualized learning (Johnson, Adams Becker, Estrada, & Freeman, 2015; O'Byrne & Pytash, 2015). Research states that to understand the principles and practices of blended learning, preservice teachers should experience blended learning for themselves and engage in a blended learning course to firsthand understand its benefits (O'Byrne & Pytash, 2015).

There is a need to empirically investigate the effectiveness of blended learning in teacher education, which can help decide on effective strategies for designing and implementing blended learning in teacher education programs (Keengwe & Kang, 2013). There is an increasing need to examine how blended courses can be utilized in traditional preservice teacher education programs to support students' diverse learning needs and meet the growing curricular needs of universities (Collopy & Arnold, 2009).

Traditionally technology integration courses are taught in face-to-face classroom settings. Preservice teachers who are working towards obtaining professional teaching licensure are required to complete a technology integration course. A technology integration course aims to introduce preservice teachers to the effective integration of technology into the classroom curriculum. Students design, develop, utilize, manage, and evaluate learning with the assistance of instructional media, technology tools, and software that helps enhance learning experiences in the classroom.

A large Midwestern university located in the suburban area where the study took place attracts many students who commute to campus, are employed either full or part-time, and often have families of their own. In addition, severe winter weather conditions often cause university closures and class cancellation in a long and cold winter season.

Motivation to redesign technology integration courses appeared due to a couple of important and convincing reasons. First, a belief that preservice teachers who are preparing to teach

in a K-12 environment increasingly need to experience blended instruction firsthand because it is likely that they will be teaching a blended course themselves once at a workplace. Second, the nature of specific technology integration topics lends itself better to a blended rather than a face-to-face format. For example, when learning about integrating distance learning tools or blended instruction into the classroom, students learn best when they experience it themselves firsthand. The third reason for a course redesign is an extensive clinical experience that preservice teachers need to engage in while enrolled in a technology integration course. Since students must be at the clinical experience several hours a day, they then need to commute back to campus often from school districts within a substantial driving distance, which can be challenging with suburban traffic. Finally, personal and family responsibilities and long commutes in severe weather may cause much stress and inconvenience for many students.

The purpose of this mixed methods study was to explore preservice teachers' experiences and perspectives towards the blended technology integration course required for teaching licensure. The research questions that guided the study are the following:

Quantitative:

1. What are students' experiences with blended technology integration courses?

2. What are the relationships between students' beliefs about using a blended format to teach technology integration courses and their experiences in such a course?

Qualitative:

1. What are preservice teachers' experiences in blended technology integration courses?

Mixed methods:

1. To what extent do the quantitative and qualitative data converge? How and why?

Theoretical Framework

Community of Inquiry Framework (CoI) (Garrison, Anderson and Archer, 2000) and Activity Theory (Engeström, Miettinen, & Punamaki, 1999; Jonassen & Rohrer-Murphy, 1999; Lim & Hang, 2003; Roth, 2004) were used to design blended technology integration course. The CoI theoretical framework guided creating a blended learning experience by developing and implementing three interconnected and dynamic elements: social, cognitive, and teaching presence. CoI emphasizes critical thinking and collaboration and is a well-suited model for developing blended technology integration courses (Garrison & Anderson, 2003; Garrison & Vaughan, 2008). According to the CoI Framework, participants identify with the community, communicate purposefully in a trusting environment and develop interpersonal relationships by protecting their personalities and exhibiting social presence (Garrison, 2009). Examples of social presence in the blended technology integration course included encouraging reflective participation, addressing students by name, using salutations and inclusive pronouns, and recognizing different viewpoints, opinions,

and backgrounds. In the CoI Framework, learners show cognitive presence by constructing meaning through reflection and discourse (Garrison, Anderson, & Archer, 2001). Cognitive presence in a blended technology integration course was achieved by engaging students in projects and assignments that initiated an inquiry, problem-solving and searching for relevant information to develop a creative solution and focus on the construction of meaning reflectively. In CoI Framework, a teaching presence is created by designing, facilitating, and directing cognitive and social processes to realize personally meaningful and educationally worthwhile learning outcomes (Anderson, Rourke, Garrison & Archer, 2001). Teaching presence has a mediating role by gathering all the elements together in a balanced and well-structured fashion. Examples of teaching presence in a blended technology integration course included facilitating instruction and discourse to keep students interested, motivating and engaging them, clarifying misconceptions, and summarizing class discussions.

Activity theory was the second theoretical framework for designing a technology integration course (Karasavvidis, 2009). Activity theory states that environment shapes individuals' minds and activities, and context helps understand human interactions with the world (Kaptelinin & Nardi, 2006). Activity theory promotes contextualized activity, ongoing participation, and interaction within communities (Barab et al., 2004; Lantolf & Appel, 1994).

Literature Review

The literature discusses research that focused on the effects of blended learning on student outcomes and achievement and students' perspectives and experiences with blended learning and elements of effective blended learning environments.

Research shows that blended learning positively impacts students' achievement (Lzzio, Wilson, and Simons, 2002). For example, López-Pérez, Pérez- López, & Rodríguez-Ariza (2011) found that blended learning increased passing rate on exams. Littlejohn and Pegler (2007) suggested that blended learning is beneficial for students because it changes the focus of learning design and encourages students to engage in active learning and contact between students and faculty and receive prompt feedback. Numerous research studies concluded that blended learning improves students' learning outcomes (Boyle, Bradley, Chalk, Jones, & Pickard, 2003; Dziuban et al., 2006; Garnham & Kaleta, 2002; Lim & Morris, 2009; O'Toole & Absalom, 2003; Twigg, 2003). Twenty out of thirty institutions that participated in research funded by the Pew Foundation in the United States reported having improved learning outcomes. Eighteen of the participating institutions demonstrated a decrease in student drop–failure–withdrawal (DFW) rates (Twigg, 2003). Twigg (2003) stated that students achieved higher grades, more robust knowledge, and enhanced understanding of the material in a blended classroom. Similar conclusions were made by López-Pérez et al. (2011). Garrison and Kanuka (2004) discussed how blended learning has transformative potential and supports active and meaningful learning. Other researchers revealed positive effects of blended learning approaches compared to traditional ones regarding student achievement across disciplines. Vo, Zhu, and Diep (2017) used end-of-course evaluations and found that the effects of blended learning on student performance in STEM disciplines were significantly higher than that of non-STEM disciplines. Fazal and Bryant (2019) investigated if blended learning increased 6th-grade student achievement in math and revealed that blended learning students outscored face-to-face students on state and district norm reference tests. Some studies did not find any significant difference in student achievement when comparing blended learning and other approaches. For example, Ünsal (2012) did not find a significant difference in post-test

scores between blended and traditional face-to-face groups and indicated that students demonstrated similar performance.

Some research focused on the perspectives and experiences of students with blended learning. Research showed that blended learning reinforced students' autonomy, research skills, and reflection by increasing flexibility of access to learning (Chambers, 1999; Lebow, 1993; Radford, 1997; Sharpe et al., 2006; Tam, 2000). It enhances students' ability to control their own learning pace and allows them to catch up on a course at their own pace (Garnham & Kaleta, 2002; Owston, Wideman, Murphy, & Lupshenyuk, 2008; Smyth, Houghton, Cooney, & Casey, 2012). Blended Learning promotes student satisfaction, enables them to become more motivated and involved in their learning, and enhances their perseverance (Donnelly, 2010; Sharpe et al., 2006; Wang, Shen, Novak, & Pan, 2009; Woltering, Herrler, Spitzer, & Spreckelsen, 2009). Some studies concluded that time management might sometimes be an issue in the blended course. Students may have unrealistic expectations and assume that blended learning is less work, and therefore may be struggling with time management skills and not accepting responsibilities for personal learning. Mitchell and Honore (2007) stated that learners' attitudes and motivation are particularly significant when virtual learning is involved, as those factors affect students' acceptance and participation in a blended classroom. It is crucial to managing students' expectations, especially since few face-to-face classes mean less work and encourage students to take more responsibility and autonomy over their learning (Tabor, 2007; Vaughan, 2007). Keengwe & Kang (2013) found that blended learning is more effective than fully face-to-face or online learning in terms of students' satisfaction (Dziuban et al. 2006; Wingard 2004), time and flexibility, ease of using resources, and interactions (Chamberlin & Moon, 2005; Lock, 2006). Karoğlu et al. (2014) emphasized a crucial aspect of a blended learning environment, fostering social interaction and feedback. Participants reported that blended learning facilitated their interactions with peers and teachers and enhanced group and peer learning in their study. Callopy and Arnold (2009) stated that blended learning could provide an opportunity for the continuation of discussion not completed during scheduled class time. Flexibility can support different learning styles and different speeds of cognitive learning. The material can be reinforced in various formats, which can increase interest and engagement, supporting the process of more effective learning. Duhaney (2010) reported that students liked the flexibility provided by blended learning and more control over the pacing of the course. The researcher stated that a blended environment implemented during teacher preparation coursework makes teacher candidates more likely to use various technologies and learn how to facilitate a learning environment in which students are actively engaged in learning using familiar technology tools. Chan (2019) aimed to understand students' perceptions of blended learning and suggested that student teachers need independent learning skills and the ability to construct knowledge in different educational settings to teach this to their students.

The literature discusses elements of effective blended learning environments and what contributes to their success. Research shows best practices of blended learning and elements necessary for successful blended learning implementation to take place. For example, Garrison and Vaughan (2008) discussed best practices of blended learning implementation in higher education and emphasized the importance of seamless integration of face-to-face and online components. In teacher education programs, blended learning is considered an effective method that can help improve student teachers' discussion skills, develop their communities of practice, and achieve their course goals (Means et al. 2009).

Methodology

Type of Design

This study used a convergent parallel mixed methods design to research perspectives and experiences of preservice teachers in blended technology integration courses. In this type of design, both quantitative and qualitative data receive equal weight and are collected concurrently (QUAN+QUAL) and merged in the interpretation phase of the study (Creswell and Plano Clark, 2011). Convergent parallel type of design draws on strengths of both quantitative and qualitative type of designs, compensates for their weaknesses, and allows to merge different but complementary data.

This study implemented several validation techniques. The researcher triangulated data to improve confidence in reporting findings by collecting data through online surveys that included quantitative and qualitative components (Hatch, 2002). Preservice teachers of different majors participated in the study, which was another triangulation technique in the study. Additionally, to assure the survey instrument's accuracy, face and content validity were conducted, and both experts and non-experts reviewed the survey.

Detailed and thick description of findings, a qualitative validation procedure applied in this study, helped readers to make their own decisions regarding transferability of findings to other learning settings (Lincoln & Guba,1985, Meriam, 1988). The researcher's beliefs about blended learning did not influence data analysis in the study. Disclosing and clarifying biases is another validation technique recommended in the literature (Merriam, 1988).

Data Collection

Data collection started after IRB has been secured. For this mixed methods study, the survey instrument was designed after a thorough literature review and expert validation process. Using experts to systematically review survey content to improve the overall quality and representativeness of scale items is essential in a survey development process (Polit & Beck, 2006). Feedback from content experts was collected to confirm that individual survey items are relevant and that critical items have not been omitted. The key areas that were assessed through an expert validation process were representativeness, clarity, relevance, and distribution. The survey consisted of 23 items focused on collecting demographic data, students' previous learning experiences and experience with blended technology integration courses, their perspectives on blended technology integration courses, and what is essential for the blended technology integration course to be effective. The survey instrument included a Likert scale (1through 5) and open-ended qualitative questions.

A total of 114 preservice teachers who were enrolled in blended technology integration courses in a large suburban Midwestern university participated in the study and answered an online survey distributed through Qualtrics. Participation in the study was voluntary. Students were pursuing teaching licensure and preparing to be K-12 teachers. Participants of this study were preservice teachers enrolled in required technology integration courses at a large suburban Midwestern university. The majority of students (82 %) were between the age of 18 and 24. The rest of participating students were over the age of 24. The majority (81 %) of students were female, and 89 % were single and not married. Thirteen percent indicated that they have a dependent that lives with them in their household. Participating students mainly included seniors (52%) and juniors (44

%), with a small percentage (4 %) of post-baccalaureate students. The vast majority of students (90 %) were special education majors, and the minority (10 %) were secondary education majors.

Technology integration course exposes students to effective integration of technology into the curriculum, emphasizing design and evaluation of students learning utilizing technology. Blended technology integration courses were taught during a regular academic semester and included several in person monthly class sessions in technology laboratory settings and online asynchronous instruction during the remaining class sessions. Weekly modules included instructions for weekly assignments, readings, supplementary materials, technology tutorials designed by the course instructor and examples of assignments when applicable.

Data Analysis

A convergent parallel mixed methods design seeks convergence and correspondence of results across different methods (Caracelli & Greene, 1993). Quantitative data were analyzed using SPSS statistical software. Measures of central tendency such as mean, median, and standard deviation determined preservice teachers' perspectives towards using blended learning in a technology integration course. Spearman Rho correlation was calculated to determine relationships between preservice teachers' experiences and perspectives towards blended learning in a technology integration course. Several survey items were grouped as a construct that describes preservice teacher experiences in a blended learning course. The factorial analysis provided information that these questions could be grouped together (KMO= .882, Bartlett test of sphericity=.000). Cronbach's alpha was .904.

Qualitative data included the response to five open-ended questions. The researcher identified text segments, assigned code words, used in vivo codes, collapsed codes into themes, and identified four themes. Four interconnected themes emerged. Quotes from participants were cited, and multiple perspectives of participants were described.

A convergent parallel mixed methods design implies that quantitative and qualitative data are analyzed concurrently but separately (Creswell & Plano Clark, 2011). In this study, statistical analysis of the quantitative data was performed concurrently with the qualitative data coding. Two data sets were merged in the second stage to develop a complete picture.

Results

Quantitative Results

Descriptive statistical analysis was conducted to answer research question one. Table 1 includes descriptive statistical results showing students' experiences.

Table 1: *Students Experiences with a Blended Technology Integration Course*

Survey Statement	Mean (M)	Median	SD
I had a positive experience with the blended technology integration course that I participated in	4.03	4	.796

Using blended format to teach technology integration courses allowed me to have a more productive learning experience	3.88	4	.888
Using blended format to teach technology integration courses improved my overall learning experience	3.91	4	.872
Using blended format to teach technology integration courses helped me to use my time more efficiently	4.12	4	.847
Using blended format to teach technology integration courses allowed me to take more classes towards my degree completion	3.70	4	.999
Using blended format to teach technology integration courses motivated me to study	3.48	4	1.001
Using blended format to teach technology integration courses enhanced my learning opportunities	3.85	4	.947

As evident from Table 1, preservice teachers had a positive learning experience in blended technology integration courses. The median of 4 shows that half of the students tended to have positive experiences towards blended technology integration courses.

Spearman rho correlation was used to answer research question 2. Data analysis revealed a significant correlation between students' beliefs about using a blended format to teach technology integration course and their experiences in such a course $r= .715$, $p < 0.01$. Thus, students who had strong positive beliefs about implementing a blended format to teach technology integration courses tended to have more positive experiences participating in such a course.

Table 2*: Correlation Matrix (includes correlation results obtained from the analysis)*

Variables	Beliefs	Experiences
Beliefs	1	.715*
n=114		
Experiences		1
n=114		

*Indicates that the correlation is significant at the 0.01 level, two-tailed.

Quantitative data analysis revealed that overall, preservice teachers tended to have positive learning experience in blended technology integration course and their beliefs were positively correlated with their experiences in such a course.

Qualitative Results

Qualitative analysis revealed four themes focused on preservice teachers' experiences in a blended technology integration course. "In vivo" codes were used to name four themes.

"At my Own Time."

Participants discussed time as the most crucial aspect of a blended technology integration class. Blended technology integration class allowed preservice teachers to work at their own time and schedule. Participants emphasized this aspect as being of prime importance for their educational experience. They extensively used the words "on my own time" when discussing learning in blended technology integration classes. For example, a participant stated: "The most beneficial aspect of the blended format was the ability to problem solve the different materials and work with them on my own time, not feeling rushed." The other participant added: "Time was more my own. I could use it more efficiently in a blended format." While yet another preservice teacher explained: "I could work on assignments when I had time rather than during class time. Blended format allows me to get more accomplished in a day." Clearly, the ability and advantages of working on their own time were pivotal to preservice teachers' experiences.

The time aspect provided flexibility in participants' daily lives and allowed them to manage their everyday responsibilities outside of the classroom. Students mentioned saving time when it comes to commuting, taking more classes towards degree completion, and balancing work, school, and family responsibilities. For example, one participant stated: "Not having to make the 75-minute commute to campus allowed me more time to study." Another one added: "It allows students to do other tasks, take other classes while still gaining knowledge from multiple." Another preservice teacher elaborated: "I like that it allows students to manage their own time based on their schedules. It is hard to manage time since I live 45 minutes away and work part-time. Blended learning gives me more flexibility." Flexibility was beneficial for students and helped them with self-monitoring skills. A participant stated: "I liked how my blended technology integration course offered more flexibility because I could control when and where I learned. It improved my self-monitoring skills." Responsibility was another aspect mentioned by participants. Thus, a participant commented: "I think blended technology integration class is a great way to learn. It gives more responsibilities to students to manage their own time."

Participants described opportunities to manage their own time, flexibility, and time-saving options as valuable characteristics of blended technology integration.

"At my Own Pace."

Participants emphasized that "pace," "productivity," and "autonomy" were important factors when it comes to the blended format in a technology integration class. They discussed that working at their own pace allowed them to take as much time as they needed to complete activities and projects and made them more productive. One participant stated: "I was able to learn and complete the projects at my own pace. I did not have to work only during the designated class time." Another participant echoed by mentioning: "I can be more productive and get more work done." The ability to work at their own pace was associated with more autonomy. Thus, a participant explained: "The blended course allowed me to be more independent with how I approached the class and it allowed me to explore different technology at my own pace. It allowed me for more autonomy…" Participants appreciated opportunities to work at their own pace both independently and with peers and both in and outside of the classroom. A preservice teacher mentioned: "I like that learning takes place in and outside of the classroom. This allows me to complete assignments with peers and at my own pace." When participants had opportunities to work at their own pace, they were more productive and independent. Productivity and independence were necessary for

their learning experience because they allowed accounting for individual learning styles, differences, and preferences and helped process information at the pace that worked for individual preferences and needs.

"New Opportunities for Learning."

Participants discussed the design and delivery of the blended technology integration course. They commented on resources, tools, and real-life experiences that were important to ensure meaningful learning opportunities offered in the course. A participant commented: "For me, the blended format in a technology integration course not only changes how content is delivered but also redefines traditional educational roles and provides new learning opportunities." Students commented on the "real-world experience" in a blended technology integration course, opportunities to engage with innovative technology tools and methods, opportunities to practice using new technology, and hands-on activities and interactions incorporated into the course. A participant stated: "I like a class that has a blended format. I am interested in technologies in the classroom. It provides a real-world experience since many of us do not get to use these technologies in our clinical placements." Preservice teachers believed that hands-on activities and interactions were necessary for their learning experience in a blended class. A student commented: "The range of tools that was discussed and covered made every class and my experience enjoyable." A balance of in-person and online instruction and opportunities to apply new knowledge was necessary for preservice teachers. A participant mentioned: "I like having weeks in which we learn in a hands-on way with our professor and then the next week we have individual practice." Another participant elaborated on the application aspect of the blended technology integration course: "Being able to use the information that I am learning about technology and applying it to technology that I have at home."

The instructor's availability was a critical aspect for student success, especially during the online instructional mode. Students discussed the importance of receiving a quick response from the instructor and the instructor's availability through email and meetings when students were seeking help and assistance. Thus, a participant commented: "I liked that the professor was readily available to assist via email or through personal meetings." Preservice teachers emphasized that instructor presence and availability ensure their success in a blended technology integration course.

The final aspect of blended technology course design and delivery was the clarity and transparency of course expectations. A participant commented: "I like how the expectations for the course were laid out very clearly within the first few weeks. We all knew what we had to do to be successful in the class."

Participants discussed real-life experiences, innovative technology tools and resources, a balance of instructional modes, instructor presence, and transparency of course expectations as essential aspects that contributed to successful experiences.

"It is Hard to Stay Motivated."

Participants discussed motivation and self-management skills as aspects of a blended technology integration course that presented some challenges. Preservice teachers explained that it was hard to plan and get the work done, stay focused, keep on top of due dates for class assignments and stay motivated to do the work. They explained that this was because a blended course requires

strong self-management skills. For example, a participant commented: "I found that the most challenging thing was to force myself to focus and get all the homework assignments done." While another student elaborated that the lack of motivation to work caused to miss due dates and deadlines: "It is challenging being motivated to do the work. It is easy to allow assignments to slip if you do not keep track of the due dates." While still experiencing issues with self-management skills, some students believed that once they overcame this challenge, it was manageable: "The most challenging was to figure out how to plan and get my work done, but once I figured it out, doing the work was easy and not challenging anymore."

Participants mentioned that sometimes they needed additional face-to-face instruction to stay motivated. For example, a participant commented: "It was hard to stay motivated. I need full-time instruction in a class to stay engaged." Another added: "It is difficult to build relationships when a class does not meet in-person weekly." Motivation was also related to the ability to see and meet peers during the weeks that the class did not meet in person, especially to work on group projects. Thus, a participant commented: "I found it challenging to find time to work on the group project outside of class that worked for everyone's schedule." While another one added: "It is hard starting projects when we do not see group members every week. I found the group projects to be challenging because we were not always meeting."

Having immediate access to the instructor to receive an instant response when clarification was needed, or issues arose was another aspect of motivation in the course. Thus, a participant commented: "It was hard sometimes to motivate myself since asking the teacher's questions usually takes longer." Another one elaborated: "Sometimes questions come up, and your professor is not in the same room as you."

Self-management skills, not having a face-to-face lecture every week, issues connecting with peers to work on projects outside of class, and immediate instructor access were all aspects of motivation and self-management in the blended technology integration course.

Discussion and Conclusions

Results of the study revealed that preservice teachers had positive experiences and perspectives towards the blended format of the technology integration course. Combined quantitative and qualitative data were used to answer mixed methods research questions in this research: "To what extent do the quantitative and qualitative data converge? How and why? Table 3 shows converged quantitative and qualitative results and how qualitative themes complement quantitative survey items. For example, a quantitative survey item showed that students had a positive experience with a blended technology integration course (M=4.03, Median= 4) and was complemented by qualitative data themes. While qualitative themes complemented some quantitative items, other ones showed different perspectives. For example, the quantitative survey revealed that using the blended format to teach technology integration courses motivated students to study, as evident in relatively high descriptive statistic values (M=3.48, Median=4). However, the qualitative theme "It is hard to stay motivated" discussed students' challenges in staying motivated in the blended course.

Table 3: *Mixed Methods Results*

Survey Statement	**Mean (M)**	**Median**	**Qualitative Themes**
I had a positive experience with the blended technology integration course that I participated in	4.03	4	• "New opportunities for learning" • "At my own time" • "At my own pace"
Using blended format to teach technology integration courses allowed me to have a more productive learning experience	3.88	4	• "At my own time" • "At my own pace"
Using blended format to teach technology integration courses improved my overall learning experience	3.91	4	• "New opportunities for learning" • "At my own time" • "At my own pace"
Using blended format to teach technology integration courses helped me to use my time more efficiently	4.12	4	• "At my own time" • "At my own pace"
Using blended format to teach technology integration courses allowed me to take more classes towards my degree completion	3.70	4	• "At my own time" • "At my own pace"
Using blended format to teach technology integration courses motivated me to study	3.48	4	• "It is hard to stay motivated"
Using blended format to teach technology integration courses enhanced my learning opportunities	3.85	4	• "New opportunities for learning" • "At my own time" • "At my own pace"

Convergent parallel mixed methods design allowed to draw on strengths of both quantitative and qualitative data and to make comprehensive conclusions about the studied issue based on the collected data (Creswell and Plano Clark, 2011). This study revealed that preservice teachers had positive perspectives and experiences with the blended technology integration course. They

perceived the blended approach as a beneficial way to learn because they can spend their time more effectively and efficiently, allowing them to be more productive, independent, and self-regulated learners with opportunities to experience innovative learning firsthand. Previous literature on the topic supports such findings (Alonso, Manrique, Martinez, and Vines, 2011; Ausburn, 2004; Drysdale et al., 2013; Ketsman, 2019).

Participating in the blended technology integration course allowed preservice teachers to be a part of three interconnected elements which are a focus of the Community of Inquiry Framework: social, cognitive and teaching (Garrison & Anderson, 2003; Garrison & Vaughan, 2008). Preservice teachers experienced reflective participation, constructed meaning through discourse, became engaged in projects and activities that promoted inquiry and problem-solving and participated in meaningful learning outcomes emphasized in Community of Inquiry Framework (Garrison, 2009; Garrison, Anderson and Archer, 2000; Garrison & Vaughan, 2008). In addition, preservice teachers experienced contextualized activities, ongoing participation and multiple interactions within the community of learners that they were a part of, which is consistent with the concepts of the Activity Theory (Engeström, Miettinen, & Punamaki, 1999; Jonassen & Rohrer-Murphy, 1999; Lim & Hang, 2003; Roth, 2004).

The study has implications for higher education faculty, K-12 teachers, administrators, instructional designers, and technology specialists who consider teaching and designing blended learning experiences. It will help them when making decisions regarding the design and delivery of such courses on their campus. Policymakers and stakeholders will benefit from the study when deciding on implementing policies and providing funding for new and emerging technologies that can be further integrated into blended learning environments.

Limitations involving generalizability may be characteristic of this study. The literature recommends using random sampling to select participants for quantitative data collection; however, this study used non-random sampling. Self-reported data is another limitation of this study because it can seldom be independently verified (Chan, 2009). These factors should be considered when reviewing the results of the study.

Future research could consider replicating the findings of this study by selecting a larger sample size for quantitative data and conducting one-on-one interviews and focus groups with the participants to collect qualitative data. Another area of future research can focus on comparing two technology integration courses taught by the same instructor, one face-to-face and another blended. It would be beneficial to study the issue of motivation across student coursework and explore if the motivation is different when it comes to blended coursework compared to face-to-face. More research is needed to explore characteristics that make practical blended technology integration courses.

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Top Down Policy and the Intersection of Teacher Belief and Action: A Photo Elicitation Study of the Impacts of Common Core State Standards

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Abstract

This paper focuses on the relationship between policy creation and policy enactment through the use of an innovative qualitative research methodology, photo elicitation. Teachers applying Common Core State Standards were studied in two states through in-depth interviews, photographs captured by the participants, and other artifacts. Findings indicated the influence of bi-partisan politics on policy implementation as well as teachers' tendencies to map previous practices onto the new standards. Additionally, data demonstrated the influence of state mandated assessment on teachers' perceptions of the standards. This study provides new insights on teachers' interpretations, evaluations, and self-reflections of the CCSS and the related practical experiences through a rigorous micro-analysis of their professional conversations with teacher educators/university researchers.

Keywords: *Top down policy; Qualitative research; Photo elicitation; Assessment; Teacher reflection; Common Core State Standards*

Introduction

The Common Core State Standards (CCSS), developed by the United States National Governor's Association in conjunction with the Council of Chief State School Officers, were launched in 2009 and to date have been adopted in forty-one states, four territories, the Department of Defense Education Activity, and the District of Columbia (www.corestandards.org, 2021). However, since the original launch date, opposition to the implementation has abounded. As politicians and policy makers scurried to appease the increasingly loud opposition to CCSS and the apparent politicized nature of the implementation, states began to backtrack. Several states have adapted, eliminated, revised, or renamed the standards. Meanwhile, the debate continues, though more quietly it seems. Proponents view the creation of common standards as a springboard for success in college and career readiness, particularly because of increased focus on demanding content that must be understood and applied as well as the requirement of strong foundational skills in disciplinary reasoning, text-based argumentation, and inference (Coburn et al., 2016; Jenkins & Agamba, 2013).

Those in opposition lament lack of local control and a federal government overreach. In hindsight, it is perhaps unsurprising that what seemed at first to be an innocuous policy became quite politically charged resulting in quick repeals. As McDonnell & Weatherford (2016) note, policies that are ripe for political vulnerability are also likely be severely impacted at the implementation and enaction stages.

In our work, we strive to connect policy implementation to those in the "trenches," teachers, as we seek to understand how CCSS policy implementation impacted the day-to-day lives of teachers and students. We argue that understanding this piece of the puzzle is critical to future successful policy implementation. Roskos and Neuman (2013) note that a common set of standards inevitably shapes the daily instructional decisions made in the K-12 classroom. "Although standards may serve as a Common Core framework, they nonetheless must be integrated into the fabric of local classroom life and be responsive to the wider world if they are to really work" (Roskos & Neuman, 2013, p. 471). The notion of understanding the impact of policy on classroom life at a micro level is the foundation of this research study. Scholars note the difficulty of conducting research that accurately measures the impacts of CCSS with emphasis on test scores as a measure with limited reliability as well as conflicting variables for different states such as funding, hesitation of teachers to respond to inquiries about implementation, and the challenge of measuring college readiness (Angrist, Cohodes, Dynarski, Pathak, & Walters, 2016; Hughes, Daro, Holtzman, & Middleton, 2013; Polikoff, 2017;).

Taking these cautions into account, in this paper we work to understand the contexts of CCSS implementation and application in elementary classrooms. This study was conducted in the 2015-2016 school year. While the two states referenced officially rolled out CCSS in 2010, generally, three of the districts we studied were slower to move to full implementation of the new standards due to varying reasons. In one district, superintendent and district turnover led to a more focused initiative relating to CCSS in 2015. In two other districts, teachers explained that while CCSS implementation was expected by 2012, they described it as a "surface level" expectation that was generally not adhered to. Additionally, in both states teachers noted that for the first few years of CCSS implementation standardized state and district tests were aligned to old standards. Teachers noted that this required a balancing act that involved teaching a portion of the new standards while also preparing students for testing that was still aligned to the previous standards. By the time we began our study in 2015, all district tests were aligned to CCSS standards, and all schools were in full implementation mode. It is important to note that by 2017, nearing the end of our study, the state legislators had voted to repeal use of CCSS based on political opposition and large numbers of parent complaints. However, it was widely recognized that in the states studied and many others, the standards were changed in name only. CCSS was removed from the title of the standards, but the majority of the standards were either left the same or lightly revised. As recently as 2020, the state superintendent accused legislators of simply tweaking CCSS and renaming it. He argued for a path to completely overhaul the standards and remove any remnants of CCSS that are remaining. While total removal has not yet occurred, those who oppose CCSS are still fighting for a standards reexamination and reconstruction.

We believe that looking back to how teachers have processed standards reform and other top-down policy in the past is key to bettering these efforts in the future. To further understand a top-down policy implementation at a grass roots level, we probed teachers' perspectives and practices of CCSS through analysis of their professional conversations with colleagues and university researchers. To examine the teacher's perspectives, we employed a micro discourse analysis of photo-elicited interviews (Collier & Collier, 1986) we conducted with teachers. We chose this

method because we believed that the interview process would help us understand teacher perspective and that the photographs would enhance this understanding as well as furnish visual elements that would provide prospective on the classroom culture and environment. This study addresses the need in the field for more research on how CCSS impacts the daily lives and practices of teachers in America. However, more broadly this study may serve as a model for studying policy implementation and its impacts on teacher belief and autonomy as well as contribute to the greater body of existing research on the intersection of teacher belief and policy enactment. In the following sections, we discuss a short history of policy reforms followed by a relevant review of teacher belief.

A Short History of Policy Reforms

In the last few decades of American educational history, there has been a notable shift from local control of school policy to federalization of decision-making in our schools (Allington, 2002; Henig, 2015; Jennings, 2018). The first half of the 20th century was characterized by a largely hands-off approach by both the state and federal governments; however, the enactment of the Elementary and Secondary Education Act (ESEA) Title I altered this (McGill-Franzen, 2000). In the 1960s, President Johnson viewed the legislation as a means to filter money into districts with large numbers of low-income, high-need students. For many, the enactment symbolized the encroachment of the federal government upon the jurisdiction of the local school districts (Cross, 2004).

ESEA was followed in the 1970s by another important piece of legislation, PL 94-142, which required disabled students to have access to public education. The law resulted in immense increases in the number of special-education students. Originally, the idea was that the federal government would share in the monetary responsibility for disabled students, but ultimately the legislation was underfunded, which left school districts scrambling to allocate their resources appropriately (Cross, 2004; McGill-Franzen, 2000).

While ESEA and PL 94-142 certainly increased the federal government's role in education, overall, the focus was on funding rather than accountability. This focus changed in the 1980s with the notion of systemic reform, which promoted the view that not only is the government capable of improving the educational system, they are responsible for supplying authorizations and incentives to further policy (McGill-Franzen, 2000). ESEA was reauthorized in 2015 as the Every Student Succeeds Act (ESSA) and offered greater flexibility to states. Funding was reauthorized in 2021.

Standards-based reforms began in the 1980s and were advanced by a variety of professional organizations such as the National Council of Teachers of English and the International Literacy Association. The notion was that standards could be a basis for policy that supported high expectations for students in conjunction with stronger instructional supports for teachers (Coburn et. al, 2016; Smith & O'Day, 1991). Proponents of this movement hoped for improvements in both teaching and learning; however, success varied from school to school and district to district. Cohen (1990) noted that changes were often surface level, and teachers regularly used new materials in traditional ways.

Accountability reforms began in the 1980s and were followed in the late 1990s and 2000s with the enactment of No Child Left Behind (NCLB) and more recently high stakes teacher evaluation, which was spurred by immense funding from the Race to the Top federal grant. McGill-Franzen (2000) notes that the complexity of teaching lends itself to unpredictability in terms of policy outcomes. Likewise, others point to a tenuous relationship between policy creation and

policy enactment (Coburn, 2001; Spillane, 1999;), with attention paid to the individual resources of the teacher including prior knowledge, disposition, and beliefs.

Coburn et al., (2016) argue that our educational system is undergoing the merging of these two movements of accountability and standards-based reform. For example, as CCSS was rolled out across the country, simultaneously high stakes teacher evaluation was also enacted. Thus, Coburn and colleagues (2016) posit that "teachers are experiencing CCSS and new accountability schemes concurrently as new tests are launched and curriculum materials and professional development are becoming available. Any effort to investigate one of these policy initiatives must take the presence of the other into account" (p. 246).

Logic of Inquiry: Examining CCSS in Relation to Teacher Belief

An additional criterion to consider when examining the failure or success of policy is teacher belief. Research has demonstrated that even well-meaning policy implementations fail when teacher beliefs are not taken into account because these beliefs are at the core of instructional decision making (Clark & Peterson, 1986; Eisenhart et al., 2001). It seems that whether or not policy becomes a viable part of classroom practice depends heavily on individual teacher beliefs. In fact, whether purposely or not, educators ignored or amended policy implementation not in concordance with their beliefs (Eisenhart et al., 2001). Despite a wealth of research on the influence of teacher beliefs, most school improvement efforts continue to focus on changing only the behavior of educators rather than working on both beliefs and behaviors (Guerra & Nelson, 2009). Guerra and Nelson (2009) cited this omission as the primary rationalization for lack of change in educational outcomes particularly for students who are diverse in terms of language, economics, or culture.

According to Begum (2012), "beliefs are psychologically held understandings, premises or propositions about the world that are felt to be true" (p. 16). Beliefs are commonly fixed and are not easily changed by outside influences (Nespor, 1987; Ogan-Bekiroglue & Akkoc, 2009). In addition, beliefs do not necessarily have to be endorsed by others for an individual to hold fast to them (Haney & McArthur, 2002). According to Begum (2012), beliefs are comprised of a fusion between each person's subjective experiences and the learning and knowledge they acquire throughout their lifetime.

As noted by Richards and Lockhart (1994), "teachers' beliefs and values serve as the background to much of their decision making and actions, and hence constitute what has been termed the culture of teaching" (p. 30). In other words, a teacher's belief system will guide what they do and say in the classroom and what they deem important or inconsequential in terms of classroom instruction (Begum, 2012).

In this way, the intersection between the problems of policy reform and teacher belief becomes apparent. For instance, if a policy implementation or curricular framework does not align with a teacher's belief system, then he or she may be less likely to effectively implement the change in the classroom. Furthermore, teachers may alter the way they teach to match more closely with what they believe about appropriate instruction. A teacher may spend more instructional time on a classroom activity that they view as credible in terms of furthering student learning (Powers, Zippay, & Butler, 2006). In this manner, beliefs will always influence the way programs are carried out and, in many cases, student achievement and investment. Begum (2012) states:

> What teachers teach may be determined by an authority separate from the teacher, but the way the teachers interpret the curriculum or the syllabus, the way they enact the curriculum in the classroom context, is strongly influenced by their belief regarding what and how the students should be taught (p. 17).

Teacher beliefs or world views may impinge upon a teacher's willingness to embrace a particular policy from the outset. For example, a teacher might believe that there is nothing new to be learned and therefore, be resistant to professional development or new literature or techniques (Buehl & Fives, 2009).

Methodology

Theoretical Framing

This paper is grounded in the applications of critical discourse analysis (Fairclough, 2013; Gee, 2014; Rogers, 2011; Taylor, 2004; Weiss & Wodak, 2007), discourse studies (Blommaert, 2005; Bloome, Carter, Christian, Otto, & Shuart-Faris, 2005; Lester, 2014) and interactional sociolinguistics (Green & Wallet, 1981; Gumperz, 1986; Volosinov, 1929/1973) to the analysis of professional conversations (Cochran-Smith & Lytle, 1993; Feldman, 1994; Hollingsworth, 1994; Talbot, 2015; Tillema & Orland-Barak, 2006). We also include the theoretical work of Bakhtin (1981, 1986) and Volosinov (1929/1973) in our theoretical framework, specifically their assertion of the inherent dialogical nature of language such that any utterance is always a reflection of and refraction of other people's words and utterances. This theoretical framework focuses attention on how the participants, the seven elementary school teachers, represent the perspectives and practices of the CCSS they enact in and through their use of language and other contextualization cues (c.f. Gumperz, 1986) in their professional conversations with university researchers. Attention was not only paid to how the teachers acted and reacted to the university researchers in their photo-elicited interviews (Bloome, 2005) but also to the relationships of social events to each other (the relationship of their prior and current teaching practices) and the relationship of local and broader social contexts (the relationship of their classroom teaching practice to the various social, educational, or political institution). While this study was not an ethnography, we leaned on Spradley's (1979) notion of ethnographic interview so that we might understand the teachers' point of view in relationship to this policy implementation, Lastly, we examined the intersection of teacher belief and implementation of CCSS.

Research Contexts and Participants

Data was collected within four school districts in the Appalachian region of the United States. Seven teachers were recruited based on the following criteria: employment at a K-5 public school in Appalachia, current school-wide implementation CCSS, and participants who were willing to take photographs of literacy instruction and engage in recorded in-depth interviews. The table below gives more specific information on each participant.

Table 1: *Participant Background and Context*

Name of School	Context of School Site	Teacher Information	Teacher Information	Teacher Information
Happy Valley Elementary School	Geographic Information: Rural Student Population: 94% Caucasian; 6% Other Socio-Economic Factors: 57% of students receive free and reduced lunch	Teacher 1: Kelly 1st grade teacher Years of Experience: 16 Educational Level: Master's Degree	Teacher 2: Nancy 2nd grade teacher Years of Experience: 21 Educational Level: Bachelor's Degree	Teacher 3: Holly ESL K-12 teacher Years of Experience: 11 Educational Level Bachelor's Degree
Washington Elementary School	Geographic Information: Suburban Student Population: 90% Caucasian; 10% Other Socio-Economic Factors: 12% of students receive free and reduced lunch	Teacher 1: Dana 3rd grade teacher Years of Experience: 16 Educational Level: Master's Degree		
Spring Mountain Elementary	Geographic Information: Rural Student Population: 62% Caucasian; 23% Black; 15% Hispanic Socio-Economic Factors: 97% of students receive free and reduced lunch	Teacher 1: Kim 2nd grade teacher Years of Experience: 17 Educational Level: Master's Degree	Teacher 2: Sandy 1st grade teacher Years of Experience: 18 Educational Level: Master's Degree	
Anderson Branch Elementary	Geographic Information: Rural Student Population: 91% Caucasian; 7% Hispanic; 2% Other	Teacher 1: Ali 6th grade teacher Years of Experience: 30		

	Socio-Economic Factors: 69% of students receive free and reduced lunch	Educational Level: EdS		

Data Collection

Teacher Interviews: Our rationale for participant interviews was to "uncover the meaning structures that participants use to organize their experiences and make sense of their worlds" (Hatch, 2002, p. 91). We align with the thoughts of Spradley (1979), who articulated the purpose of ethnographic interviews thus:

> I want to understand the world from your point of view. I want to know what you know in the way you know it. I want to understand the meaning of your experience, to walk in your shoes, to feel things as you feel them, to explain things as you would explain them. (p. 34)

With this framework, each teacher participated in a semi-structured interview at the end of each week of data collection. Data was collected at three different points of the school year. During interviews, teachers shared the photographs captured in their naturally occurring English Language Arts (ELA) classes and used them as a springboard to discuss their perspectives and how ELA CCSS is or is not being implemented.

Photographs of Literacy Instruction: Each teacher took photographs of literacy instruction over the course of a week at three different points in the year. We asked teachers to capture literacy instruction without specific directives, so they (rather than the researchers) made deliberate choices about what to share (Holm, 2008). Photographs included ELA CCSS as well as other literacy instruction that teachers might have viewed as not aligning with CCSS. Photographs were used as a starting point for conversation and artifacts for document analysis.

Unobtrusive Data*:* Based on the premise that documents help us understand the workings of a particular institution (Patton, 1990), literacy lesson plans were also collected.

Data Analytic Approach

Photo-elicited interview was adopted to seek for a deep understanding of the teachers' interpretation, evaluation, and self-reflection of CCSS and their related practical experiences. We view photo elicitation as a means of transformation in our research epistemologies and methodologies. Traditionally, photo elicitation has been underutilized in the research community (Grady, 2001) particularly because sociological research has primarily been a "word-based discipline" (Epstein, et al., 2006). In fact, in the past researchers have questioned whether visual images truly relay accurate depictions of whatever is being studied (Harper, 2002). However, as the visual sophistication of our culture increases, we are witnessing a shift in this viewpoint (Ball & Smith, 1992). Holm (2008) notes that photographs can be used during interviews "not only to encourage the interviewee to tell about their everyday lives, remember past events or to unlock forgotten information, but also to reveal participants' hidden views and values" (p. 2). Likewise, others note that the content and process of photo elicitation can serve as windows into the social relationships

of participants (Epstein, et. al, 2006; Rasmussen, 2004; Barker & Smith, 2012). Accessibility of this technology (e.g. digital cameras, iphones, ipods, etc.) has now made this methodology easier to apply and affordable (Epstein, et. al, 2006).

Data Analysis

Interviews were transcribed (c.f. Bloome, Carter, Christian, Otto, & Shuart-Faris, 2005). We began with open coding of transcripts and proceeded with axial coding, comparing the categories in each transcript and across different transcripts generated with the same and different teachers (Glaser & Strauss, 1971). We then mapped out findings and cases in order to summarize and interpret teachers' shared and/or "outlier" perspectives. These findings became the emerging themes of the study. Each researcher initially worked individually and then compared codes and categories to ensure interrater reliability. After completing coding cycles for each participant's data set, we engaged in analytic memoing, a process of informal writing which addressed a direct reaction to a code. We completed memos to define each code which assisted with inter-coder reliability. Saldana (2009) notes that analytic memoing is a natural result of the coding process and that codes tend to spur the need for written reflection as we ponder each code's deeper insights. This process allowed our research team to engage in a deeper process of reflexivity as well.

Results

This paper focuses on four major themes that we compiled through the process of data analysis. These included: the influence of politics, the mapping of previous practice onto CCSS, the driving force of accountability/standardized testing, and particular literacy focused issues.

The Influence of Politics

Participants noted that politics permeate various aspects of their jobs. In particular, our data analysis demonstrated teachers' perceptions relating to politics in the following ways: lack of control as educators, constantly shifting curricula and standards, and the influence of bipartisan politics. Because of the dynamic nature of politics and the shifting policies that often occur as new administrations take over; it is important to note that this data was collected during the Obama administration. In both states during this time, governors' offices and state legislators were controlled by Republicans.

Several participants expressed that they have little control over the standards, curriculum, and assessment that they are required to carry out. While teachers viewed themselves as vital components in the process, they noted that they rarely felt included in the creation of policy. Holly explained, "Don't ask us. The politicians won't let us do it. And I mean, that's been the story for a long time." Teachers believed that not only were they not given a say in the creation of CCSS, but that the tradition of barring teachers from the discourse of policy creation had a long history, a history they had come to expect.

Not only did teachers feel they had little voice in the development and enactment of CCSS, they also demonstrated high levels of mistrust in those creating it. This mistrust was coupled with a lack of clarity in terms of who actually created the standards. When asked who wrote the standards, Kelly pondered, "I'm pretty sure it was like a team of people that came together and worked out of D.C.", but she was unsure of the specifics of that team. Likewise, Holly demonstrated a

wariness towards those she viewed in positions of powers in terms of policy creation, "You heard our wonderful state rep. She has no idea what she's talking about."

During the process of data collection, there were rumors of a movement away from CCSS. By 2017, CCSS had formally been redacted. However, standards were altered very little. Essentially the Common Core label was removed, but the new "state" standards looked almost identical to the previous CCSS format. Teachers lamented the ever-shifting landscape of curriculum. From their views, policy was rarely successful because they believed that ample time was not being given to see if a measure could truly work. Holly explained, "I'm just doing Common Core and whatever they give me next year. We can just roll into the next theme." This belief that standards and/or curriculum would rarely stay constant, led to a lack of motivation for implementation. Additionally, teachers indicated concern for children who were not receiving a fluid curriculum. "It is nerve-wracking," Nancy said. "Because we've got this portion of children that start with one curriculum, and then it changes. So, I feel like their education is hodge-podged because they start with one curriculum and then it changes."

Participants also viewed bi-partisan tensions as the root of CCSS issues and argued that often these political issues were unrelated to what they saw as the "real issues" of implementation. Holly noted, "CCSS seems like a really big example of something that should work, that the governors asked for, created themselves, and then the very one that's the chair of this decision-making committee then turns around and says we don't want to have anything to do with it. It's all about misinformation. It's political." Teachers believed that the merging of bipartisan politics in the media and respective communities led to further miscommunication between parents, teachers, and schools and particularly a negative view of CCSS. Kelly argued this when she explained, "It's all about politics. It's all about hating certain parties and certain individual politicians. They want the president (Obama) to fail and his administration to fail. They said it from day one—if it happened under his watch then it must be wrong and evil and our children are going to grow horns or whatever." Teachers admitted that their own political beliefs influenced how they viewed new policy and their willingness to accept or reject said policy.

Mapping Teaching Practice onto CCSS

Authors of CCSS note that it is purposefully non-prescriptive without specific directives so that teachers are "free to provide students with whatever tools and knowledge their professional judgment and experience identify as most helpful for meeting the goals set out in the Standards" (CCSS; National Governor's Association Center for Best Practices and Council of Chief State School Officers, 2010, p. 4). Our data indicated that participants regularly mapped what we recognized as formerly implemented practices onto CCSS. This assumes some characteristics of and sheds new insight on the "procedural display" described in Bloome, Puro, and Theodorou's (1989) study on doing lessons as a set of interactional procedures with little reflective thought about the meaning or purpose of the instruction. While describing pictures of ELA CCSS, teachers regularly named instruction and practices as CCSS, as they simultaneously used language we recognized as embedded in a variety of well-known curricula.

Perhaps because of the lack of specific directives of the CCSS, several participants noted that a variety of instructional practices could fit under the umbrella of the standards. Holly explained, "You can do a worksheet and do Common Core." Likewise, several other participants discussed and photographed their methods of CCSS. In some cases, they directly identified the curricula to which they referred. For example, Dana said, "I use the model based by Fountas and

Pinnell based on their balanced literacy program. In other cases, participants discussed ELA CCSS without naming a particular program or curricula, but by still using language that indicated their use of a certain method. For example, Dana used language of the Daily Five, a literacy strategy focusing on station work and reading and writing, when referring to center work in her classroom. Interestingly, some participants used language easily recognizable from past programs and trainings held in districts while naming it as CCSS. The following programs were either directly or indirectly referred to during interviews: Literature Circles, Balanced Literacy, Reader's Notebook, Self-Selected Texts, Novel Study, Leveled Readers, Interactive Notebooks, Genre Baskets, Orton Gillingham, Writing Workshop, Lester Laminack, Debbie Miller, Norma Kimsey, and Literacy Collaborative.

What is Driving Education, CCSS or the Test*?*

Data analysis pointed to deep entanglements between the roll out of CCSS and state accountability measures. In one of the states studied, CCSS was adopted concurrently with newly enacted legislation calling for an increase in statewide accountability. Particular assessments were mandated and the schedule of how and when they were to be given was to be strictly adhered to. According to one teacher this included up to 33 tests per student per grading period. Nancy explained, "For our kids that are high risk [they test] every 2 weeks. For kids that are at medium risk, 4 weeks. I have 7 kids that are having to do it every 2 or 4 weeks."

Due to blurring of lines between accountability and standards implementation, teachers discussed the tests and CCSS interchangeably and named CCSS as responsible for the heavy accountability recently implemented. This is illustrated in Nancy's comment as she showed a photograph of students in the process of test taking. "We were just finishing up our formative and summative assessments which is a huge part of Common Core. We assess all the time now, all the time." She shared another photograph showing Nancy and a student using an iPad. She explained,

> This picture demonstrates progress monitoring utilizing the Reading 3D program. That's the thing with Common Core, we assess all the time. Math, reading, it's almost daily. We are progress monitoring, and then we are doing interventions if they are not meeting it. So, it's a lot of one on one, so the classroom has changed a lot. It's more difficult, more challenging to manage.

The photograph shared illustrates that many of the assessments required must be administered individually using the iPad. Nancy and others indicated large blocks of lost class time due to accountability requirements. Often CCSS was directly or indirectly mentioned as the cause of these requirements or at least in alignment with them, despite the accountability measures being state mandated and disconnected from CCSS.

Mixed Reactions to CCSS

General Positive Reactions to CCSS

Participants discussed both pros and cons they saw to the implementation of CCSS. In many ways, teachers believed the new standards to be an improvement in comparison to previously

used state standards. Several participants noted that they were less overwhelming and more congruent than their former standards. Dana noted that: "Common Core was well-written, cohesive and in a better sequence than the old [state standards]." She believed they better prepared students for the future. Heather also noted the convenience of having a common curriculum across states. "Isn't it nice to be able to move somewhere and have your kid still where they're supposed to be and still in the curriculum and not lost or behind?"

Several participants liked the idea of a curriculum that covered less material but rather went into less material in a deeper manner without rushing from standard to standard. Kim explained, "The difference between Common Core and when we taught [previous state standards] is that you're allowed to go deeper into things, and not worry about every little standard because CCSS are a little overarching." Participants noted that in the past there were so many standards to be covered across the length of a year, it often felt like a race to instruct on all required standards and they felt like they were only able to cover them on a very surface level.

General Negative Reactions to CCSS

The most cited objection to CCSS from participants was that they at times questioned the developmental nature of the standards. Dana stated, "Some of the ways they are assessed and the standards I feel are not developmentally appropriate." In particular, teachers who had been teaching for several years argued that the standards required students to complete tasks that were at least a grade level above what they had previously been learning before the implementation of the standards. Nancy, who was in her 21st year of teaching, noted, "It's still primary, but now I feel like the curriculum has come down and we're more like a 3rd grade class used to be. Where they always said [students in 2nd grade] are learning to read, now in 2nd grade we are reading to learn." Some teachers questioned the knowledge of those who created CCSS in regards to developmental appropriateness. Kelly explained, "I'll be anxious to see how they change it and what's going to happen. And I hope they get some more people in there that are more knowledgeable about developmental milestones and what's appropriate for children and what's not; [someone] who knows what kids can handle and when the stress is just so hard for them."

Additionally, participants struggled with the misalignment of CCSS and mandated state tests. In one state studied, teachers were expected to begin teaching CCSS before standardized tests were aligned with those standards. In effect, although teachers were required to implement CCSS, students were mandated to take high stakes tests based on the previous standards. Also, teachers were evaluated in a high stakes manner based on the value-added impact of those test scores. Ali noted, there are "places that I have to do something different than what Common Core calls for. So, I would say I'm still teaching Common Core. I'm just trying to supplement those questions that might be on [the state standardized test]."

Particular Reading Issues

The following section demonstrates findings that were specific to English Language Arts. These include: emphasis on complex text, vocabulary, accountable talk, close reading, and text-based evidence.

Emphasis on Complex Text

Several participants saw more of an emphasis on complex text. In some cases, these texts were provided by the district. In others, teachers located and implemented their own materials. Participants discussed both the pros and cons of using complex text. For example, Sandy saw the complex text as often more engaging, but worried about the impact on her struggling readers. "The students are engaged and interested in the Common Core reading even though they have to have a lot of help from the teacher. If you use the texts that the curriculum map asks for, it is high interest for the kids. It is challenging for your high-risk kids. The teacher ends up reading a lot of it out loud to them."

Emphasis on Vocabulary

Participants noted an increased emphasis on vocabulary. Dana explained, "That's the word of the day- vocabulary, vocabulary, vocabulary." Some believed that since the implementation of CCSS they have shifted the way they teach vocabulary and that they are now teaching it in a more in-depth, engaging manner. While showing a photograph of a vocabulary lesson embedded within reading a text, Ali said, "They had to talk about the word camouflage because it showed up in all of their books. So, we needed a vocabulary lesson. This is really a big glorified exploration of a vocabulary word, where back before Common Core you would get a dictionary."

Emphasis on Accountable Talk

Participants noted an increased emphasis on accountable talk, a term which was new in itself for most. They explained that this talk involved more student-to-student dialogue and a decrease in "teacher talk." "They are supposed to turn, talk, and speak," Dana explained as she showed a photograph of students sitting at desks arranged in groups. "That's one reason the seats are designed like this because they are right by their partner." Participants agreed that this time for dialogue was greatly enjoyed by students. Nancy explained as she pointed to a photograph of students talking to one another, "One of the most important elements of Common Core is time for discussion and sharing ideas. They love it. You can see they love it in their little faces."

Emphasis on Close Reading and Text Based Evidence

"Refer to details and examples in a text" and "drawing on specific details in the text" (www.corestandards.org) is common language found in CCSS documents. Participants also noted that they have moved from spending large amounts of time building background information to digging more deeply into a complex text. Participants reported becoming more explicit about having students return to the text to find answers to comprehension questions rather than basing them more heavily on experience. Dana explained, "I am more intentional in some areas with text evidence. That's the biggest area I feel like I've grown in. What I'm trying to get them to do is find text evidence. I've always tried to do it, but I don't know that I was very good at it. That's been the big shift for me."

Implications

This study aligns with much of the previous research that points to the messy nature of policy mandates in schools. McGill-Franzen (2000) noted that the complex nature of teaching often results in unpredictable policy outcomes. Likewise, Spillane (1999) found that the amount of actual change in classroom practice as a result of policy mandates was variable and that instructional changes ranged from nonexistent to extreme. Coburn (2001) noted variability in implementation of policy, and Buehl and Fives (2009) posited that a teacher's willingness to embrace policy reform is almost always reliant on an individual's world-view and belief system. This study adds to this body of knowledge and indicates that teachers' beliefs lead them to often map previous practice onto new policy (Bloome et. al.,1989). This was indicated in participants' tendencies to fall back on previously implemented programs and trainings and naming them as CCSS. These tendencies are most likely increased by teachers' beliefs in "the bandwagon" nature of education which contributes to the doubt that any one policy or program will last long enough to really put in the time and effort to truly make the change.

This study also demonstrates that policy arguments playing out on the larger stage are often relevant to teachers. Participants not only felt that they do not have a say in policy that is implemented, they have a strong distrust in those who are creating said policy. The teachers we studied had little faith in those in power to create policy that truly was appropriate for their needs and their students' needs. As noted in *The Influence of Politics* section, teachers described their frustrations of being relegated to the "back of the room" and emphasized that "their opinions weren't respected" despite their years of education and years in the classroom. Teachers felt strongly that they had the insight and experience to provide important information to policy makers, but they felt that their voices went unheard. This aligns with Toll's (2001) study that demonstrated the varying discourse and viewpoints between teachers and policy makers. It adds to previous research by showing an unprecedented increase in the language of policy permeating the lives and language of practicing teachers.

Corburn et. al (2016) posited that for the first time in our history we are attempting to implement standards based and accountability-based reforms simultaneously. One important finding from our study was the melding and at times confusion as these two reforms came to fruition. For example, teachers blamed CCSS for accountability issues that were actually unrelated to the standards movement. Often our participants viewed CCSS as restrictive because of this focus on high stakes accountability measures which is in contrast to the statement in CCSS which notes that the standards do not define "how teachers should teach" (CCSS; National Governors Association Center for Best Practices & Council of State School Officers, 2010).

Lastly, this study demonstrates positive instructional changes that are occurring because of CCSS implementation as well as alerts to potential issues that should be further researched. Increases in dialogue and specifically accountable talk as well as more authentic vocabulary instruction point to positive shifts. The increase of complex text must be further investigated. While our study demonstrated that these texts were of high interest to young readers, we must be careful that this focus does not lead to students only being exposed to frustrational level text.

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Monumental Ideas in a Time of Crisis; Revisiting a Framework for Teaching with Monuments

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Abstract

In 1999, Bruce Uhrmacher developed an analytical framework to promote the study of monuments. The framework introduced three points of analysis: 1) an analysis of referent, 2) an analysis of design, and 3) an analysis of reception. This framework focused on developing a curriculum that supported a critical, interdisciplinary study of monuments. In this paper, the authors review and reshape the previous framework, with attention on the aims of the framework (its strengths and gaps), and the role of social justice, in the wake of current events. This paper also presents a multilayered engagement with Eisnerian curriculum theory, while expanding the analytical frame to incorporate other education theorists in ways that extend the ideas into the present-day, when monuments have come to the fore of the public consciousness and debate.

Keywords: *monuments, collective memory, anti-racist curriculum, art curriculum, social studies curriculum, aesthetics, Elliot Eisner*

Introduction

It may be well to ask...what society is like today and how the curriculum...is related to the kind of society that we have now and that seems to be emerging in the future.[1]

On July 1st, 2020, in Columbus, Ohio, U.S.A, a construction crew removed the 20-foot statue of Christopher Columbus that National Public Radio (NPR) described as "one of the most dramatic cases yet of a city reshaping how its monuments reflect its sense of history and community identity."[2] What motivated the removal of this monument after 65 years in front of City Hall?

In the wake of the murder of George Floyd at the hand of police officers, Americans have been protesting for social justice and accountability, and against systemic racism. Recent events in the U.S. have highlighted ongoing issues of racism and inequality that are perpetuated by systems designed to reinforce the status quo as seen in the murder of George Floyd, Breonna Taylor, and countless other BIPOC (Black, Indigenous, People of Color). This spark has led to debates in

1. Elliot Eisner. "Curriculum ideas in a time of crisis," *Art Education*. V. *18 No.* 7 (1965): 8.
2. Bill Chappell. "Columbus, Ohio, Takes Down Statue of Christopher." NPR.Org. (2020).

depictions of race and racism in food products (Aunt Jemima), mascots (the Washington football team), and even renaming elementary schools (Abraham Lincoln). Yet, the most public, visible, and visual debate that has emerged as an outcome of these murders are found in surrounding monuments.[3]

As symbols of these oppressive systems, monuments have become flashpoints for resistance. Monuments are smashed, defended, and politicized. Which monuments should remain? Which ought to be taken down? And, relevant towards our work, how should teachers teach towards these current and perennial events? As educators interested in using monuments as sites of study, we explore how we can use the present moment to (re)conceptualize educative experiences in schools. This paper hopes to provide guidance for educators, scholars, and the general public as these events beckon one to make meaning of their surroundings.

Purpose

In 1999, an analytical framework was devised and later revised to promote the study of monuments.[4] The aim of the framework was to consider how educators may analyze and critique monuments for their educative, historical, and aesthetic values.

This framework introduced three points of analysis: an analysis of referent; an analysis of design; and an analysis of reception. 1.) An analysis of referent focuses on the signified (object of reference) of the monument (meaning its historical importance and historical purpose). Monuments are created to represent historical figures or noteworthy events. Students need to understand who or what a monument is intended to represent and what is signified through that representation (in history and in the present). 2.) An analysis of design explores the artistic and visual design choices made from an historical, sociocultural, and aesthetic standpoints with the acknowledgement that each design choice represents a particular perspective. 3.) Finally, there must be an analysis of reception that explores the impact that the monument has on those who encounter it and the recognition of how that impact can shift over time. This analytical framework can be applied sequentially and/or iteratively in the study of monuments. In these initial papers, the authors concluded that monuments can be an effective way to actively engage students in history, art, and various other subjects, as well as involve them in the discourse of collective memory and debate around whose history is valued and represented.

The purpose of this conceptual essay is to re-examine and update the previous analytical framework in light of recent events with renewed and timely interest surrounding the roles of monuments in America (and the world) today. The previous framework focused on devising a curriculum that supported a critical, interdisciplinary study of monuments. In the same way that

3. The American Educational Research Association has referred to the events taking place in the summer of 2020 as a dual pandemic, one a virus that has killed (at current estimates) about half a million Americans (within 1 year), and a racial pandemic where awareness of racial injustice has become very public due to wide-spread filming and sharing of the events (via social media and thanks to camera phones). AERA's statements have been made through email correspondence with members and surveys sent out to early career scholars and graduate students.

4. Uhrmacher, Bruce. "Community and Collective Memory: A Commemorative Curriculum for Democracy." Paper presented at the *Annual Meeting of the American Association for Teaching and Curriculum, Orlando, FL, October 1999*. Uhrmacher, Bruce and Barri Tinkler. "Engaging Learners and the Community through the Study of Monuments." *International Journal of Leadership in Education,* 11, no.3 (2008): 225-238.

Columbus, Ohio is attempting to "reshape... [and] reflect its sense of history and community identity," in this new essay, the authors reshape and reflect on the previous framework, with continued and renewed attention on the aims of the framework (its strengths and gaps), and the role of social justice, in the wake of current events. As Levinson noted, "All monuments are efforts, in their own way, to stop time."[5] However, not only do they stop time, but they also represent a particular perspective of events at that time.

This process is two-fold. First, we further refine the three points of analysis: of referent, of design, and of reception. In this refinement the enduring strengths and gaps are analyzed considering how they continue to create educative experiences and conversations around the role of monuments in Social Studies and Art education. This paper is influenced by Eisner and is similar to what Eisner describes as "cognitive capacities" which notes "the capacity to feel and to act as well as the capacity to deal with the abstractions found in what are typically regarded as 'intellectual' subjects."[6] Our work's theoretical framework for critiquing the previous three points of analysis leans on the ideals set forth by Eisner which is meant to "embrace the variety of ways in which humans represent what they have cognized."[7] Grounding an analysis of monuments within the curricular framework Eisner describes, this theoretical paper seeks to look at the analysis of monuments as a program designed to "promote the development of the broad conception of cognition" and for our work social and historical critique of the monuments in the past and present.[8]

Second, the authors consider what is missing and create a new point of analysis that takes to heart a critical lens that incorporates social justice. In order to best represent this process in action, we utilize exemplars, in particular the same Columbus statue (mentioned above) to consider how the three points (and an additional 4th point) play out educationally in practice.[9] As noted above we also consider the "cognitive capacities" and the ideals of curriculum described in the works of Eisner. Before we delve into the framework, the following section presents the scholarly literature related to monuments. For those interested in moving directly to the framework, please refer to the next section titled *Refining the Three Points of Analysis.*

Literature Review and Previous Scholarship on Monuments, (Education), Curriculum, and Critiques

Monuments have been part of the heritage of the Western tradition dating back through the millennia and have been used to commemorate warriors, leaders, and events.[10] Some monuments focus on wars or war leaders, while others commemorate tragedy and help to remind us of the ramifications of violence. Still others are quiet and simple and point to individuals who have contributed to society through peaceful means.

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5. Stanford Levinson. *Written in stone: Public monuments in changing societies.* (Durham, NC: Duke University Press, 2018), 6.

6. Elliot Eisner. The Centrality of Curriculum and the Function of Standards. The Arts and the Creation of Mind. (Hartford, CT: Yale University Press, 2002), 148.

7. Eisner, 148.

8. Ibid.,

9. Although our exemplars focus on the Columbus statue, we recognize that many confederate monuments have presented additional evidence of how the points of analysis could be applied (and have been featured in the news and covered in recent scholarship).

10. Francoise Choay. *The Invention of the Historic Monument*. (Cambridge, UK: Cambridge: University Press, 2001).

Monuments are created by groups of people to memorialize persons and events. As such they represent collective memories[11] or public memories which may be defined as "a body of beliefs and ideas about the past that help a public or society understand both its past, present, and by implication, its future."[12] These collective memories are part of the active past that lives on and shapes our identities. James Young, puts it this way:

> [monuments] provide the sites where groups of people gather to create a common past for themselves, places where they tell the constitutive narratives, their 'shared' stories of the past. They become communities precisely by having shared [if only vicariously] the experiences of their neighbors. At some point, it may even be the activity of remembering together that becomes the shared memory once ritualized, remembering together becomes an event in itself that is to be shared and remembered.[13]

In all of these ways, monuments have performed an important role. However, in addition to scholars noting the historical import of monuments, there have also been critiques of monuments writ large. For example, historians Lewis Mumford and Martin Broszat both argued that monuments distort historical understanding.[14] Mumford's critiques center on the fact that monuments remain fixed and thus present perceptions of the past as immutable, while Broszat raised concerns about the potential for monuments to "bury" events "beneath layers of national myths and explanations" rather than remembering them.[15]

Perhamus and Joldersma have most recently noted the impact of monuments in their recent article "What Might Sustain the Activism of this Moment? Dismantling White Supremacy One Monument at a Time" in the *Journal of Philosophy of Education*.[16] Their focus is on activism and the dismantling of White supremacy through the definitions of monuments as "ideological powerhouses." Their work on analyzing racist monuments is valuable and has been discussed extensively; thus we highlight this essay and recognize where our work connects.

Within our paper, we plan to focus not on the erecting of monuments or the dismantling, (though we do have opinions,) but rather on the educational implications of monuments. As such, this paper considers not only the monuments that exist and are symbols of racism, but all monuments, making a claim that *if* they do exist, then *what* do we as educators do with these monuments?[17] This paper is not about being pro or anti monument and this work is not about specifically confederate statues which do indeed represent racist aims (versus a monument for a famous baseball player). This paper exists not only to argue for the utility of the analysis of monuments, but also to note the timely critique of monuments. While essays have been devoted to the critique of

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11. Maurice Halbwachs. *On Collective Memory*. (Chicago, Il: University of Chicago Press, 1992.)

12. John Bodnar. Remaking America: Public memory, commemoration, and patriotism in the twentieth century. (Princeton, NJ: Princeton University Press, 1992), 15.

13. James Young. *The Texture of memory: Holocaust memorials and meaning*. (New Haven: Yale University Press, 1993), 6-7.

14. See Young, 1993.

15. See Young (1993), citing Broszat, 5.

16. Lisa Perhamus & Clarence Joldersma. What might sustain the activism of this moment? Dismantling White supremacy one monument at a time. *Journal of Philosophy of Education, 54*(5), 1314-1332. (2020).

17. Additionally, as monuments are removed how do we analyze these changes. The Robert E Lee statue was recently removed after this paper was composed, thus proving the importance of the theoretical framework we are suggesting for educators on the presence and absence of monuments. See Gregory Schneider & Laura Vozzella. "Robert E. Lee statue is removed in Richmond, ex-capital of Confederacy, after months of protests and legal resistance." *The Washington Post.* September 8, 2021.

White supremacy monuments, our paper's aim is to critique what is already present (without ignoring the issues of the monuments being built in the first place). We note in our work, not only the "bad" monuments, but also the monuments that portray an awareness of history (holocaust monuments or the Vietnam War memorial) or a commemoration of growth in history (the MLK Jr. monument in Washington D.C.).

Monuments in the Curriculum

Monuments have already become part of the curriculum. One advocate of the study of monuments is James A. Percoco, a high school history teacher from Springfield, Virginia. Percoco, argued for the study of monuments in his book, *A Passion for the Past: Creative Teaching of U.S. History*, and he developed curricula, lesson and unit plans, designed around monuments.[18] Given the role of monuments in the creation of collective memory within the US, it behooves educators to make monuments part of the curriculum. Monuments, quite simply, are part of our national identity and have helped define our experiences as Americans.[19] These collective memories are part of the active past that lives on and shapes our identities. Percoco has written lesson plans and units based on the study of monuments, including: *Monumental Experiences: A Classroom Application of American Sculpture and Commemorative Sculpture in the United States: A Unit of Study for Grades 8-12*. Though Percoco promotes the thoughtful study of monuments, he does not articulate a framework in which to imbed the important questions students should address when studying monuments.

Another history teacher from the UK, Andrew Wrenn wrote about the use of war memorials and provides guidance for developing lessons that prompt students to think critically about memorials.[20] In a more recent piece, Waters and Russell, developed the case for using monuments to teach about controversial issues in U.S. history.[21] In addition to the field of history, educators in geography, such as Rodney Allen have used monuments to explore questions of representation and experience by exploring "representation patterns" and "spatial distribution."[22]

Most recently, Pearcy in *Stepping Stones and Robert E. Lee- Using Memorials to Explore Contested History*, building on our previous work/framework for analyzing monuments, provides Germany's reconciliation of their past using an intentional curricular model to present a potential model and case study for Americans presented with similar symbols of hate.[23] Additionally James Loewen in his book *Lies across America: What Our Historic Sites get Wrong*, considers how these monuments need to be problematized in our history classrooms as they portray a glorification of White supremacy.[24]

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18. James A. Percoco. 1998. *A Passion for the Past: Creative Teaching of U.S. History* (Portsmouth, NH: Heinemann, 1998).

19. Ibid.,

20. Andrew Wrenn. "Emotional response or objective enquiry? Using shared stories and a sense of place in the study of interpretations for GCSE." *Teaching History,* (1998) *91*, 25–30.

21. Stewart Waters and William Russell. "Monumental controversies: Exploring the contested history of the United States landscape." *The Social Studies*, (2013) *104*(2), 77-86.

22. Rodney Allen "Memorial geography: reflections upon a useful strategy for teaching middle school geography students." *Journal of the Middle States Council for the Social Studies,* (1992) *13,* 10–18.

23. Mark Pearcy (2020) in Stepping Stones and Robert E. Lee- Using Memorials to Explore Contested History

24. James Loewen Lies across America: What Our Historic Sites get Wrong. Lies across America: What our historic sites get wrong. New York, New York: The New Press, 2019.

The study of monuments is not limited to the social studies classroom. Eisner would likely point out that the monument as a "form of representation" and as a form of communication invites art educators to utilize monuments in various ways.[25] For example, Richard Putney embedded the study of monuments within an art history course. In addition to studying and writing about an existing monument at Gettysburg, students created their own monuments as well.[26] In another piece, Buffington and Waldner, frame the exploration of civil war monuments as a means to examine human rights within the art classroom.[27]

This previous scholarship provides a space for our current work to complement previous work. We continue to build on this previous work considering this critical social justice lens paired with the educational utility found in analyzing monuments.

Refining the Three Points of Analysis

Process for Updating our Prior Work

The process for updating our work began with an increased interest in monuments and our recognition of this increased interest. If scholars and individuals are seeking out educational information and/or critiques of monuments, where does the previous framework support these inquirers and where does this previous framework require revisions? For lack of a more "technical" form, we dialogued. We spent hours discussing and debating the work. We talked, we watched the news, we listened to ideas, and we reflected on our own experiences as former K-12 educators, as current members of different higher education institutions, and as scholars dedicated to scholar activism. In the tradition of historical analysis, we often historically contextualize events, and in that process we came up with other ideas.[28] In the tradition of philosophy, which is concerned with normative questions, we considered what inherent *good* monuments provide, and *why* we should have them. We asked questions connected to ethics and morality in education and society to come up with these ideas, as well as questions of aesthetics. The framework that guided this analysis comes from a philosophical Pragmatic tradition. This means that questions of utility, moral good, and consequentialism were considered, in addition to the inductive historical approaches that allow the primary documents (in this case the monuments) to guide the analysis (in contrast to deductive reasoning where the question guides research and controls the confines the analysis).

After spending time on the framework itself, in the pragmatic tradition we applied the framework to specific episodes. Considering the consequentialist future-oriented good found in the pragmatic tradition, this paper pulls on the ideas of John Dewey, both his conceptions of pragmatism and the role of democracy tied to education,[29] William James, as the progenitor of the

25. Eliot Eisner. *Cognition and curriculum reconsidered*, Second Edition, New York, NY: Teachers College Press, 1994.

26. Richard Putney. "The Civil War and its monuments: visualizing the past." In P. B. Childers, E. H. Hobson and J. A. Mullin (Eds.) *ARTiculating: Teaching writing in a visual world*. (Portsmouth, NH: Heinemann, 1998), 92-110.

27. Melanie Buffington and Eric Waldner . "Human rights, collective memory, and counter memory: unpacking the meaning of Monument Avenue in Richmond, Virginia." *Journal of Cultural Research in Art Education*, (2011) *29*, 92-108.

28. Meaning, we consider the time, place, reception, reaction to the event as contextualized within that specific time period (in order to then understand the event today). This helps to avoid anachronistic analyses that are ahistorical.

29. John Dewey. Democracy and education: An introduction to the philosophy of education. (New York City, NY: Macmillan, 1923).

philosophical movement,[30] and Cornel West,[31] a contemporary pragmatist weighing in on the discussions of racism as a uniquely public intellectual. As each pragmatic tradition emanating from these thinkers is unique, we refrain from seeking a totalizing theory and instead use the variety of ideas towards "specific ends." West states our aim best: "American pragmatism is a diverse and heterogeneous tradition. But its common denominator consists of a future-oriented instrumentalism that tries to deploy thought as a weapon to enable more effective action."[32] In addition to using these philosophic frameworks, we also used our own experiences and discussions of these experiences to help us think through the gaps and areas for extended conversation and debate.

In addition to the pragmatic tradition, the study of monuments requires attention to aesthetics and art. As such, we also utilized concepts from Elliot Eisner who proposed the term "form of representation" to refer to ways one may encode and decode communication.[33] In brief, monuments are textual and visual forms of representation that can be analyzed from varied points of view.

In this paper we update and further refine our analyses by *acknowledging* three current episodes (briefly) in which monuments were destroyed (or are being hotly debated as some were placed in museum storage) in the United States after the George Floyd murder. The episodes include the statues of Robert E. Lee, Christopher Columbus, and Abraham Lincoln. Then we focus on one monument exemplar, the same one that starts this article, in order to consider the pragmatic good in this process of applying the three points of analysis and, in the process, adding subthemes and a new point of analysis. In the section, *Expanding the Three Points of Analysis*, the three guiding questions that make up our framework for analysis inspired by the pragmatic tradition and historical tradition will be presented to clearly demonstrate a clear guiding framework.

Exemplars

In order to present a concrete analysis of our process reevaluating the previous framework, grounding that analysis with specific exemplars strengthens our work and provides a more tangible means of translating these theories into practice. Briefly, there are three monument cases that have made national (and international news). The first is the Christopher Columbus statue that was removed from Columbus, Ohio in the summer of 2020. Below is modified image of this monument before and after (during its removal). (The image has been edited to avoid copyright infringement.)

30. William James. *Pragmatism: A new name for old ways of thinking*. (New York City, New York: Holt, 1907).

31. Cornel West The American evasion of philosophy: A genealogy of pragmatism. (London, England: Macmillan, 1989), 5.

32. Cornel West, 5.

33. Elliot Eisner. *Cognition and Curriculum Reconsidered.* (New York City, New York: Teachers College Press. 2nd ed. 1994)

Figure 1: *Christopher Columbus, Before-Standing*

Figure 2: *Christopher Columbus, After-In Process of Removal*

NPR provides a brief history and overview of the monument best. "The monument stood at City Hall for some 65 years. The city of Genoa, Italy, the explorer's birthplace, gave the statue to the Ohio city during festivities that coincided with the national holiday in October."[34] In this article, the authors note how Columbus, Ohio has been going through its own racial reckoning. Columbus, Ohio is a city with one of the largest universities in America; The Ohio State University. This diverse population of students and scholars from across America (and the world) provides a setting ripe for progressive discussion and debate. Columbus, Ohio has been grappling with the fact that "Columbus' name has become increasingly linked not to a legacy of exploration and discovery, but to the violent colonization that followed his arrival in the Americas and the catastrophic effect it has had on existing civilizations."[35] Like a number of cities across the US, Columbus, Ohio has shifted away from observing the federal holiday of Columbus Day in October to a focus instead on "Indigenous Peoples Day." We have chosen this monument as a focal point,

34. Bill Chappell, (2020).
35. Ibid.,

although we recognize the value of using all three monuments and have provided the other two so that they can be brought into the conversation when needed to test the points of analysis

Since statues of Christopher Columbus are prevalent in America, and the city of Columbus recently removed their statue, it is worthwhile to analyze the three points within the framework with that monument as an exemplar (in addition to our new fourth point). Additionally, since Columbus's legacy is particularly controversial (though there is little debate about his legacy of genocide) this exemplar proves even more interesting, relevant, and accessible. Finally, we recognize the research that is focused specifically on confederate statues and believe our work can complement those articles well, especially as we include the lenses of aesthetics and curriculum and instruction.

During the summer of 2020 there were multiple other monuments that were featured in the news. In addition to the Columbus monument, there was a monument of Robert E. Lee in Richmond, Virginia. The image below demonstrates how the community of Richmond responded to this monument: instead of removing the monument, the community chose to deface it. This process of interaction with the monument is valuable for understanding how to enhance our three points of analysis and consider what may be missing, regarding the process of interacting with, reflecting on, and actively defacing a monument with intention. Most recently this monument was removed.[36]

Figure 3: *Robert E Lee, Richmond, Virginia*

Photo taken by friend of author. Full permissions granted for usage.

A third example of a monument that received attention was the Emancipation Memorial in Washington D.C., which presents a seemingly positive portrayal of the end of slavery. Counter to the Columbus monument which has been removed and counter to the Robert E. Lee monument which has remained as a point of activism against the history of the monument and the man (the

36. This paper began before the removal of the Robert E Lee monument. See Gregory Schneider & Laura Vozzella. "Robert E. Lee statue is removed in Richmond, ex-capital of Confederacy, after months of protests and legal resistance." *The Washington Post.* September 8, 2021.

referent), the Emancipation Memorial has been critiqued for its depiction of the two figures (see image below). With a "critical" lens, this monument, is transformed from Abraham Lincoln standing above a freed slave in shackles to the more realistic analysis of Abraham Lincoln, a statue with clear detail and attention from the artist, hovering with power and a White savior-like complex over a nameless slave (breaking free of his shackles) whose artistic depictions are less developed (less detailed and refined) and remains forever in a place of subservience. Upon closer examination, the statue of Abraham Lincoln emancipating a slave may perpetuate racism and oppression: From the dehumanized view of the slave who remains nameless on the plaque to the posture of Lincoln standing above the man in shackles seemingly as a savior.[37] This juxtaposition of art critique and historical whitewashing have become one central debate that has arisen in light of the protests across America for social justice.

Thus, the intersection of social justice, social studies, and aesthetics converge on this unique time in American history, a time ripe for renewed discussion and analysis of monuments especially in connection to education.

Figure 4: *Emancipation Memorial—Washington, D.C.*

Photo taken by author.

Expanding the Three Points of Analysis

As mentioned, the previous framework has three points of analysis. As we move forward, within each point, three questions will be addressed to guide our analysis: 1. Is this point still relevant and useful for educators? 2. How might a critical lens that takes to heart the aims of social justice and anti-racist pedagogy be incorporated or supported by this point? 3. How does each

37 . Another point of irony is that the funding for this monument came from the Freed Slaves. https://www.nps.gov/places/000/emancipation-memorial.htm

point consider the current attack on/scrutiny of monuments and their removals? (Extending 3, how can this framework be used to analyze monuments in the absence of the *physical* monument?) After an analysis of the three points with the reflective questions, a final point will be added to the framework that explores creative and social justice responses.

Analysis of Referent

First, let's examine the analysis of referent, which prompts students to explore the significance and subject of the monument. Since monuments are developed to represent individuals or events, students need to understand the historical context, regarding the three questions above. Using this point of analysis to evaluate the referent in the monument (we believe) is still relevant and useful to educators. Considering this point of analysis with an aim of social justice, we consider how this can be enhanced. Regarding the analysis of referent, we suggest the two (new) subthemes of "multiple sources" and "Reflexivity." The former points to an understanding of a referent utilizing multiple sources that yield varying points of view, thus incorporating an intentional critical lens. Reflexivity refers to the idea of making sure students reflect on the sources themselves and fits a process used in critical multiculturalism.[38] This term is regularly employed in multicultural education and specifically critical multiculturalism. Leavy describes reflexivity as "constantly examining your own position in the research endeavor, including your assumptions, feelings, and decisions".[39] Leavy's definition provides a powerful frame to what students could do in analyzing monuments. Finally, we consider how an attack of the monument (i.e., disfiguring or graffiti or new debate and discourse) or removal impacts this process of analysis of referent.

How does this revised analysis of referent connect with the Christopher Columbus monument? This monument was removed, but the reasons for its removal align with the original aims of evaluating the history, figure of the depiction, and the reason for removing that depiction connected to the analysis of referent. Extending that analysis using the two new subthemes, the multiple sources demonstrate that the history of the referent transforms from the man of discovery and explorer to a man of genocide. As some history books have become more popular and are written for a general audience, such as *Lies my Teachers Told Me* by Loewen[40] and *A People's History of the United States* by Howard Zinn[41], conversations that were once reserved for historians are now mainstream and being debated.[42] These debates play out publicly with the examples of Columbus, Robert E. Lee, and Abraham Lincoln (Emancipation Memorial). With Columbus, in his absence, one of the authors drove through downtown Columbus to see the emptiness. What she saw was people going to the pedestal to take pictures with it. There was still an analysis of referent even in its absence. The new referent became the empty pedestal, a victory against oppression.

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38. Stephen May, ed. *Critical Multiculturalism: Rethinking Multicultural and Antiracist Education*. (Philadelphia, PA: Falmer Press, 1999.)

39. Patricia Leavy. *Method Meets Art: Arts-based Research Practice.* (New York, NY: The Guilford Press, 2015) 282.

40. James Loewen. Lies My Teacher Told Me: Everything your American History Textbook got Wrong. (New York City, New York: Touchstone Press, 2007)

41. Howard Zinn. *A People's History of the United States: 1492-present*. (New York City, New York: HarperCollins, 2003.)

42. Specifically with the history of the Columbus monument, different stakeholders may feel "attacked" such as Italian immigrants who were initially marginalized and found pride with this "new" interpreted history of Columbus as a positive Italian figure in history, even as the "real" history is indisputably tied to genocide.

Analysis of Design

Previously, the analysis of design was one that is often considered in art education and as the literature review reveals, in social studies education as well. Considering our three questions for analyzing our previous framework, we start with the relevance and utility. The removal of Columbus requires us to consider how an educator should analyze design when the referent is now absent. Does the educator now analyze the pedestal? Or consider the aesthetics and symbolism of the second image of Columbus. This image of a 20-foot statue hovering parallel to the ground almost resembling a body being placed in a grave, becomes a new point of aesthetic consideration. The photograph can supplant the physical monument requiring the educator to consider monuments not as "stopping the past", but as something fluid; presenting that there is now a "before" analysis of design (the old monument) and the "after" or current analysis of design (the pedestal or the image of the removal of the monument).

In the analysis of design, we recommend the subtheme of "the null design." Here we suggest an examination of a) designs not considered, b) designs considered but not used, or c) designs removed and designs that are ephemeral. What follows presents a mixed approach to applying these subthemes, such as Columbus being removed c), the creative response which incorporates a) and b), and the interactive demonstration of artist protest through graffiti with Robert E Lee, b).

When applying these ideas to the other examples of monuments these suggestions point to the relevance of the point of analysis with Columbus, but also with Robert E Lee, and the process of evaluating this monument and new "defaced" monument with a critical lens. Connecting the Emancipation memorial to this analysis of design, the focus on the actual design of the two figures opens up critical conversations about racism and social justice. As mentioned before, a seemingly positive portrayal requires the educator and student to revisit the point of referent with a new critical lens that also considers the analysis of design.

Within the process of analyzing design, there are the questions of who has designed it and who funded that design? The question of economics tied to the monument provides a place of overlapping analysis in the analysis of referent (considering the historical implications- i.e. Daughters of the Confederacy erecting statues decades after the Civil War in an act of intimidation) and with design, as considered in the over-simplified design found in the slave's face of the Emancipation memorial, contrasted with the sophisticated metal work of Lincoln's features.[43] With these ideas of economics come new questions to consider. Who funds the monument, how is the community involved in the decision, and how are the populations within the community represented within the monuments in their communities? How can students connect the important concept of being a critical consumer of knowledge with being a critical consumer of goods, meaning one should ask, who funded this "art"?

Analysis of Reception

Next, in the analysis of reception, we recommend the subtheme of time. That is, how have monuments been perceived at various points of time since their creation? How does time/period of time impact the reception? When contemplating the relevance of this previous point of analysis, we think that it is (still relevant), and even more so when the additional subtheme of time is presented. As mentioned in the previous section, the absence of the Columbus monument comparing

43. As noted before, this was paid for by the Freedman Association.

its original reception to the reception today is educative. The Emancipation memorial, first meant to provide a story of progress, now is received as potentially an empty gesture. Due to the interactions with monuments (removal or defacing), this third point of analysis connects with the second question of how an educator may use a critical lens and how the absence becomes part of the analysis of considering the current reception which is centered around scrutiny.

4th (New) Point of Analysis: The Creative Response

Finally, we introduce a new category (or point of analysis) that for the moment we call "the creative response." In this category we examine creative solutions to complex problems concerning monuments. Students themselves should come up with creative solutions. As one example, rather than destroying a monument dedicated to Robert E. Lee, it might have been possible to add to it by creating a new plaque or object referring to Lee's nefarious actions. As seen in the example above of Lee, people came together to collectively deface the monument connecting to our previous point on an analysis of this new reception. These ideas have already been taken to heart with specific monuments in America and England- where activists use projectors to cast images of the realities of these historical figures, or use graffiti on statues to keep the monument present and raise awareness, almost like keeping an object present as a representation of shame that is not to be forgotten.

Performance art (and art writ large) provides another point of inspiration in creatively reimagining monuments. Similar to art museums which house art, perhaps monuments are removed from the public and placed in a museum on racism (further discussion regarding the scope and purpose would be needed of course). Or perhaps a passersby would be welcomed, after reading a brief notecard, to hammer a nail in the statue, thereby participating in a set of ideas in a controlled environment. (This is similar to the performance art of Yoko Ono, when she asked viewers to take scissors and cut pieces of fabric from her clothing that she was wearing on stage.)[44] The example of Robert E Lee above being destroyed or defaced becomes an act of reflection and reflexivity and creativity.

Within this "creative response" there are also the larger anti-racist and social justice oriented questions. We introduce the larger conversation on the *value* of monuments writ large and the ethics. Do (new) monuments need to exist in America in 2021 in order to provide an educative source of experiences in social studies and art, or are the ideas monumental enough to dismiss the value of the physical monument moving forward? Recently, artist Ada Pinkston asked people what an ideal monument to all people might look like.[45] This discussion was propelled by the removal of monuments leaving pedestals empty. She suggested that since society is always changing, ideally a monument should change with the times and a 3-D printed--voted on by the community--monument might be a creative solution.

The final fresh point to consider within the 4th analysis titled creative response is a new term; *critical creativity*.[46] Within this process of "critical creativity," students would engage in a

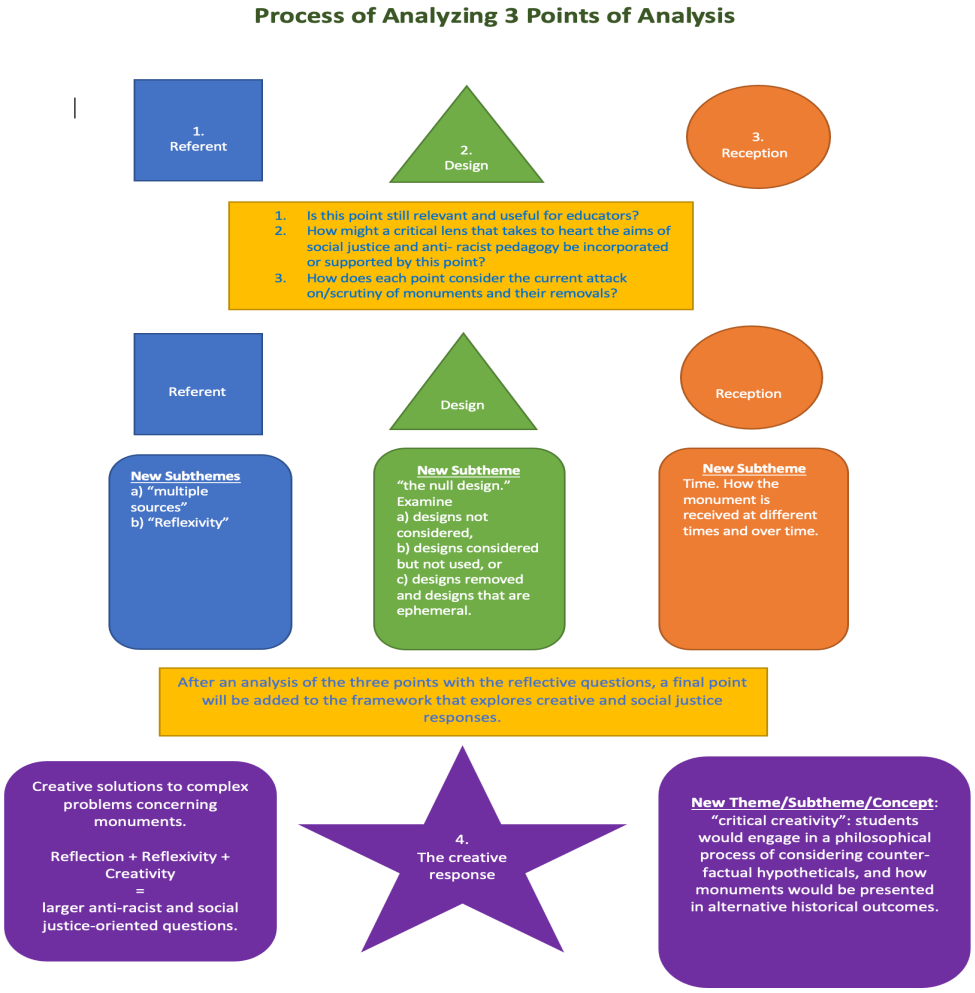
44. Yoko Ono. *Cut Piece*. (Yamaichi Concert Hall: Kyoto, Japan, 1964).

45. Mosley & Hagan, (2020) Artist Ada Pinkson Asks: What Would a Monument to All People Look Like? WBUR.Org. 2020.

46. We are coining this new term for multiple reasons. The intersection of art and having a critical lens in education is key, but we must also educate students and teachers to take seriously the value of creativity in education. This is a term that should be introduced into pre-service teaching curricula to move American education forward with an intentional focus on anti-racist pedagogy. The aim would be to push back against teaching teachers to be *technicians* and instead revisit the idea of teacher as *artist*.

philosophical process of considering counter-factual hypotheticals and how monuments would be presented in alternative historical outcomes. The aim of the process would be to value the creative process, but also consider how creativity provides a space for social justice and anti-racist engagement to exist. The process is intersectional.

Figure 5: *Visualization of Process of Analyzing the Previous 3 Points of Analysis with a new 4th Point*



Application of Four Points of Analysis for a Classroom

While the purpose of this paper was to provide a theoretical analytical model for analyzing and critiquing the integration of monuments into curricula, the specific application may still require more details. In this section, key guiding questions provide a roadmap for classroom integration for teachers. In Social Studies education, inquiry-based models and pedagogy are commonly used to help students interrogate the past, historically contextualize the past, and make

meaning of the past when considering the present.[47] In that same process, when applying the four points of analysis to a classroom studying monuments, there are key questions that can be used to help guide/nudge/inform the discourse.[48]

Going back to the examples of monuments provided above, here are key questions that could be used to guide a discussion. Because this work can be applied to a variety of educational settings; public history, museum studies, art education, and social studies education, we will narrow the focus to a Social Studies classroom 7-12. Continuing to expand on the examples given above, the focus will be on the Robert E Lee monument that has since been removed/dismantled. Because the monument itself has been removed, the teacher would need to start (materials needed) with an image of the monument, then present a picture of the monument with graffiti, and then the removal of the monument.

Here is a potential script/guide to support teachers and students:

You (students) have now looked at 3 images of a monument. Using Monte-Sano and Wineberg's inquiry models, along with our 4 points of analysis please consider the following questions:

1. Referent Questions:

Who is depicted in this monument? What is the referent? When was this built? Who funded this project? How is the figure depicted (posture, angle, consider power, and audience). Describe everything that you see. What additional examples (multiple sources) can be used to compare this monument to others and how might this consider the concept of reflexivity? What is the title of this monument? Does this title convey the message presented? Consider what is present or absent from this monument (for example is there is a "soldier on a horse" why is there a horse? If there is a soldier alone, why is there no horse?")

2. (Null) Design Questions:

What does the design of this monument evoke in you? Is there an emotional feeling that emerges when you gaze upon it? Is this aesthetically pleasing? Are there presentations of power or implied power (think about the answer, the placement of the figure(s) the posture and location).

3. Reception Questions:

How was this monument originally received? Was there controversy surrounding the construction of this monument? Why did people protest this monument after George Floyd's murder? Why was there graffiti? Is there beauty in the defacing of a monument

47. Sam Wineberg. Historical Thinking and Other Unnatural Acts; Charting the Future of Teaching the Past. (Philadelphia, PA, Temple University Press, Philadelphia, 2001).

48. As new culture wars emerge attempting to erase Black history in American schools, these conversations are even more timely and crucial to helping educate an informed populace.

that represents a hateful figure in history? Is there a feeling of control and vindication? How is this monument received at different times?

4. New: Critical Creative Response Questions:

In the absence of this monument, what could be done to educate other students like yourself as to the impact of this monument in history? How can there be an opportunity provided to move the engagement of this art from a passive unidirectional model to an active, reflective, and reflexive process? How does the presence or absence of this monument create an alternative historical outcome (have students engage in counter-factual hypotheticals)? Can the history still exist and be taught without the monument? (think about monuments that do not exist in America, but are taught regularly in schools- i.e., WW2).

Ideally, these questions can be used as a guide, placed in worksheets, built out into full day lessons, or even short units. These can be used during field trips. These can be used to teach debate in history courses. One of the aims is to help students leave in a partial state of aporia so that they want to learn more.

Scholarly Significance of the Work and Current Application

This inquiry, which began decades ago, focused on the classroom's integration of monuments in curriculum, reflects the current, public debate found in news articles and family conversations in America. In this unique space, this inquiry becomes a place for public intellectualism and public discourse (both in the school and outside of the school). We attempted to contribute a more expansive, inclusive, and disruptive/critical framework that assists teachers and students to find solutions in ways that promote social justice and anti-racist curricula. The discourse surrounding monuments in education and in public discourse is especially timely as changes are made to the landscape clearly indicating the public importance of the scholarly work (see literature review above and continued public debate around monuments). With the time span of developing this paper to now, the third monument was removed, thus creating even more of an exigency to consider the scholarly significance of the development of a framework that is pedagogically helpful in an educational space, and pragmatically helpful in a public space.

This inquiry also contributes to Eisner's ideas about paying attention to the nuances of curriculum.[49] Political actions are rarely about nuance. Monuments are either saved or destroyed. Curriculum matters need to move beyond the political and promote deep reflective thought. In addition, our paper also provides a language whereby to assess monuments as a form of representation. Finally, and most importantly, our paper provides ideas for educators on how to take this moment in history and reflect on its educational significance and move towards a stance on social justice. Our work on social justice complements the previous scholarship from Gloria Ladson-

49. Elliot Eisner. "Curriculum ideas in a time of crisis" (1965).

Billings [50] and Paris and Alim [51] and lends itself to a culturally responsive and culturally sustaining pedagogies. Culturally relevant (Ladson-Billings), culturally responsive (Geneva Gay), and culturally sustaining (Paris and Alim) pedagogies speak to the importance of creating spaces where voices are heard and diverse perspectives are seen and valued. [52] They additionally speak to the importance of developing an inclusive environment and a sense of belonging in the classroom. By extension, when monuments (in the public outside of the classroom) are considered and included, the classroom has no bounds. The monuments' presence and absence represent shared spaces that speak to who is valued, whose voices are included or excluded, and how the general identity of the American student or public navigates these contested spaces. By looking at a framework for teaching critically about monuments, the focus transcends the anti-racist pedagogy into the critical and anti-racist curriculum.

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50. Gloria Ladson-Billings (1995) Gloria Ladson-Billings, "Toward a Theory of Culturally Relevant Pedagogy," *American Educational Research Journal* 32, no. 3 (1995): 465–91. Ladson-Billings, G. (2021). *Culturally Relevant Pedagogy: Asking a Different Question.* New York: Teachers College Press.

51. Paris Django and H. Samy Alim. "What Are We Seeking to Sustain Through Culturally Sustaining Pedagogy? A Loving Critique Forward." *Harvard Educational Review* 84, no. 1 (Spring 2014): 85–100. Paris, D., & Alim, S. (Eds.) (2017). *Culturally sustaining pedagogies: Teaching and learning for justice in a changing world.* New York: Teachers College Press.

52. For an additional and related pedagogical model see the "perceptive pedagogies" in Christy et al. (2020). *Lesson planning with purpose: Five approaches to curriculum design*. New York: Teachers College Press.

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The Relationship between Pre-Service Teachers' Computational Thinking Skill Levels and Online Self-Regulated Learning Levels

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Abstract

The aim of this study was to examine the computational thinking skill levels and online self-regulatory learning levels of pre-service teachers in terms of various variables and to determine the relationship between their computational thinking skill levels and online self-regulatory learning levels. The design of the research is the correlational survey model, one of the quantitative research designs. The study group of the research consisted of pre-service teachers studying at the education faculty of a state university in Turkey and voluntarily participating in the research. A personal information form, computational thinking skills scale and online self-regulatory learning scale were used as measurement tools in the research. Within the framework of quantitative data analysis, descriptive analysis techniques, independent samples t-test, one-way ANOVA, Kruskal-Wallis H test for independent samples and Pearson Correlation technique were used. When the research findings were examined, it was seen that 63% of the pre-service teachers participating in the research had a high level of computational thinking skills and 36% had a very high level. It was also seen that 72% of the pre-service teachers had a high level of online self-regulated learning skills, 18% had a very high level, and 9% had a medium level. In addition, there was a moderate, positive and significant relationship between pre-service teachers' computational thinking skills and online self-regulatory learning levels. The research findings were interpreted in line with the relevant literature and various suggestions were made for practice and future research.

Keywords: *computational thinking, online learning, self-regulated learning, 21st century skills*

Introduction

Technology, which is one of the essentials of today, has affected and facilitated human life in many ways. Although education is one of the fields where technology has gained significant momentum, technology also makes significant contributions to education. One of these contributions has undoubtedly been distance education, which is free from spatial constraints. While information increases and changes at a rapid pace, schools, which are formal education institutions, have been insufficient to meet the education needs and distance education has become an important tool to provide lifelong education. On the other hand, the increasing number of students, developing tech-

nology and changes in learning approaches has resulted in schools benefiting from distance education. In the information society we live in, benefiting from low-cost and student-oriented methods and tools that create equal opportunities and that people can plan for themselves without the limitations of time and space has made learning more effective at all levels (Özkanal & Özgür, 2017).

According to the 'Digital 2019 in Turkey' report, in Turkey, which has a population of 82.4 million, 59.36 million people, who make up 72% of the population, are internet users and there was a 9% increase in the usage rate compared to the previous year (Bayrak, 2020). In addition, many technologies that can be used in classroom and virtual environments and facilitate learning are mentioned (Ünlü, 2019). It can be said that the internet, which is increasingly used every year, increases the opportunities for accessing and sharing information, as well as positively affecting access to educational opportunities and different learning paths. Thus, online learning, which is an independent learning model alongside face-to-face education, is gaining importance day by day.

Literature Review

Online Learning

In the process of change, in which the transition from the industrial age to the digital age is taking place, the expectation of digital transformation in education is inevitable, and the approaches and adaptation processes of educational institutions to this change are becoming increasingly important (Taşkıran, 2017). In the globalizing world of the 21st century, education, with all its possibilities, has reached a more widespread, powerful and qualified position than it has ever been in. Today, people are involved in the world of education from childhood to advanced adult ages and they are faced with education in any format regardless of their position (Parlak, 2017). One of the reasons why educational activities have become so widespread is the increase in communication opportunities (Sarıtaş & Barutçu, 2020). The increase in the use of the internet in all areas can be shown among the reasons why education and training have started to move to online environments and the concept of online learning has invaded our lives more than ever.

Online learning can be defined as an innovative multimedia-based curriculum created by utilizing the features and resources of the internet to support and advance the learning of individuals (Khan, 1997). According to another definition, online learning is a teaching method carried out from certain centers, aiming at self-learning of the individual, and providing educational content with specially prepared tools and various environments for learners (Banar & Fırat, 2015). Online learning has been in use for decades, especially at the university level. According to Dewald (1999), the benefits of online learning are that it is possible to interact directly with web resources, the learning environment is always accessible to students, it is possible to access the most appropriate resources related to the subject to be studied, and it has an interactive and flexible structure and therefore increases teaching options. According to Oliveria et al. (2018), the benefits of online learning are: flexibility, the possibility of accessing the course content at any time, low cost, and participation in the course at any time and place. Learning in online environments is facilitated and supported through the use of information and communication technologies (Broadbent & Poon, 2015).

Developments in the field of distance education bring some changes both in pedagogical perspectives and in the theoretical framework (Beldarrin, 2006). In the processes where the teacher is not in the same physical location as the student, it becomes important for the student to organize

his/her own learning and to gain competence, self-confidence and a positive attitude in using online and offline resources. Therefore, there should be activities that will enable high-level thinking in the online learning environment. Learners should be able to construct their own knowledge, cooperative learning should be encouraged, the control of the materials should be left to the learner, the learner should be able to find sufficient time and opportunity, and learning should be meaningful and interactive for the learners and supported with materials (Ally, 2004). The common aspect of all these features that online learning should have is that the learner is not only an individual who takes lessons, but also an active member who can incorporate what has learned into life through practice.

According to Duckworth (2009), distance education students should be able to make their own plans about what they will learn and when and how they will learn the material, and should be able to direct the learning process themselves. According to Weimer (2002), students receiving distance education should be able to take responsibility for their own learning, participate in the design of the curriculum, and take responsibility for some levels of the teaching process. In distance education, where students move from passive learners in traditional teaching methods to active learners who direct their own learning, first of all, students' meta-cognitive skills should be developed (Holmberg, 2005). As can be seen, researchers emphasize the self-regulation skills of students who will receive distance education.

In order for learning to be effective and permanent in online environments, which are seen as an alternative solution to meeting the education needs of an increasing number of students, theories and strategies suitable for the characteristics of these environments should be used. In this context, one of the strategies that individuals can use in their individual learning processes is self-regulation skills. Self-regulation focuses on choosing the right learning strategies for one's own learning, evaluating these strategies by oneself, arranging one's strategy when necessary, and motivating oneself throughout the learning process (Pintrich, 2000). When the changing roles of students and educators in online learning environments are examined, students are individuals who are responsible for their own learning processes and actively participate in the learning environment. Educators, on the other hand, are guides who guide students in the teaching process and facilitate their learning (Kahraman, 2013). Considering the changing roles of teachers and students in self-regulation and online environments, it is seen that the roles expected from students in online learning environments are highly compatible with self-regulation skills. For this reason, it is important that self-regulation skills are developed for online learning (Özdemir, 2018).

In addition to all these, what is desired to be acquired by the learners in the learning-teaching processes should have a long-term structure that will allow learners to produce efficient solutions to the 21st century problems they face and include the understanding of the basic operating principles of computers, rather than the skills acquired through short-term practices and activities (Czerkawski, 2015). It can be stated that the process of acquiring knowledge expressed here has a structure aimed at fostering/developing the computational thinking skills of individuals.

Computational Thinking

Computational thinking has a long history related to computer science. In the historical process, algorithmic thinking, as it was known in the 1960s and 1970s, was defined as the process of formulating algorithmic relations by considering problems in the context of input and output (Knuth, 1985). Today, this concept has focused on using mathematics to develop algorithms and determining how solution proposals work best for problems of different sizes (Denning, 2009).

Wing (2006) claimed that computational thinking will be among the basic skills, such as reading, writing and mathematics, used by everyone by the middle of the 21st century. In accordance with the idea of that researcher, emphasizing that computational thinking is a skill that should be acquired by everyone, computational thinking began to be expressed as a 21st century skill that individuals should acquire (International Society for Technology in Education [ISTE], 2011).

Wing (2008) states that computational thinking is a kind of analytical thinking. Wing, used common methods with mathematical thinking in problem solving, engineering when designing and evaluating a complex system, and scientific thinking in understanding concepts such as computability, intelligence, reason and human behavior. He defined computational thinking as a thought process that involves formulating a problem and articulating associated solutions in such a way that a computer can perform it effectively. According to Curzon (2015), computational thinking means problem solving for people. According to Bundy (2007), computational thinking affects research in almost all disciplines, enabling the easy processing of large amounts of information, asking new questions and finding new answers more easily through metaphors. Computational thinking is a process that includes various features. These characteristic features, which are oriented towards the solution of a particular problem, are: formulating the solution of the problems encountered with the help of computers and other tools, organizing and analyzing the data in a logical way, presenting the data through the support of abstraction such as models and simulations, automating solutions with algorithmic thinking, examining possible solutions in order to integrate solution steps and resources in the most efficient and effective way, identifying and applying, and transferring the problem-solving process followed to different problem situations by generalizing (ISTE, 2011). Barr et al. (2011), describe the general characteristics of computational thinking skills as follows: formulating problems in a way that is suitable for solving them with computers and other tools, logically organizing and analyzing data, showing data with abstractions such as models and simulations, producing results with algorithmic thinking, showing, analyzing and applying possible solutions, and generalizing and transferring problem solving processes to the solution of problems in many fields. Four subtitles were defined by Weintrop et al. (2014): data and information skills, modeling and simulation skills, computational problem-solving skills, and systems administration skills.

According to Bundy (2007), computers are used for various purposes. However, the concept of computational thinking is much deeper than these and it changes the way people think. Computational thinking can provide a new language for describing electronic content, hypotheses and theories, and enhance cognitive abilities. Computational thinking can be considered as a basic skill that applies not only to computer users, but to everyone. Computational thinking is a problem-solving approach that strengthens the combination of technology and thought. Computational thinking skill is an expression of creative thinking, algorithmic thinking, critical thinking, problem solving, cooperative learning and communication skills and cannot be defined without these skills. The purpose of computational thinking in education is not the students' progress in computer science, but the students' application of their computational thinking skills in other courses as a habit (ISTE, 2015). As can be understood from these expressions, it is possible to say that computational thinking skill includes many sub-skills.

Although online learning environments have existed for years, they have gained even more importance in the days when all educators are struggling with the COVID-19 epidemic. According to the data obtained from the United Nations, the learning audience of 770 million people in the world has been affected by the closure of schools and universities (Zhong, 2020). In this context,

online learning has been introduced as the easiest and most applicable solution to ensure the sustainability of education during the pandemic period. Today, there are hardly any educational institutions in developed and developing countries that do not have an online education program. Even institutions that did not establish or develop an online education platform in the past, and did not produce a strategy for this education channel, were forced to migrate to an online education environment with the COVID-19 epidemic; for the whole world, online education is no longer the last resort, it has become the only remedy (Yamamato & Altun, 2020). The Chinese higher education system, the world's largest and most populous higher education system had to undergo an e-learning experiment of unprecedented scale and scope. However, it has been understood that many students living in rural areas of China do not have the connection or equipment to participate in distance education (Lau et al., 2020). In Italy, which initially had the largest cluster of COVID-19 cases in the spread of the pandemic in Europe, the Italian Ministry of Education opened an information portal focused on distance learning and gave webinars to teachers about distance education (Kottasová & Isaac, 2020; Benu, 2020). Pretty much every university in the United States canceled face-to-face courses and conducted these courses online. Due to the rapid spread of the epidemic in the United Kingdom, distance education has been considered as a priority solution. In Turkey, primary and secondary education was conducted face-to-face or online from time to time, depending on the situation of the pandemic; higher education has completely switched to distance education (Saraç, 2020). Some studies conducted with regard to this process show that the unpreparedness of schools for this process prevented educational practices from achieving sufficient quality. The reasons for this situation include the lack of infrastructure and unpreparedness of the instructors (Ulaş, 2020), the inability to carry out theory and practice together due to insufficient e-resources (Kurnaz & Serçemeli, 2020) and the need to create virtual environments that can be communicated outside the classroom (Erkut, 2020). However, while evaluating these negative aspects, it is necessary to consider that the pandemic process is an unusual and unexpected process for the whole world. Elimination of technology access problems, rapid preparation of e-content, and informing instructors and students about the process have been made a priority both in Turkey and in other countries.

Similar to online learning, self-regulation skills have been one of the most important and researched topics in recent years. In this period when online learning has become an important fact of our lives, it is important for students to direct their own learning in online learning environments, in other words, to have online self-regulated learning skills. In addition to this, the characteristics of both societies and students have changed considerably in the century we live in. Today's societies seem more dynamic and technology-oriented. Grown or growing individuals also need different characteristics from previous generations in order to adapt to changes. Teachers who will raise individuals who have the characteristics of the new paradigms (information literate, technology literate, able to manage their own learning, etc.) should also develop in the same direction. It does not seem possible for a teacher who does not have the aforementioned skills to foster these skills in their students. Computational thinking skills are also shown among the skills that individuals should have in order to meet the requirements of the digital age. In order for students to acquire computational thinking skills, pre-service teachers must first acquire these skills and learn how to include them in their lessons. When pre-service teachers' awareness of computational thinking skills is raised, their perceptions and attitudes towards computational thinking can change positively. For this reason, it is important to reveal whether pre-service teachers have these skills and to make suggestions about what is needed for the development of these skills. Based on these explanations, the aim of this study is to examine the computational thinking skill levels and online

self-regulatory learning levels of pre-service teachers in terms of different variables, and to determine the relationship between their computational thinking skill levels and online self-regulatory learning levels. In this direction, the sub-problems of the research are:

- What are pre-service teachers' computational thinking skill levels?
- Do pre-service teachers' computational thinking skill levels differ significantly according to various variables (gender, grade level, weekly average internet usage time, and devices used for participating in online lessons)?
- What are the online self-regulated learning skill levels of pre-service teachers?
- Do pre-service teachers' online self-regulated learning levels differ significantly according to various variables (gender, grade level, weekly average internet usage time, and devices used for participating in online lessons)?
- Is there a significant relationship between pre-service teachers' computational thinking skill levels and online self-regulated learning levels?

Method

Under this heading, the design of the research, study group, measurement tools, data collection and data analysis are discussed.

Research Model

Since the main purpose of this research is to determine the relationship between pre-service teachers' computational thinking levels and online self-regulated learning levels, the research design was determined as a correlational survey model, one of the quantitative research designs. Correlational survey models are research models that aim to determine the existence and degree of change between two or more variables. In this type of research, an attempt is made to learn whether the variables change together and if there is a change, how it happens. Three different situations may arise here: there is no significant relationship between the two variables, the variables are proportional in the same direction (positive) or the variables are proportional in the opposite direction (Karasar, 2009).

Study Group

The study group of the research consisted of pre-service teachers studying at the education faculty of a state university in Turkey and voluntarily participating in the research. The distribution of the study group according to various demographic characteristics is given in Table 1.

Table 1: *Pre-Service Teachers' Demographic Characteristics*

Gender	**f**	**%**
Female	218	73.15
Male	80	26.85
Branch		
Primary school teaching	79	26.51
Middle school mathematics teaching	84	28.19

Pre-school teaching	22	7.38
Guidance and psychological counseling	113	37.92
Grade level		
1st grade	10	3.36
2nd grade	217	72.82
3rd grade	53	17.78
4th grade	18	6.04
Average internet usage time		
0-7 hours	148	49.66
8-14 hours	88	29.53
15 hours and over	62	20.81
Online course participation device		
Desktop / laptop	223	74.83
Mobile device	75	25.17
Total	298	100

Data Collection Tools

In the study, a personal information form was prepared by the researcher in order to collect the demographic information of the pre-service teachers. In the personal information form, the gender of the pre-service teacher (female/male), the department he/she was studying at (primary school teaching, middle school mathematics teaching, pre-school teaching, guidance and psychological counseling), grade level (1, 2, 3, or 4), the average weekly internet usage time before the online classes started (0-7 hours, 8-14 hours, 15 hours and above), and the tools used for participating in online classes (desktop, laptop or mobile device) were included.

In the study, the computational thinking skills scale developed by Dolmacı and Akhan (2020) was used to determine the computational thinking skill levels of the pre-service teachers. The five-point Likert-type scale consists of 40 items and five factors. These factors can be listed as algorithmic-analytical thinking skills, creative problem-solving skills, collaboration skills, critical thinking skills, and computer-using skills. In order to determine the reliability of the scale, the internal consistency coefficient for the subscales and the whole scale was calculated by the researchers and coefficients ranging from .74 to .91 were obtained. As a result of the confirmatory factor analysis, it was concluded that the computational thinking skills scale showed good agreement and that the structure revealed by the exploratory factor analysis was confirmed. Based on these findings, it can be said that the scale used in the research to determine the computational thinking skills of pre-service teachers is a valid and reliable scale.

The online self-regulated learning scale developed by Barnard et al. (2009) and adapted into Turkish by Samsa-Yetik (2011) was used to examine pre-service teachers' online self-regulated learning skill levels. The five-point Likert-type scale, which was prepared to measure self-regulation skills in online environments at the undergraduate level, consists of 24 items and six factors. These factors can be listed as goal setting, setting the environment, task strategies, time management, seeking help, and self-evaluation. The internal consistency coefficients of the subscales ranged from .64 to .77. The internal consistency coefficient of the whole scale was .89. Nunally (1978) stated that an internal consistency coefficient above 70 is sufficient for social science research. When the internal consistency coefficients are examined, it can be said that the scale

is a valid and reliable measurement tool for research that aims to reveal self-regulation skill levels in the online learning environment.

Data Collection and Analysis

Before collecting the data related to the research, the necessary permission was obtained, and the data were collected from the pre-service teachers who voluntarily participated in the research. At the beginning of the data collection process, the purpose of the research was explained to the participants, the instructions for filling out the scales were shared with them, and they were asked to answer the scale items in an objective way. Then, the data collection tools were transferred to the virtual environment and the internet access address was given so that the pre-service teachers could respond to these tools. All of the pre-service teachers in the study group filled out the scale items completely. The application of the scales to the pre-service teachers was completed within two weeks. The collected data were transferred to the digital environment and the analyses were carried out. Within the framework of quantitative data analysis, descriptive analysis techniques, independent samples t-test, one-way ANOVA, Kruskal-Wallis H test for independent samples and Pearson correlation technique were used.

For the statistical techniques to be applied in the research, the Kolmogorov-Smirnov test was applied in order to determine whether the distribution of the measurements related to the dependent variables was normal or not, considering the group size being greater than 50, and the test results are given in Table 2.

Table 2: *Tests of Normality*

	Kolmogorov-Smirnov			
	Gender	**Statistic**	**df**	**p**
Computational thinking	Female	.057	218	.078
	Male	.091	80	.158
Online self-regulated learning	Female	.049	218	.200
	Male	.072	80	.200
	Grade level	**Statistic**	**df**	**p**
Computational thinking	1st grade	.152	10	.200
	2nd grade	.054	217	.200
	3rd grade	.136	53	.015
	4th grade	.209	18	.036
Online self-regulated learning	1st grade	.265	10	.045
	2nd grade	.051	217	.200
	3rd grade	.077	53	.200
	4th grade	.195	18	.069
	Average internet usage time	**Statistic**	**df**	**p**
Computational thinking	0-7 hours	.073	148	.052
	8-14 hours	.077	88	.200
	15 hours and over	.081	62	.200
Online self-regulated learning	0-7 hours	.064	148	.200
	8-14 hours	.079	88	.200
	15 hours and over	.082	62	.200

	Online course participation device	Statistic	df	p
Computational thinking	Desktop / laptop	.987	196	.061
	Mobile device	.988	102	.526
Online self-regulated learning	Desktop / laptop	.992	196	.315
	Mobile device	.987	102	.436

The fact that the calculated p values are greater than α=.05 is interpreted as that the scores at this significance level do not deviate excessively from the normal distribution and have a normal distribution (Büyüköztürk, 2007). Accordingly, Table 2 indicates, that the distributions of the measurements related to the dependent variables show a normal distribution in terms of gender, weekly average internet usage time and devices used for participating in online courses. In this direction, parametric statistical techniques (independent samples t-test, one-way ANOVA) were used for the mentioned variables. In addition, it is seen that the distribution of the measurements related to the dependent variables does not show a normal distribution in terms of the grade level variable. Based on this finding, the Kruskal-Wallis H test, which is a non-parametric test, was used for the grade level variable.

Findings

Investigation of Pre-service Teachers' Computational Thinking Skill Levels

Descriptive statistical techniques were used to determine the computational thinking skill levels of the pre-service teachers participating in the study, and the results are presented in Table 3.

Table 3: *Pre-Service Teachers' Computational Thinking Skill Levels*

Factors	n	x̄	SD	Min	Max	Very low	Low	Medium	High	Very high
Using a computer	298	23.42	2.82	12.00	30.00	n=0 %=0	n=1 %=0.34	n=11 %3.69	n=190 %=63.76	n=96 %=32.22
Algorithmic-analytical thinking	298	37.85	4.30	24.00	50.00	n=0 %=0	n=0 %=0	n=15 %=5.03	n=215 %=72.15	n=68 %=22.82
Creative problem solving	298	43.21	5.14	23.00	55.00	n=0 %=0	n=0 %=0	n=8 %=2.69	n=184 %=61.75	n=106 %=35.57
Collaborating	298	27.56	4.32	10.00	35.00	n=0 %=0	n=4 %=1.34	n=24 %=8.05	n=154 %=51.68	n=116 %=38.93
Critical thinking	298	24.92	2.33	19.00	30.00	n=0 %=0	n=0 %=0	n=0 %=0	n=167 n=56.04	n=131 %=43.96
Total	298	156.95	13.94	117.00	200.00	n=0 %=0	n=0 %=0	n=1 %=0.34	n=189 %=63.42	n=108 %=36.24

When Table 3 is examined, it is seen that 63% of the pre-service teachers who participated in the study had a high level of computational thinking skills and 36% of them had a very high level. When the findings are examined in terms of factors of computational thinking; in the factor of "using a computer" 64% of pre-service teachers had a high level and 32% of them had a very high level; in the "algorithmic-analytical thinking" factor, 72% of the pre-service teachers had a high level and 23% of them had a very high level; in the "creative problem solving" factor 62% of pre-service teachers had a high level and 36% of them had a very high level; in the factor of "collaboration" 52% of pre-service teachers had a high level and 39% of them had a very high level; and in the "critical thinking" factor, it is seen that 56% of pre-service teachers had a high level and 44% of them had a very high level.

Investigation of Pre-Service Teachers' Computational Thinking Skill Levels According to Various Variables

In order to determine whether the computational thinking skill levels of the pre-service teachers participating in the study differed significantly according to the gender variable, an independent samples t-test was applied, and the results are presented in Table 4.

Table 4: *Pre-service Teachers' Computational Thinking Skill Levels by Gender*

Factors	Gender	n	$\bar{x}$	SD	*t*	df	*p*
Using a computer	Female	218	23.29	2.70	-1.238	296	.217
	Male	80	23.75	3.13			
Algorithmic-analytical thinking	Female	218	37.82	4.25	-.207	296	.836
	Male	80	37.94	4.48			
Creative problem solving	Female	218	43.17	4.88	-.212	296	.832
	Male	80	43.31	5.80			
Collaborating	Female	218	27.84	3.95	1.818	296	.070
	Male	80	26.81	5.14			
Critical thinking	Female	218	24.90	2.26	-.152	296	.880
	Male	80	24.95	2.55			
Total	Female	218	157.02	13.44	.143	296	.887
	Male	80	156.76	15.31			

When Table 4 is examined, it is seen that the computational thinking skill levels of the pre-service teachers who participated in the study did not differ significantly according to the gender variable. When the obtained scores were analyzed in terms of computational thinking skill factors, no significant difference was found.

The Kruskal-Wallis H test was applied to determine whether the computational thinking skill levels of the pre-service teachers participating in the study differed significantly according to the grade level variable, and the results are presented in Table 5.

Table 5: *Pre-Service Teachers' Computational Thinking Skill Levels According to Their Grade Level*

Factors	Grade level	n	Mean rank	df	X^2	*p*
Using a computer	1st grade	10	148.95	3	7.482	.058
	2nd grade	217	144.32			
	3rd grade	53	153.26			
	4th grade	18	201.19			
Algorithmic-analytical thinking	1st grade	10	131.10	3	7.337	.062
	2nd grade	217	149.39			
	3rd grade	53	136.95			
	4th grade	18	198.03			
Creative problem solving	1st grade	10	177.75	3	1.426	.699
	2nd grade	217	149.70			
	3rd grade	53	142.66			
	4th grade	18	151.53			
Collaborating	1st grade	10	117.10	3	5.614	.132
	2nd grade	217	146.44			
	3rd grade	53	154.93			
	4th grade	18	188.36			
Critical thinking	1st grade	10	143.50	3	1.163	.762
	2nd grade	217	150.58			
	3rd grade	53	141.16			
	4th grade	18	164.36			
Total	1st grade	10	143.65	3	5.702	.127
	2nd grade	217	147.94			
	3rd grade	53	141.40			
	4th grade	18	195.42			
	Total	298				

When Table 5 is examined, it is seen that the computational thinking skill levels of the pre-service teachers participating in the study did not differ significantly depending on the grade level they were studying. When the obtained scores were analyzed in terms of computational thinking skill factors, no significant difference was found.

One-way ANOVA was applied in order to determine whether the computational thinking skill levels of the pre-service teachers participating in the study differed significantly according to the weekly average internet usage time before starting online lessons, and the results are presented in Table 6.

Table 6: *Pre-Service Teachers' Computational Thinking Skill Levels According to Weekly Average Internet Usage Time*

Factors	Source	Sum of squares	sd	Mean square	*F*	*p*
Using a computer	Between Groups	17.48	2	8.740	1.097	.335
	Within Groups	2350.92	295	7.969		
	Total	2368.40	297			
Algorithmic-analytical thinking	Between Groups	20.18	2	10.091	.543	.581
	Within Groups	5477.32	295	18.567		
	Total	5497.50	297			
Creative problem solving	Between Groups	43.35	2	21.674	.820	.441
	Within Groups	7793.75	295	26.420		
	Total	7837.10	297			
Collaborating	Between Groups	3.03	2	1.516	.081	.922
	Within Groups	5534.38	295	18.761		
	Total	5537.41	297			
Critical thinking	Between Groups	10.43	2	5.215	.958	.385
	Within Groups	1606.47	295	5.446		
	Total	1616.90	297			
Total	Between Groups	112.23	2	56.115	.287	.750
	Within Groups	57601.11	295	195.258		
	Total	57713.34	297			

When Table 6 is examined, it is seen that the computational thinking skill levels of the pre-service teachers participating in the study did not differ significantly depending on the average weekly internet usage time before starting online lessons. When the obtained scores were analyzed in terms of computational thinking skill factors, no significant difference was found.

In order to determine whether the computational thinking skill levels of the pre-service teachers participating in the study differed significantly according to the devices used for participating in online learning, an independent samples t-test was applied, and the results are presented in Table 7.

Table 7: *Pre-Service Teachers' Computational Thinking Skill Levels According to the Devices Used for Participating in Online Learning*

Factors	Device	n	$\bar{x}$	SD	*t*	df	*p*
Using a computer	Desktop / laptop	223	23.70	2.83	2.979	296	.003
	Mobile device	75	22.59	2.65			
Algorithmic-analytical thinking	Desktop / laptop	223	37.94	4.39	.618	296	.537
	Mobile device	75	37.59	4.03			
Creative problem solving	Desktop / laptop	223	43.25	5.08	.249	296	.803
	Mobile device	75	43.08	5.34			
Collaborating	Desktop / laptop	223	27.70	4.38	.959	296	.338

	Mobile device	75	27.15	4.14			
Critical thinking	Desktop / laptop	223	25.09	2.30	2.171	296	.031
	Mobile device	75	24.41	2.39			
Total	Desktop / laptop	223	157.67	13.91	1.540	296	.125
	Mobile device	75	154.81	13.90			

When Table 7 is examined, it is seen that the computational thinking skill levels of the pre-service teachers who participated in the study did not differ significantly depending on the devices used for participating in online learning; on the other hand, significant differences were found in the factors of "using a computer" ($t_{(296)} = 2.979$, $p \leq .05$) and "critical thinking" ($t_{(296)} = 2.171$, $p \leq .05$). The scores of the pre-service teachers who participated in online learning via a desktop or laptop in the factors of "using a computer" ($\bar{x}$=23.70) and "critical thinking" ($\bar{x}$=25.09) were found to be significantly higher than the scores of the pre-service teachers who participated in online learning via a mobile device in the "using a computer" ($\bar{x}$=22.59) and "critical thinking" ($\bar{x}$=24.41) factors.

Investigation of Pre-Service Teachers' Online Self-Regulated Learning Levels

Descriptive statistical techniques were used to determine the online self-regulated learning levels of the pre-service teachers participating in the study, and the results are presented in Table 8.

Table 8: *Online Self-regulated Learning Levels of Pre-Service Teachers*

Factors	n	X	SD	Min	Max	Very low	Low	Me-dium	High	Very High
Setting goals	298	18.65	2.99	8.00	25.00	n=0 %=0	n=5 %=1.68	n=27 %=9.06	n=197 %=66.11	n=69 %=23.15
Environ-ment configu-ration	298	16.65	2.74	5.00	20.00	n=0 %=0	n=2 %=0.67	n=20 %=6.71	n=131 %=43.96	n=145 %=48.66
Task strategies	298	13.40	2.79	4.00	20.00	n=2 %=0.67	n=11 %=3.69	n=96 %=32.22	n=153 %=51.34	n=36 %=12.08
Time manage-ment	298	9.93	2.54	3.00	15.00	n=4 %=1.34	n=29 %=9.73	n=85 %=28.52	n=138 %=46.31	n=42 %=14.09
Seeking help	298	13.98	2.81	5.00	20.00	n=0 %=0	n=14 %=4.70	n=54 %=18.12	n=185 %=62.08	n=45 %=15.10
Self -as-sessment	298	13.99	3.02	4.00	20.00	n=2 %=0.67	n=13 %=4.36	n=75 %=25.17	n=155 %=52.01	n=53 %=17.79

Total	29 8	86.5 9	11. 57	44.0 0	116. 00	n=0 %=0	n=1 %=0. 34	n=28 %=9.4 0	n=216 %=72. 48	n=53 %=17. 79

When Table 8 is examined, it is seen that 72% of the pre-service teachers who participated in the study had online self-regulated learning skills at a high level, 18% at a very high level and 9% at a medium level. When the findings are examined in terms of the factors of online self-regulated learning; it is seen that in the "goal setting" factor, 66% of pre-service teachers had a high level, 23% of them had a very high level and 9% of them had a medium level; in the "environment configuration" factor, 48% of pre-service teachers had a high level, 44% of them had a very high level and 8% of them had a medium level; in the "task strategies" factor, 51% of pre-service teachers had a high level, 32% of them had a medium level and 12% of them had a very high level; in the "time management" factor, 46% of the pre-service teachers had a high level, 28% of them had a medium level and 14% of them had a very high level; in the "seeking help" factor, 62% of pre-service teachers had a high level, 18% of them had a medium level and 15% of them had a very high level; in the "self-assessment" factor, it is seen that 73% of pre-service teachers had a high level, 18% of them had a very high level and 9% of them had a medium level.

Investigation of Pre-Service Teachers' Online Self-Regulated Learning Levels According to Various Variables

In order to determine whether the online self-regulated learning levels of the pre-service teachers participating in the study differed significantly according to the gender variable, an independent samples t-test was applied, and the results are presented in Table 9.

Table 9: *Pre-Service Teachers' Online Self-Regulated Learning Levels by Gender*

Factors	**Gender**	**n**	**x̄**	**SD**	***t***	**df**	***p***
Setting goals	Female	218	18.73	3.04	.779	296	.436
	Male	80	18.43	2.85			
Environment configuration	Female	218	16.85	2.42	2.150	296	.032
	Male	80	16.09	3.43			
Task strategies	Female	218	13.78	2.74	3.979	296	.000
	Male	80	12.36	2.69			
Time management	Female	218	10.17	2.45	2.724	296	.007
	Male	80	9.28	2.68			
Seeking help	Female	218	14.10	2.70	1.263	296	.208
	Male	80	13.64	3.08			
Self-assessment	Female	218	14.11	2.99	1.166	296	.244
	Male	80	13.65	3.09			
Total	Female	218	87.74	10.92	2.881	296	.004
	Male	80	83.44	12.73			

When Table 9 is examined, it is seen that the online self-regulated learning levels of the pre-service teachers participating in the study differed significantly according to the gender variable ($t_{(296)} = 2.881$, $p \leq .05$). The online self-regulated learning levels of female pre-service teachers ($\bar{x} = 87.74$) were significantly higher than the online self-regulated learning levels of male pre-

service teachers ($\bar{x}$ = 83.44). In addition, when the scores obtained are analyzed in terms of online self-regulated learning factors, there was a significant difference in the "environment configuration" ($t_{(296)}$ = 2.150, p≤.05), "task strategies" ($t_{(296)}$ = 3.979, p≤.05) and "time management" ($t_{(296)}$ = 2.724, p≤.05) factors. The scores of the female pre-service teachers in all three factors were higher than the scores of the male pre-service teachers.

The Kruskal-Wallis H test was applied to determine whether the online self-regulated learning levels of the pre-service teachers participating in the study differed significantly according to the grade level variable, and the results are presented in Table 10.

Table 10: *Pre-Service Teachers' Online Self-Regulated Learning Levels According to Their Grade Level*

Factors	Grade level	n	Mean rank	df	X^2	*p*
Setting goals	1st grade	10	149.35	3	9.264	.026
	2nd grade	217	140.77			
	3rd grade	53	177.86			
	4th grade	18	171.36			
Environment configuration	1st grade	10	133.30	3	1.801	.615
	2nd grade	217	147.23			
	3rd grade	53	162.58			
	4th grade	18	147.39			
Task strategies	1st grade	10	149.25	3	.656	.883
	2nd grade	217	151.77			
	3rd grade	53	143.79			
	4th grade	18	139.06			
Time management	1st grade	10	122.00	3	3.534	.316
	2nd grade	217	151.31			
	3rd grade	53	156.96			
	4th grade	18	121.00			
Seeking help	1st grade	10	99.15	3	16.138	.001
	2nd grade	217	141.35			
	3rd grade	53	186.58			
	4th grade	18	166.47			
Self- assessment	1st grade	10	146.00	3	6.241	.100
	2nd grade	217	142.43			
	3rd grade	53	171.92			
	4th grade	18	170.69			
Total	1st grade	10	123.10	3	6.584	.086
	2nd grade	217	143.77			
	3rd grade	53	174.34			
	4th grade	18	160.14			

When Table 10 is examined, it is seen that the online self-regulated learning levels of the pre-service teachers who participated in the study did not differ significantly depending on their grade level; on the other hand significant differences were found in the "setting goals" ($x^2_{(3)}$ = 9.26, p≤.05) and "seeking help" ($x^2_{(3)}$ = 16.14, p≤.05) factors of online self-regulated learning. The mean rank of the pre-service teachers studying in the third and fourth grade was significantly higher than the mean rank of the pre-service teachers studying in the first and second grade.

One-way ANOVA was applied in order to determine whether the online self-regulated learning levels of the pre-service teachers participating in the study differed significantly according to the weekly average internet usage time before starting online learning applications, and the results are presented in Table 11.

Table 11: *Pre-Service Teachers' Online Self-Regulated Learning Levels According to Weekly Average Internet Usage Time*

Factors	Source	Sum of squares	sd	Mean rank	*F*	*p*
Setting goals	Between Groups	47.65	2	23.82	2.703	.069
	Within Groups	2600.36	295	8.82		
	Total	2648.00	297			
Environment configuration	Between Groups	21.41	2	10.70	1.428	.241
	Within Groups	2210.60	295	7.49		
	Total	2232.00	297			
Task strategies	Between Groups	16.10	2	8.05	1.033	.357
	Within Groups	2299.38	295	7.80		
	Total	2315.48	297			
Time management	Between Groups	29.10	2	14.55	2.276	.105
	Within Groups	1886.42	295	6.40		
	Total	1915.52	297			
Seeking help	Between Groups	31.75	2	15.87	2.024	.134
	Within Groups	2313.09	295	7.84		
	Total	2344.84	297			
Self-assessment	Between Groups	25.76	2	12.88	1.417	.244
	Within Groups	2682.18	295	9.09		
	Total	2707.95	297			
Total	Between Groups	870.19	2	435.10	3.299	.038
	Within Groups	38904.04	295	131.88		
	Total	39774.23	297			

When Table 11 is examined, it is seen that the online self-regulated learning levels of the pre-service teachers who participated in the study differed significantly depending on the weekly average internet usage time before starting online learning applications ($F_{(2\text{-}297)} = 3.299$). According to the results of the Tukey HSD test conducted to find out between which groups this difference occurred; the online self-regulated learning levels of pre-service teachers who had an weekly average internet usage time in the range of "0-7 hours" ($\bar{x}$=87,88) were significantly higher than the online self-regulated learning levels of pre-service teachers who had an weekly average internet usage time of "15 hours or more" ($\bar{x}$=83,98). When the obtained scores were examined in terms of online self-regulated learning factors, no significant difference was found.

In order to determine whether the online self-regulated learning levels of the pre-service teachers participating in the study differed significantly according to the devices used for participating in online learning, an independent samples t-test was applied, and the results are presented in Table 12.

Table 12: *Pre-Service Teachers' Online Self-Regulated Learning Levels According to the Devices Used to Participate in Online Learning*

Factors	Device	n	x̄	SD	*t*	df	*p*
Setting goals	Desktop / laptop	223	18.79	3.07	1.369	296	.172
	Mobile device	75	18.24	2.71			
Environment configuration	Desktop / laptop	223	16.68	2.78	.368	296	.713
	Mobile device	75	16.55	2.64			
Task strategies	Desktop / laptop	223	13.44	2.75	.379	296	.705
	Mobile device	75	13.29	2.94			
Time management	Desktop / laptop	223	9.89	2.64	-.487	296	.626
	Mobile device	75	10.05	2.22			
Seeking help	Desktop / laptop	223	13.87	2.94	-1.129	296	.260
	Mobile device	75	14.29	2.36			
Self-assessment	Desktop / laptop	223	14.07	2.93			
	Mobile device	75	13.75	3.27			
Total	Desktop / laptop	223	86.73	11.81	.358	296	.721
	Mobile device	75	86.17	10.90			

When Table 12 is examined, it is seen that the online self-regulated learning levels of the pre-service teachers who participated in the study did not differ significantly depending on the devices used for participating in online learning. When the scores were analyzed in terms of online self-regulated learning factors, no significant difference was found.

The Pearson correlation technique was applied to determine whether there was a significant relationship between pre-service teachers' computational thinking skill levels and online self- regulated learning levels, and the results are presented in Table 13.

Table 13: *Relationship between Pre-service Teachers' Computational Thinking Skill Levels and Online Self-regulated Learning Levels*

		Using a computer	Algorithmic-analytical thinking	Creative problem solving	Collaborating	Critical thinking	Computational thinking
Setting goals	Pearson Correlation	.404	.490	.474	.197	.454	.545
	Sig. (2-tailed)	.000	.000	.000	.001	.000	.000
	N	298	298	298	298	298	298
Environment configuration	Pearson Correlation	.185	.260	.239	.236	.345	.336
	Sig. (2-tailed)	.001	.000	.000	.000	.000	.000
	N	298	298	298	298	298	298
Task strategies	Pearson Correlation	.170	.323	.393	.202	.294	.391

	Sig. (2-tailed)	.003	.000	.000	.000	.000	.000
	N	298	298	298	298	298	298
Time management	Pearson Correlation	.184	.340	.369	.105	.275	.357
	Sig. (2-tailed)	.001	.000	.000	.070	.000	.000
	N	298	298	298	298	298	298
Seeking help	Pearson Correlation	.219	.268	.356	.283	.268	.391
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000
	N	298	298	298	298	298	298
Self-assessment	Pearson Correlation	.230	.295	.418	.281	.259	.422
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000
	N	298	298	298	298	298	298
Online self-regulated learning	Pearson Correlation	.342	.483	.550	.321	.463	.598
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000
	N	298	298	298	298	298	298

When Table 13 is examined, it is seen that there was a moderate, positive and significant relationship between pre-service teachers' computational thinking skill levels and online self-regulated learning levels ($r = 0.598$, $p \leq .05$). Accordingly, it can be said that as the computational thinking skill levels of pre-service teachers increased, their online self-regulated learning levels also increased. In addition, it has been observed that there was a positive and significant relationship between all factors of computational thinking skill and all factors of online self-regulated learning ($p \leq .05$).

Discussion, Conclusion and Suggestions

When the research findings were examined, it was seen that 63% of the pre-service teachers participating in the research had a high level of computational thinking skills, and 36% had a very high level. In the study conducted by Korkmaz et al. (2015), it was determined that 50% of the individuals had high perceptions of their computational thinking skill level, while 50% of them had moderate perceptions. Similarly, in the study of Sarıtepeci (2017), it was found that 73% of the participants had a moderate level of computational thinking skills, while 27% had a high level.

While it was seen that the computational thinking skill levels of the pre-service teachers participating in the research did not differ significantly depending on the means of participating in online learning, a significant difference was found in the dimensions of using a computer and being able to think critically. Computer use and critical thinking scores of pre-service teachers who participated in online learning via desktop or laptop computers were found to be significantly higher than the scores of pre-service teachers who participated in online learning via mobile devices.It is thought that individuals who participate in online learning using desktop or laptop computers use personal computers for both learning and other purposes more than individuals who participate in online learning using mobile devices. It is thought that the increase in the duration of the students' desktop or laptop computer use may have led to the further development of their computer use skills. It was observed that the computational thinking skill levels of the participants did not differ

significantly according to the variables of gender, class level and average weekly internet usage time.

When the research findings were examined, it was seen that 72% of the pre-service teachers participating in the research had a high level of online self-regulated learning skills, 18% had a very high level and 9% had a medium level. Çatana-Kuleli (2018), in her study examining the readiness levels of pre-service teachers for online learning, concluded that the participants found themselves sufficient above the average. In the study conducted by Lee and Tsai (2011), it was observed that students exhibited higher levels of self-regulatory learning and information-seeking behaviors in the internet-based environment than in the face-to-face environment. Students perceive themselves as more talented and more interested in self-regulated learning in the internet-based learning environment compared to the traditional environment; in addition, they experience more information seeking in the internet-based environment, and they see themselves as more interested and talented in this regard. The study conducted by Paechter and Maier (2010) revealed that students found online learning environments beneficial in terms of their power to provide clear and easy understanding of learning material, to support self-regulated learning and to distribute information.

It was observed that the online self-regulatory learning levels of the pre-service teachers participating in the research differed significantly according to the gender variable. Online self-regulated learning levels of female pre-service teachers were significantly higher than male pre-service teachers' online self-regulated learning levels. In addition, when the scores obtained were examined in terms of online self-regulatory learning dimensions; significant differences were found in the dimensions of environment configuration, task strategies and time management. The scores of female pre-service teachers for all three dimensions were higher than the scores of male pre-service teachers. Patrick et al. (1999), in their study examining the relationship between self-regulated learning, goal orientation and performance, found that boys were more externally oriented than girls, and that girls tended to use cognitive strategies more. Çatana-Kuleli (2018) concluded that women's readiness for online learning was higher in the self-directed learning sub-dimension.

While it was seen that the online self-regulatory learning levels of the pre-service teachers participating in the research did not differ significantly depending on the grade level they were studying, a significant difference was found in the goal setting and help seeking dimensions of online self-regulated learning. The mean rank of the pre-service teachers studying in the third and fourth grades was significantly higher than the mean rank of the pre-service teachers studying in the first and second grades. Çatana-Kuleli (2018) revealed in her study that the participants were least ready for online learning in the 1st grade and most ready in the 4th grade. Considering the dimension of goal setting, the student sets standards for homework, sets short- and long-term goals sets high standards for the learning process, and does not compromise on the quality of the work; when it comes to the help-seeking dimension, it is seen that behaviors such as finding someone to consult when needed, sharing problems with classmates, and asking for help from the educator become more common as they get to know the learning environment better and gain experience in the learning process. For this reason, the experiences of upper-grade students regarding the learning environment may explain their more professional behavior when setting goals and feeling more comfortable in seeking help.

It was observed that the online self-regulatory learning levels of the pre-service teachers participating in the research differed significantly depending on the weekly average internet usage time before they started online learning applications. The online self-regulated learning levels of

the pre-service teachers whose weekly average internet use was between 0-7 hours were significantly higher than the online self-regulated learning levels of the pre-service teachers whose weekly average internet use was 15 hours or more. Here, it is necessary to look at the internet usage purposes of today's youth as well as the internet usage time. It is known that young people at any educational level use the internet for mostly for purposes of communication, entertainment, social media, games, etc. The increase in the amount of time students spend on the internet, whether in or out of class, may cause them to spend less time and effort on learning and managing their learning. In addition, it was seen as a result of the research that the self-regulatory learning levels of the pre-service teachers participating in the research did not differ significantly depending on the devices used for participating in online learning.

It was seen that there was a moderate, positive and significant relationship between pre-service teachers' computational thinking skills and online self-regulatory learning levels. Accordingly, it can be said that as the pre-service teachers' computational thinking skills increased, their online self-regulatory learning levels also increased. In addition, it has been observed that there was a positive and significant relationship between all dimensions of computational thinking skills and all dimensions of online self-regulated learning. The essence of computational thinking is to think like a computer scientist when faced with a problem. Computational thinking is the ability to use general methods of mathematical thinking skills in solving a problem; the ability to think like an engineer in designing a large, complex system and relating it to real-life situations; and the ability to think like a scientist in understanding intelligence, the mind and human behavior (Wing, 2008).

An individual who can think computationally will be able to successfully perform the processes of determining learning goals, structuring the learning environment, determining and monitoring task strategies, managing his time, and making self-evaluation, which are the dimensions of self-regulated learning. According to Barr et al. (2011) computational thinking does not only allow the development of cognitive skills in students, but it also inherently fosters affective skills such as the confidence to deal with complex processes, the determination to work through difficult problems, tolerance for ambiguity, the ability to deal with open-ended problems, and the ability to work and communicate with others for a purpose and solution. Individuals with the aforementioned affective skills will face fewer difficulties in the help-seeking and self-evaluation dimensions of self-regulated learning. With computational thinking, the focus is not on people thinking like computers, but on their way of solving problems. Therefore, managing our lives, problem solving, communication, helping each other, setting goals, designing the learning environment, planning time, directing learning, and self-evaluation can be considered as computational actions (Batı et al., 2017).

The 21st century requires previously unexpected qualities in terms of growing individuals. The change in the qualifications that students are expected to acquire also affects the required teacher qualifications. On the one hand, the need for lifelong education increases the applications of online or offline distance education in formal and non-formal education; on the other hand, students need to make self-regulation in both face-to-face education and distance education. At a time when blended education models are increasing, online-offline learning gains momentum through teaching practices such as flipped learning, diplomas are insufficient and certificates are gained, and doing this with distance-online education becomes widespread, learners need to have the qualities sought by the 21st century. One of the skills that support these qualities is computational thinking.

Computational thinking skills generally consist of gains such as enabling problem solving with tools such as computers, algorithmic thinking, analyzing data and providing possible solutions by arranging them logically. When computational thinking skills and programming skills are compared, it is understood that the goals of both skill areas are very similar. For this reason, it is thought that computational thinking skills can be gained by individuals through programming education (Barut et al., 2016). As a matter of fact, it can be said that programming education occupies an important place in the changes in curricula carried out in our country and around the world in gaining computational thinking skills. It is understood that with these and similar changes made in various countries, the aim is to develop students' logical thinking and problem-solving skills through computational thinking (Bocconi et al., 2016). In support of this idea, it is emphasized in the literature that computational thinking improves problem solving and critical thinking, and that this significantly increases the problem-solving capacity and creativity of learners (Yıldız-Durak & Sarıtepeci, 2017; ISTE, 2011; Weintrop et al., 2014; Yadav, 2011). In addition, it is predicted that the reorganization of curricula and textbooks for the acquisition of computational thinking skills and the structuring of both programming education and other courses within the scope of computational thinking skills will contribute to the acquisition of 21st century life skills. Lye and Koh (2014) suggest that students have more computer applications. Considering that in the information and communication age we live in, individuals benefit from technological tools while solving the problems they encounter both in their daily work and in their lessons and homework, it is thought that it will not be difficult to achieve this. In addition, it may be beneficial for the development of computational thinking skills to bring students face to face with exercises that increase in complexity and difficulty step by step, and with different kinds of problems, and to encourage them to explore various sources and collaborate with friends while solving them.

Both computational thinking skills and online self-regulated learning skills can help today's students for selection of appropriate tools and strategies in problem solving and to use appropriate algorithms in solving these problems. Thus, students will be able to transfer their knowledge and skills from daily life to the solution of problems and will be able to manage the solution process of these problems in a healthy way. In this direction, the sub-dimensions of computational thinking skills can be used to increase the quality of courses in higher education and other education levels; using computers, algorithmic and analytical thinking, creative problem solving, collaboration, and critical thinking skills can be reflected in learning outcomes, the teaching process and evaluation. This also applies to teacher training programs. In teacher training programs, besides computational thinking and self-regulated learning skills, different applications (the flipped classroom model, online-offline conferences, panels, discussion groups, etc.) can be included to provide online-offline learning experience. Of course, it will be beneficial at this point to give importance to the studies aimed at increasing students' information and communication technology usage levels and learner control features, and to ensure that students make reflective assessments after all online training that they receive. Various measurement and evaluation processes can be carried out to determine whether pre-service teachers have the mentioned skills at the beginning of the teaching profession. Finally, the effect of online self-regulatory learning and computational thinking skills of students in different school types and levels can be investigated, and performance-based studies can be conducted examining computational thinking and online self-regulated learning skills.

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Power and Politics in the "Quest for Meaning"

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Abstract

Sensemaking is a popular framework for studying the meaning-making dimensions of policy implementation, change initiatives, and practitioner action in education. While generative, it has traditionally offered less guidance on how certain organizational actors have formal and/or informal power to advance their version of events and how certain narratives gain legitimacy over others. A power and politics approach addresses these lacunae. Yet, to date, this approach is little used in education research, despite the fact that contests over meaning and meaning-making are routine in educational institutions. Using an empirical case of meaning-making about "equity" at a community college, this study demonstrates how a power and politics analysis identifies and interrogates the forces—implicit and explicit, within and outside an organization—that make meaning(s) (il)legitimate.

Keywords: *equity, community colleges, higher education, sensemaking, power and politics, qualitative research*

Introduction

Meaning and meaning-making are foundational to organizational life, shaping how people make decisions, respond to new reforms, and enact routine practices (Zilber, 2002, 2008). In education research, "sensemaking," particularly as theorized by Karl Weick (1995; Weick et al., 2005), is a popular approach for examining the ideational aspects of organizations (e.g., Coburn, 2001; Duncheon & Muñoz 2019; Kezar, 2013). Framed as a "quest for meaning" (Weick et al. 2005, p. 409), organizational sensemaking occurs when a "shock"—typically in the form of new leadership, reforms, and/or ongoing crises—usher in situations that people find "novel, ambiguous, confusing, or in some other way violate expectations" (Maitlis & Christianson 2014, p. 57). Grounded in a constructivist epistemology, sensemaking treats reality as an "ongoing accomplishment" in which people generate frames and narratives to articulate ambiguous situations, rationalize past behavior, and determine next moves (Weick, 1995, p. 15).

As a framework, sensemaking has advanced analyses of policy implementation (e.g., Coburn, 200l), change initiatives (e.g., Kezar, 2013), and practitioner thinking and action (e.g., Duncheon & Muñoz, 2019) in K-12 and higher education. It has provided concepts to dissect the sensemaking process, including "equivocality," which is the co-existence of different interpretations of the same thing (Weick, 1979), and "labeling," which is the act of differentiating what is and is not the thing being made sense of (Weick et al., 2005). It has drawn attention to elements such as "cues" that are extracted from the environment and that focus sensemaking; the influence

of identity, belief structures, past experience, and social interactions on meaning-making; the construction of plausible, rather than accurate, narratives; and the idea that through sensemaking, people enact their social world (Weick, 1995). These elements are featured in Coburn's (2001) policy implementation study—one of the most cited education studies of the last two decades—which shows that implementation fidelity was challenged by the cues teachers extracted from the policy environment, their world views and practices, and the direction and tenor of collective discussions. But while generative for investigating meaning-making, Weick's (1995) framework offers less guidance on how some individuals are able to advance their version of events and how certain narratives gain legitimacy over others (Helms Mills et al., 2010). Research suggests that contests over meaning and meaning-making in organizations are routine, thus beckoning questions about power and politics (Zilber, 2008).

Accounting for Power and Politics in Organizational Sensemaking

To address these lacunae, organization scholars have investigated how forces outside and inside organizations shape sensemaking, troubling Weick's (1995) foundational assumptions (e.g., Helms Mills et al., 2010; Ibarra & Andrews, 1993; Mikkelsen & Wåhlin, 2020; O'Leary & Chia, 2007; Schildt et al., 2020; Vallas & Hill 2012; Zilber, 2002; 2008). Their work counters the idea that sensemaking "unfold[s] in an improbably hyper-agentic environment" (Maitlis & Christianson 2014, p. 98). To Weick (1995), the environment is more-or-less an open source of shocks to trigger, and cues to direct, sensemaking; however, for these scholars, environmental elements constrain how people make meaning, what organizational shocks trigger sensemaking, and which cues are perceived as consequential (Helms Mills et al., 2010; Mikkelsen & Wåhlin, 2020). They take seriously the sociological insight that certain ideologies and logics—called "knowledge structures" (Schildt et al., 2020), "epistemes" (O'Leary & Chia, 2007), "formative contexts" (Helms Mills et al., 2010), or "worldviews" (Zilber, 2002)—govern what is deemed (un)imaginable, (il)legitimate, (ir)rational, and (un)acceptable in a society. For example, egalitarianism (i.e., desire for more equal distribution of resources) and libertarianism (i.e., desire for maximal freedom and autonomy from the state) are two ideologies that have shaped how Americans make meaning of and enact economic, political, and social equality (e.g., should equality be about group or individual opportunity?) (Verba & Orren, 1985). These scholars acknowledge New Institutionalism's central idea that organizations are nested in "fields" that bound what organizational actors deem legitimate (DiMaggio & Powell, 1983). Thus, not only is the environment regulated by societal-level ideologies but also by field-level norms and "rules of the game" (Scott, 2008). For example, the "foundational ideology" of community colleges as open-access institutions (Baber et al., 2019) likely impacts how community college actors interpret ideas like equality, opportunity, and equity.

Besides occurring in a "hyper-agentic environment," Weick (1995) suggests that organizational sensemaking is a mostly democratic affair where people are equally able to voice their perspective, and that the movement from equivocality to labeling to meaning proceeds organically and smoothly (Maitlis & Christianson, 2014). As a social process, Weick (1995) underscores how sensemaking proceeds through interaction and language but underplays how an organization's power structure impacts who has opportunities and influence to make and give sense. Since organizations are often hierarchical, certain actors hold authority based on their formal positions, for example, leaders like school principals and college presidents (Coburn, 2005), and/or based on their informal influence, such as a colleague from whom many seek advice (Ibarra & Andrews,

1993; Vallas & Hill, 2012). Seen as legitimate sources of knowledge and expertise, they typically have more opportunity to give sense (Ibarra & Andrews, 1993; Schildt et al., 2020); control the boundaries of social interactions, especially in formal gatherings like meetings; and advance what counts as (il)legitimate input (Mikkelsen & Wåhlin, 2020; Vallas & Hill, 2012). Coburn (2005) shows, for example, that school principals mitigated teachers' access to sensemaking cues and drew on their own understanding to establish an overarching frame for teacher interpretation.

Power within an organization is also vested in how an organization sees itself and does its work (Helms Mills et al., 2010; Schildt et al., 2020). According to Weick (1995), sensemaking is filtered through who an individual or organization believes they are, and through sensemaking, identities are (re)constructed. Identity and identity construction, however, are tethered to power, with some identities dominating the sensemaking process. Preserving dominant identities and guarding against identity threats can determine what becomes meaningful and course meaning-making towards identity-affirming conceptions (Schildt et al., 2020). Relatedly, organizational rules, which define what actors think and do, help maintain organizational identity, culture, structure, and routines (Mills & Murgatroyd, 1991). Organizational rules bound sensemaking by dictating and socializing people towards meanings and actions that are (in)appropriate and (il)legitimate (Helms Mills et al., 2010). For example, an organization whose identity and rules are oriented towards advancing student opportunity can render suspect issues not deemed student-related such as faculty work conditions.

Finally, sensemaking outcomes in Weick's (1995) formulation are shared, plausible (i.e., not necessarily accurate) meanings that are functional enough to guide action. Mikkelsen and Wåhlin (2020), however, not only found that sensemaking may not result in a single meaning, but that what appeared to be shared was in fact the "dominant" meaning that was advanced by those in authority and that aligned with the organization's identity and rules. Alongside the dominant meaning were "hidden" and "forbidden" meanings unknown to leaders. While hidden meanings were shared relatively freely, forbidden meanings were wrapped in secrecy and taboo.

In sum, scholars who center power and politics in sensemaking have made issues of (il)legitimacy, conflict, contradiction, and control crucial for studies on "the quest for meaning" (Weick et al., 2005, p. 409). To date, their insights have been largely confined to the management scholarship with few extensions to education. This is not to say that education scholars have ignored power; rather, power is implicit in analyses (e.g., Coburn, 2001; 2005). My aim in this article is to demonstrate how and why focusing on power and politics in educational research matters, using meaning-making about "equity" as a case study. While a longstanding concern, in recent years, policymakers, practitioners, and researchers have become more explicit in their use of the word "equity" often without clear definition (Anderson, 2012). Equity, however, can mean different things (Stone, 2012), making it high in "interpretive viability": on the one hand, it is easily recognizable; on the other hand, it is ambiguous enough that people can "eclectically select those elements that appeal to them, or that they interpret as [its] core idea, or that they opportunistically select as suitable for their own purposes" (Benders & Van Veen 2001, p. 37).

This inquiry stems from a larger case study of Los Robles College (pseudonym), a community college, in which I used Weick's (1995) framework to examine how the meaning of equity was constructed (Ching, under review). Consistent with Weick's assertions, equity moved from a word to which multiple meanings were attached, to a shared idea that felt and sounded right to many at Los Robles. This finding is the point of departure for my analysis here, where I "re-read" the data through a power and politics lens. To situate this analysis, I first discuss equity's varied

conceptions to showcase its interpretive viability. I then describe the original study's data collection, which was guided by Weick's framework, and this paper's analytic methods, which is informed by power and politics insights. (See Table 1 for a summary.) My findings highlight how college leaders enabled and constrained meaning-making, how hidden meanings cut against the dominant construction, and how the institutional environment bounded the arena of possible meanings. Together, they showcase how layering on a power and politics analysis complicates the story of meaning-making, offering an arguably fuller narrative of "the quest for meaning."

Table 1: *Traditional Sensemaking (Weick, 1995) and Power in Sensemaking Insights with Empirical Applications*

Traditional Sensemaking Insights, Data Collection Application	Power in Sensemaking Insights, Data Analysis Application
People's interaction with their environment shapes how sensemaking proceeds. The environment is a source of "organizational shocks" that trigger, and cues that focus, sensemaking. Interview Questions • What informs your thinking about "equity"? Observation Prompts • What do people attribute the focus on equity to? • What do people refer to when they speak about equity?	Organizations are nested in environments where dominant logics direct what people understand as acceptable. Sensemaking does not take place in a "hyper-agentic environment"; rather, people find some environmental elements legitimate, and others illegitimate, for sensemaking. Analytic Questions • What world views underlie the meanings of equity people express? • How do particular world views constrain and enable sensemaking? • What is the legitimate universe of cues? What in the environment shapes which cues are recognized?
Organizations enter a state of equivocality when sensemaking is triggered. Equivocality creates ambiguity and reducing it is a key purpose of sensemaking. This occurs socially, through interaction and words and metaphors used to label and categorize what something is or is not. Interview Questions • How is equity discussed? • Where is equity discussed? • Who is involved in these discussions? • How does your understanding of "equity" influence interactions with colleagues? Observation Prompts • Observe meetings, events, etc. where equity is likely discussed. • Who attends meetings? • How do actors interact? • What words/language do they use to talk about equity?	Sensemaking is not a democratic affair because of organizational hierarchies. Those in positions of formal or informal power have more opportunities to make and give sense, more authority to control the boundaries of social interactions, and are more likely to be seen as legitimate knowledge sources. Analytic Questions • Who are central actors vis-à-vis equity? Based on formal, informal position? • Who is a legitimate source of equity knowledge and expertise? • Who has close, peripheral proximity to central actors? • Who has authority, opportunity to give sense? • Who is (not) allowed into dedicated sensemaking opportunities about equity?

Organizational identity shapes sensemaking. Through sensemaking, this identity is (re)constructed. Interview Questions • Can you recall past work that attended to equity? • Are you aware that senior leaders are committed to making the college a leader in equity and excellence? Observation Prompts • Do people reference past experience when they talk about equity? Document Review • How is equity described? • Is / how is college history and identity associated?	With power vested in organizational identity and rules, sensemaking is constrained by the need to reaffirm dominant identities and the rules that control, constrain, and guide organizational functioning. Analytic Questions • What aspects of organizational identity constrain and enable sensemaking? • How is sensemaking tied to the preservation or change of organizational identity? • How do institutionalized beliefs about community colleges influence which equity meanings are taken up?
Sensemaking results in a plausible but not necessarily accurate meaning that is shared across an organization and is coherent and functional enough to guide action. Interview Questions • What do you think equity means for the college? • How do you think equity is realized?	Sensemaking can result in multiple meanings, which are dominant, hidden, and/or forbidden. Analytic Questions • What is the content of leaders' sense giving? • What alternative meanings are shared by organizational members? • What world views underlie the dominant, hidden, and forbidden meanings?

Equity's Interpretive Viability

Equity's interpretive viability stems from the multiple dimensions that characterize what it can be: who it targets, what it focuses on, and how it is pursued (Stone, 2012). Even as equity bears on many educational issues (Pasque et al., 2012), most scholarship—including that on community colleges, the empirical context for this paper—focuses on student experiences and outcomes (Baber et al., 2019; byrd, 2019). Within this scholarship, equity can be for all students, or students from specific racial / ethnic or socioeconomic (SES) groups (Guiton & Oakes, 1995). Access and participation (Dowd, 2007), achievement and completion (Lester, 2014), funding and resource allocation (Melguizo et al., 2017), within classroom and school experiences (Larnell, 2016), and policy and reform efforts (Ching et al., 2018) are routine equity foci.

How equity foci are addressed and whom equity is for depend on underlying logics that set equity "as a moral commitment" (Levin, 2010, p. 3). Most common are distributive approaches, which seek fairness in providing resources, goods, and opportunities (Stone, 2012) and typically turn on one of three logics: fair competition, utilitarianism, and egalitarianism (Guiton & Oakes, 1995; Howe, 1994). A fair competition logic aims to level the playing field for all students, with individual merit and ability the primary basis for distribution, and with attention to group characteristics such as race/ethnicity and SES minimized. Distribution grounded in utili-

tarianism is not concerned with individual benefit but with seeking the greatest good for the greatest number. The aphorism "rising tides lifts all boats" captures its essence: improving the environment (i.e., rising tides) improves the conditions for all (i.e., lifts all boats). A utilitarian logic is agnostic about whether resources go to the more or less advantaged as long as distribution maximizes benefits for all. Egalitarianism opposes meritocracy and maximum benefit as bases for fair distribution; while the former rewards natural talents for which individuals "deserve neither credit nor blame" (Howe, 1994, p. 29), the latter betrays individual rights in favor of societal benefit (DesJardins, 2002). An egalitarian logic demands intervention for those disadvantaged by factors beyond their control such as being racially minoritized in a white-dominant country or having a disability in an ableist society (Howe, 1994). Distribution is geared toward "the greatest benefit of the least advantaged" (Rawls, 1999, p. 266) such that they can achieve "some threshold level of performance" (Guiton & Oakes, 1995, p. 331).

Distributive approaches, regardless of logic, focus on achieving standard outcomes (e.g., completion) and raise few concerns about the education to which students have access. This is not the case with democratic and transformative equity logics, which are more justice-oriented and question who has the power to shape what education is for, which educational goods count, how it is practiced, and how differences between people are recognized and valued (Delgado Bernal, 2002). Education is value-laden in these two versions, the product of dominant race (white), gender (male, cis-gender, heteronormative), class (middle and upper), ability (ableism), religious (Christian), and epistemological (positivist) norms. Both work towards ensuring that minoritized students are "holders and creators of knowledge" (Delgado Bernal, 2002, p. 106). How they achieve this end, however, differs. Democratic equity seeks to create space for minoritized students to shape education in ways that matter for them. It asks faculty and staff to approach teaching and counseling as relational practices that nurture students' self-esteem and well-being, ideally resulting in a "willingness to reveal [their] essential self" (Valenzuela, 1999, p. 21). Transformative equity instead focuses on the system, seeking to change dominant norms and combat structural inequality, institutionalized discrimination, and "oppressive power relationships" (Bertrand et al., 2015, p. 5). Interrogating the foundations of organizational cultures and practices, examining the deleterious effects of the status quo on minoritized populations, and reconfiguring how things are done all fall under the umbrella of transformative equity (Dowd & Bensimon, 2015).

Equity is thus not one thing. Community colleges are one location where equity's varied meanings have long co-existed (Baber et al., 2019). As open access institutions that have widened opportunity and participation for anyone seeking higher education (Dowd, 2007), community colleges exemplify the fair competition logic of equity. At the same time, because community colleges are the main access point to higher education for most students of color and students from low SES backgrounds (Malcom-Piqueux, 2018), they also embody an egalitarian equity logic. And, in community colleges with especially diverse student populations, there could exist democratic and transformative equity logics that seek to honor the plurality of students' experience, embrace their ways of knowing, and create participatory and empowering educational environments (Rhoads & Valadez, 1996). How (dis)agreements around equity's meanings are negotiated at an organizational level are issues that educational scholars have not fully addressed to date. Such an inquiry is ripe for a sensemaking analysis that centers how a conception emerges as dominant, how factors within and outside an organization shape this outcome, and how underlying logics factor into meaning-making.

Methods

The data for this analysis come from a case study of meaning-making about equity at a community college in California, Los Robles College (pseudonym). I conducted fieldwork for the original study from August 2015 to August 2016. During this period, Los Robles was one of California's 113 community colleges, serving over 20,000 students annually. Located in a densely populated region, over half of the students were from racially minoritized backgrounds, over 40 percent received financial aid, and roughly a quarter were the first in their families to attend college. More than 1,000 full- and part-time faculty and roughly 150 staff members served these students. With a reputation as an academically rigorous, transfer-focused community college, Los Robles embraced an organizational identity of excellence and doing the best for itself and its students.

Following the case study tradition, I collected multiple sources of data (Stake, 1995) to develop a holistic picture of equity meaning-making at Los Robles: (a) interviews with practitioners (faculty, staff, administrators) to understand how equity was conceptualized and enacted; (b) observations of events to see how equity was framed and messaged to the campus community, and of other meetings (e.g., academic senate meetings) to see how equity was discussed collectively; and (c) documents to examine how equity was described in written form and to supplement my understanding of college context and history. I used Weick's (1995) sensemaking framework to guide data collection (see Table 1) and my original analysis.

The current analysis relied primarily on interviews, with observations and documents playing a supplemental role. I interviewed 62 practitioners (14 administrators, 39 instructors, 5 counselors, and 4 staff). In sampling practitioners, I aimed for variation in role type and involvement with equity work: those who were (a) involved in at least one college equity initiative; (b) not involved but expressed agreement with equity initiatives; and (c) not involved and expressed skepticism of efforts. Sampling on these dimensions increased the likelihood of capturing different perspectives about equity. My interview protocol included questions on roles, responsibilities, equity conceptions, and thoughts on equity efforts. Most interviews lasted between 60 and 90 minutes. All participants agreed to be recorded and to have their interview transcribed. I wrote memos following interviews to record my impressions of, and ideas emerging from, the exchange.

To move from a traditional to a power and politics-centered analysis, I developed "analytic questions" based on the literature (see Table 1), which help parse out relevant data (Neumann & Pallas, 2015). I returned to the interview transcripts, looking for data that answered the questions. For example, in response to "Who is considered a legitimate source of equity knowledge and expertise?" I looked for people whom participants named as influential on their thinking about equity and why they thought these individuals were knowledgeable. The question, "What meanings of equity are discussed at the college and which are dominant, hidden, and forbidden?" allowed me to categorize equity conceptions that did not fully align with leaders' framing and to consider which logics underlie dominant, hidden, and forbidden meanings. I developed a case narrative that describes how power and politics shaped the construction of equity at Los Robles. I looked for data from observation field notes and documents that supported, nuanced, and/or pushed against main insights and themes. Finally, I compared this case narrative against the one I crafted using traditional sensemaking as a guide. This comparative analysis allowed me to sur-

face interpretive tensions in the story of Los Robles' quest for equity's meaning, which manifested most clearly in (1) leaders' role, but also in (2) sensemaking outcomes and (3) the environment's influence.

Leaders: Necessary Triggers or Dominant Shapers of Meaning?

In 2014, state policymakers introduced a suite of student success and equity reforms in the California Community Colleges. One—the Student Equity Policy (SEP)—shifted the policy environment for equity and, in sensemaking language, was the "organizational shock" that interrupted normal activity and triggered people to ask, "what's going on" (Weick et al., 2005, p. 410). While many I spoke with said the SEP and the funding it provided were critical to equity becoming a focal point at Los Robles, they also acknowledged what senior leaders did to make equity part of campus life. According to one counselor, there "was a smaller group of voices having [the equity] conversation" before fall 2014; after, there was a noticeable increase in equity-related emails, workshops, and discussion. During my time at Los Robles, I too saw equity take center stage at large campus events. For example, at the fall 2015 convocation for full-time faculty and staff, the president made the case for an equity "imperative," the student services dean stated that "equity is truly everyone's business," and the equity dean called the over 300 people in attendance "equity practitioners." In the president's newsletters, I read blurbs on equity efforts like a workshop "to reflect and act on our equity work," a project on developing "change agents" who "examin[e] equity through the lens of students," and a staff equity retreat organized by the equity dean. And, in meetings, I heard the president and vice president for student services ask people to share experiences that reflect what equity is and is not to them.

Leaders instigating talk and action about equity was intentional, and for some, necessary. One administrator explained that Los Robles is a busy place and equity would not be a priority unless leaders demonstrate the value it holds for them, message its importance, and devote resources to advance student equity. Faculty and staff I interviewed noticed leaders' efforts to trigger attention to equity. To some, they were demonstrating "true leadership" (faculty) and asking the college to work on operationalizing equity and other core values (staff); to others, they were pushing equity because policymakers were investing considerable resources in, and holding institutions to account, for equity and student success (faculty). While opinions diverged, responses suggest that leaders created a campus environment where equity mattered.

Shaping Meaning through Talk and Interaction

Leaders did not formally establish one conception of equity to which all needed to align, and continually messaged that campus members can participate in equity efforts if they like and can define and enact equity on their own terms. However, a power and politics framing suggests that influence need not be direct nor heavy handed to impact sensemaking; rather, influence can manifest in who has opportunities to give sense, in what sensegivers communicate, and in how occasions for sensemaking are designed. Perhaps the clearest way Los Robles' leaders shaped meaning-making was through the multiple occasions and media—presentations, publications, correspondence, one-on-one and group interactions—they had to give sense about equity and to couple it with certain ideas. For example, during my fieldwork, I observed three annual events (two fall 2015 convocation events, president's cabinet retreat in spring 2016), two one-off events (staff equity retreat, planning and defining equity retreat), and one monthly meeting (equity and

student success committee) that were entirely or partially dedicated to discussing equity. Senior administrators set the agenda for each event, organized the speakers, and facilitated these occasions for sensemaking and sensegiving about equity. Of these occasions, the convocation events were noteworthy because of the large number in attendance, and because they were the first major convenings where equity was on the agenda and leaders sketched their vision. It was during these events that leaders started to couple equity with a particular conception, despite assertions that people could develop their own understanding. Specifically, the president showed an image with two halves, both of which featured people of different heights standing on boxes behind a fence. On the left side, labeled "equality," each person was standing atop one box; on the right hand, labeled "equity," each person had the number of boxes they needed to see beyond the fence (field notes). The president remarked that equity is when the person who does not need a big to see over the fence gives their box to the person who needs it. This suggests an egalitarian conception premised on (re)distributing resources (represented by the box) so that all can achieve a shared goal (represented by each person's ability to see the other side of the fence).

"The boxes" appeared frequently in campus communications and meetings, and over time, became a part of campus members' equity talk. For example, at the planning and defining equity retreat five months after convocation, one person asked, "Which box do we give students? Students need different boxes in different orders. The problem is that the institution is determining the boxes" (field notes). A consequential sensemaking cue, a third of participants interviewed referenced it in response to my questions about what equity means to them and what they believe equity means at the college. One instructor suggested that the image's evocative power stemmed from its clear representation of "one of the most nebulous words that you can come up with." Two instructors drew "the boxes" as they explained their understanding of equity. Another said she "never really knew the definition" until she worked on an "equity report" and presentation that included "the boxes."

Besides "the boxes," the notion of "outcome inequity"—or in the language of the SEP, "disproportionate impact"—continually featured in meetings and administrator emails and reports. For instance, nestled in the president's remarks on "building a collective imperative for equity" at the full-time faculty convocation was an "equity dashboard" that showed which student groups were at or below equity for access, retention, and completion outcomes (field notes). The institutional researcher presented a similar dashboard at the staff equity retreat several months later. Administrators expressed the importance of data and outcomes analyses for embedding equity at the college. One said in an interview that it was data showing that Black male students have a six percent chance of graduating "that was a huge hit on the head to the campus" and that "we need to change those figures." Another administrator whom many regarded as a legitimate source of equity knowledge—even by skeptics of the college's approach—noted that "equity in outcomes" was core to her understanding and to the shared meaning she believed the college was constructing. "Putting data out there" about students' experience and having "some type of data discussion" to identify how to better support students was what this administrator saw as "the flavor and the focus as we move forward."

As leaders shaped the construction of equity through public expressions and actions, their influence also manifested in one-on-one interactions. According to one instructor, senior adminisrators "really believe in" equity and "they're letting people with creative ideas have resources to bring them to fruition." Participants spoke of how leaders, particularly the president and former vice president for student services (VPSS), helped them understand equity. The latter, for example, showed a staff member "the boxes" image, which helped her see equity as: "meeting people

where they're at, and giving them the things that they need in order to achieve…their goals here at the college." Whereas the staff member had "no interest" in initiatives championed by the administration beforehand, working with the former VPSS on "issues related to student success and equity, and the learning and thinking around that…reinvigorated [her] interest…and ignited something in [her]."

Shaping Meaning Through Resource Allocation

"The boxes" and "equity in outcomes" ultimately converged at Los Robles, with "equity in outcomes" the end towards which leaders wanted the college to move, and giving boxes to and/or building better boxes for students a means of getting there. As one administrator explained, "doing equity…affects all student success but…you're targeting the students that need the most support 'cause they haven't had it getting here. So if we really are gonna gauge our success, then we need to look at this target group and make sure that we are moving the needle."

To "move the needle," leaders invested considerable resources—financial and otherwise—(a) to reform areas that disaggregated data analysis identified as problematic (e.g., assessment and placement, developmental and first-year English and math curricula), and (b) to institute new initiatives that they believed would advance equity (e.g., professional development, tutoring, summer bridge program, new staffing).

By funding actions that align equity with building better boxes to achieve equity in outcomes, leaders reinforced the import of this meaning for the college. Their imprint was also apparent in which better boxes they championed, a notable example of which was "acceleration." Several years prior to the SEP, a group of English faculty created an "accelerated course" that prepared students placed in developmental education (DE) for college English in one semester. This course addressed a problem—well documented in research—plaguing many students in community college assessed as "unprepared" for college work: placed in DE courses one or more levels "below college," many have experienced a lower likelihood of reaching college courses (Valentine et al., 2017). The faculty received little support from the college to expand the accelerated course offering until the administrator who spearheaded the college's *Developing Hispanic-Serving Institutions* (HSI) grant application made the overrepresentation of Latinx/a/o and Black students in DE an equity problem the college needed to address, and curricular and pedagogical reform an equity solution. A curricular reform, acceleration entered the realm of legitimate equity actions. Leaders further cemented its position at the fall 2015 convocation when they gave the English instructor most associated with acceleration the opportunity to showcase it as "a high impact response to equity." Thus, through funding and public presentation, leaders turned acceleration into the kind of better box welcomed at Los Robles, an exemplar equity enactment.

Sensemaking Outcome: Shared or Contested Meanings?

Despite talk about "the boxes" and outcome (in)equity, by the end of the 2015-2016 academic year, I had not seen a statement explicitly articulating what equity was for the college. When I asked whether the college had one, a counselor answered: "Not in the sense that you could cut it out and put it out." Nonetheless, using traditional sensemaking, I found that meaning construction occurred as administrators, faculty, and staff associated equity with certain ideas and efforts, and more confidently labeled some things as (not) equity (Ching, under review). From these sensemaking acts, an organizational meaning coalesced around equity (a) "for our students";

(b) entailing the use of disaggregated data; (c) requiring action, notably, the redistribution and improvement of existing, and creation of new, resources to meet student needs and achieve equitable outcomes; and (d) demanding a student-centered and asset-based mindset that makes practitioners responsible for eliminating barriers to student success.

As noted, a power and politics frame complicates the idea that the reduction of equivocal inputs into one plausible understanding is an ideal sensemaking outcome; rather, this single meaning is likely one of several—the "dominant" rather than only meaning (Mikkelsen & Wåhlin, 2020). Although no one I interviewed or observed outright disputed the dominant equity meaning under construction, I detected a few murmurs about aspects of this meaning. For the most part, the contests were muted, shared with specific people in certain rooms. Yet, from a power and politics perspective, their existence is noteworthy and prompts questions about which meaning gains legitimacy and which are kept "hidden" or "forbidden" (Mikkelsen & Wåhlin, 2020). I feature two contests below, one that pushed against the dominant idea by which student equity should be achieved and a second that countered the dominant idea that students should be the only equity targets. While more explicit in the second, both demonstrate a desire for employee needs and work conditions to be considered part of Los Robles' equity narrative—a "hidden" meaning rarely featured in meetings and events I observed.

Contesting the Dominant Means of Pursuing Equity

"I'm sorry if I'm getting angry," an instructor said, voice raised. "But this, you touched a nerve here." This occurred about 50 minutes into the interview. For 15 minutes prior, he shared how achieving equity, defined as mitigating outcome inequity, was unrealistic given the conditions in which Los Robles specifically, and community colleges generally, operate. Questioning the idea of "the boxes" and the push to do more for students, he explained that his five-course workload each semester, each with a cap of 45, makes this untenable. "You wanna improve outcomes, you wanna improve equity? You want me to do whatever is necessary to outreach more to students who are traditionally not doing well? Reduce my workload." He recalled a time when he felt he was doing what is now being asked of the faculty. Then, he "demanded intense writing from students" and provided detailed feedback, which resulted in "significant improvement" in students' writing. He stopped, however, explaining, "I would never make it to a pension. I would've been exhausted. I would've burned out after five years. That's a workload issue."

Other instructors voiced similar concerns about workload. One said that the advice instructors received about equity was to have "more contact" with students, "more interpersonal interactions." If giving students more individualized attention was the strategy, she said that course caps need to be lowered. Yet, echoing others, she explained that faculty are simultaneously pressured to increase course caps and student enrollment. As an administrator from the district office said, "enrollment produces dollars" (field notes). This message was delivered at the 2015 faculty convocation event, prior to the president's remarks on equity. Indeed, the constant monitoring and push to grow the number of "full-time equivalent students" was a key concern since this is what determines the college's state funding. The instructor added, "I think that's when faculty get frustrated because you're getting pressured to do these things that are completely contradictory to each other, and then you're just like, 'Well, this is just, I don't know what to do.'"

In addition to workload reduction, the first instructor argued that student equity was impossible without more state monies given the economic circumstances from which many of Los Robles' students come.

> You wanna talk equity, you wanna help the types of students who are African American, Latino, come from disadvantaged backgrounds…They gotta work and attend school. They gotta raise their children while coming to school. Those are the people who come to community colleges, yet you're funding us at only 25% of which you fund the [University of California], and 50% of which you fund the [California State University]. Now, you tell me "where's the equity?" And you come to me in my classroom and say, "I gotta have greater equity?"

It was at this point that his anger reached its apex. A moment later, he added, "If you want to talk equity, go to Sacramento and demand that they fund us because we have the need here."

Contesting the Dominant Target of Equity

At Los Robles, equity's dominant meaning was associated with "our students." Even those who felt that the college's equity meaning was still "getting there" (counselor) were fairly certain that equity was about doing things to make the college better for students. There were, however, some instances where equity "for our students" was not the goal, but a means towards another. One instructor said, "We kinda use [student equity] as a weapon sometimes to get what we need" such as cleaner buildings. "This building is constantly dirty," she explained, "so how is that equitable to our students if the [district] chancellor sits in a clean office and they sit in filth?"

Equity was also a "weapon" for part-time faculty who make up 75 percent of Los Robles' faculty work force. Midway through the fall 2015 semester, posters advertising "campus equity week" appeared in buildings across the college. The posters stated: "Student Equity! ≠ Adjunctification and Poor Student Working Conditions!" and "Student Equity! = ***Fighting*** Adjunctification and Poor Student Working Conditions!" An adjunct instructor explained, "Equal pay for equal work is kind of a hard sell until it's connected to the student equity thing. Just on justice, people don't seem to be that interested in justice for the sake of justice." To expand who equity can and should be for, campus equity week organizers invoked a utilitarian logic for equity, arguing that since adjunct faculty are part of the environment for students, improving conditions for them should improve conditions for students. Taking a utilitarian approach underscores the politics of meaning construction and shows that even in community colleges where issues of opportunity and equity are longstanding concerns, "justice for the sake of justice" and equity for those who are not the dominant target population are not givens. To have a chance of being included in equity discussions, campus equity week organizers felt the need to attach adjunct faculty equity to student equity.

Despite these efforts, there was little traction. One administrator said the posters made "the hair on the back of my neck stand out because I feel like the implication is that we don't treat adjuncts with respect." One instructor found the posters "confusing" because they seemed to be about "doing something to improve student outcomes" but were in fact about "rais[ing] the incomes for adjuncts." He added, "I realized that when [adjunct instructors] say 'equity,' I have to say, 'Who are we talking about? The adjuncts or students?'" While I heard some support for better adjunct working conditions, and despite research suggesting a connection with student equity (Kezar & Maxey, 2013), adjunct faculty equity was not widely discussed, nor was it championed by those in positions of authority. In fact, leaders like the administrator quoted here seemed to dismiss the legitimacy of equity for adjunct faculty. This suggests that a dominant meaning is shaped not only by what is encouraged through talk, interaction, and resource allocation, but also

by gatekeeping actions—by what is kept out of the conversation or delegitimized, especially by powerful actors.

Environment: Democratic Possibilities or Ideological Constraint?

While leaders were a major force in making equity about students, what made student equity the logical focus and an egalitarian approach the logical approach for Los Robles? Further, what made both not only cognizable, but appropriate and acceptable? Traditional and power and politics sensemaking frameworks both say the environment is consequential for sensemaking process and outcomes. In Weick's (1995) version, people's interaction with their environment constrains but also creates opportunities for sensemaking. For power and politics scholars, institutional forces in the environment bound what people can sense and ultimately judge as (il)legitimate (Helms Mills, 2003). The notion of institutional forces (i.e., ideologies, field-level norms, etc.) can help address why certain ideas about equity took hold and were deemed legitimate. At Los Robles, three were especially important: (1) the community college's institutional story and identity as the "gateway" to higher education for all (Dowd 2007); (2) the underlying egalitarian thrust of most current educational equity reforms (DesJardins, 2002); and (3) the neoliberal context in which community colleges operate (Baber et al., 2019).

Of all higher education institutions in the United States, community colleges provide access to higher education for the largest number and most diverse range of students (Malcom-Piqueux, 2018). This fact has been core to their institutional story, especially after World War II when President Truman's Commission on Higher Education positioned community colleges as the solution to expanding the country's college-educated population (Gilbert & Heller, 2013). Since then, scholars have called community colleges "democracy's college" (Griffith & Connor 1994) and the "great equalizer" (Weis, 1985). Their identity as opportunity-producing, democratic institutions drew many practitioners to work at Los Robles. In interviews, they explained that community colleges do not limit enrollment based on a narrow set of criteria like universities; rather, they serve students who need to attend part-time, who are older, or who need a second chance at higher education. As such, those working at community colleges are "always intensely concerned with giving everyone a chance at whatever it is this college can give them" (instructor). Echoing what policymakers and researchers have said, interviewees called community colleges "the revolution," the "only viable pathway to the middle class for students who were underserved in K-12" (instructor), and a means of realizing "the democratic vision for America" (instructor).

While they may have other motivations for working at Los Robles, that practitioners reflected the taken-for-granted institutional story and identity of community colleges suggests a direct connection between themselves and the normative view of what community colleges are supposed to be. They are, in Zilber's (2002) words, "carriers of institutional meaning" (p. 236). Hence, as they confront ideas like equity and seek to make sense of them, institutional meanings creep into their meaning-making and shape their interpretations. The step from student opportunity and diversity to student equity at Los Robles could thus be seen as logical. Indeed, following the remark that community colleges are "Ellis Island," the president said the question is "how to make Los Robles an equitable place for our students." In an institutional story where students are central and their opportunity is the pre-eminent goal, practitioners—especially faculty—are expected to put student needs above their own and to "organize their work around an ethic of care and vocation" (Gonzalez & Ayers 2018, p. 471). This expectation narrows equity so that it is

applied primarily, even exclusively, to students. In turn, equity for non-students like adjunct faculty is delegitimized even when a utilitarian equity case can be made that ties their fate with students'. Moreover, broadening the equity conversation to include faculty, administrators, and staff not only cuts against the "organizational rules" (Mills & Murgatroyd, 1991) of community colleges, but threatens their identity as students-first organizations.

Although access, opportunity, and democracy remain foundational to community college's institutional story and identity, in the mid-2000s, policymakers and reformers began making student outcomes, mitigating outcome inequity, and coupling equity with student success and completion central to their agendas (Lester, 2014). It was in 2009 at Macomb Community College that President Obama announced the American Graduation Initiative and the goal of significantly increasing the number of graduates by 2020. National organizations like Achieving the Dream pushed community colleges to create a culture of evidence to improve student success, notably by using data to identify gaps in student progress and performance, and to develop action plans to address those gaps (Bragg & Durham, 2012). In California, the Student Success Act of 2012 reframed the direction of community colleges from "get[ting] more students" to "increase[ing] the percentage of success with those students" (counselor). And, by the late 2000s and early 2010s at Los Robles, some practitioners started to connect student outcomes with practice changes. Thus, when the SEP arrived in 2014, the field of community colleges was already moving towards a form of equity focused on students, data, eliminating barriers, and taking action to achieve equitable outcomes. This form more-or-less aligns with a distributive, and specifically egalitarian approach to distributive, equity: disaggregated data analysis to identify who is not experiencing success and to determine who should receive resources and supports so they can achieve a "level of performance" (Guiton & Oakes, 1995, p. 331). Furthermore, at a societal level, even though egalitarianism is not the sole basis for social, political, and economic equality in the United States, it is embraced by enough people to be part of the conversation (Verba & Orren, 1985).

Even as the policy push for using data and achieving greater student success, completion, and outcome equity points to an egalitarian equity logic, it also reflects the influence of neoliberalism on community colleges (Baber et al., 2019). Under neoliberalism, education is shaped by competition logics and market forces, designed to maximize economic return, and guided by efficiency and productivity goals. Funding for community colleges flows less from taxes and state appropriations and more from student tuition and fees, business, and industry. Individual / private benefits trump public good arguments for education and sideline efforts that strive for equity and justice on exclusively moral grounds. As the adjunct instructor said of adjunct faculty equity, "people don't seem to be that interested in justice for the sake of justice."

Taking the neoliberal context into account helps explain why lowering course caps, calling for more state funding, and improving working conditions for adjunct and full-time faculty were not seriously considered in equity discussions at Los Robles. These means of pursuing equity, even when a utilitarian argument can be made, are not palatable in a policy and funding environment where maximizing output (e.g., credentialed students) and outcomes (e.g., completion) on a shoestring budget is standard operating procedure. Adjunct faculty are desirable to colleges because they cost less, thus when they ask for better working conditions, it is "confusing" and can make "the hair on the back of [an administrator's] neck stand out." High course caps are equally appealing even at the expense of faculty burnout since "enrollment produces dollars"; reducing course caps would reduce tuition revenue that is much needed with less money coming from state appropriations. Ultimately, the realities of the neoliberal environment have rendered

unacceptable equity approaches that dampen the economic returns to education and that veer away from students—a college's main commodity and consumer.

Community colleges exist in a complex institutional environment. According to Baber et al. (2019), this environment directly impacts their mission, goals, and outcomes. As such, it is not hard to imagine why many Los Robles practitioners saw cues related to egalitarian equity like "the boxes" as a logical equity expression and why they considered equity for non-students illegitimate. "The boxes" made sense not only because the image simplified equity's complexity but because egalitarian logics in the institutional environment legitimized this version. Adjunct faculty equity did not make sense because neoliberal pressures have rendered working conditions an illicit concern. Thus, even though the president invited faculty and staff to "decide what equity means," the possibilities for self-definition were limited. Of the 62 people I interviewed, only 6 expressed a view that aligned with transformative equity; in contrast, 49 asserted an egalitarian conception, which included 11 of the 12 administrators in my sample. The circulation of and leaders' emphasis on "the boxes" are plausible explanations for this outcome. Yet, zooming out to include the institutional environment, which those who center power and politics in sensemaking propose, I found that ideologies and logics operating in the field of community colleges legitimized egalitarian equity for students at Los Robles.

At Play in the Field of Sensemaking

In this paper, I sought to bring traditional and power and politics approaches to sensemaking into conversation to demonstrate the limitations of relying on the former for studying the ideational aspects of organizational life. My purpose stems from an observation that education researchers' tendency to use Weick's (1995) sensemaking framework has meant fewer explorations of power, politics, and struggles over meaning and meaning-making in K-12 schools, colleges, and universities. I argue that especially when it comes to ideas with high "interpretive viability" (Benders & Van Veen, 2001) like "equity," which elicit different meanings that point to different foci, targets, and enactments (Stone, 2012), questions about who and what shape meaning-making and how certain meanings gain legitimacy over others warrant serious analysis. Borrowing insights from organizational scholars who have troubled several of Weick's core assumptions—notably, sensemakers' hyper-agency to extract environmental cues, the democratic nature of the sensemaking process, and the formation of one versus multiple meanings (Helms Mills et al., 2010; Ibarra & Andrews, 1993; Mikkelsen & Wåhlin, 2020; O'Leary & Chia, 2007; Schildt et al. 2020; Vallas & Hill 2012; Zilber, 2002; 2008)—I identified three interpretive tensions in one community college's quest for equity's meaning.

In both traditional (e.g., Coburn, 2005) and power and politics (e.g., Thurlow & Helms Mills, 2015) approaches to sensemaking, organizational leaders are critical to meaning construction. But, while the former highlights their pragmatic role in drawing attention to and making "equity" a serious endeavor in a big, busy place like Los Robles, the latter shows how they acted as dominant shapers of meaning. Despite public assertions that Los Robles practitioners were free to define equity on their own terms, leaders played a big sensegiving role and for some practitioners, leaders like the president, vice president for student services, and equity dean were credible sources of equity knowledge. They used "the boxes" image, which was widely accepted, and which grounded the dominant equity meaning in an egalitarian logic. Thus, the target of equity was students who are "disproportionately impacted," the legitimate enactment was the (re)distribution and/or creation of resources and supports, and the goal was the elimination of outcome

inequity. By championing and devoting resources toward efforts that fit this mold, leaders set the table for what is considered exemplar equity enactments. In sum, leaders bounded the arena for meaning-making and tied equity to a conception that made sense to them.

Yet, even as egalitarian equity dominated at Los Robles and was core to the plausible meaning guiding organizational action (Weick, 1995), a power and politics view notes that equivocal inputs can remain as groups within an organization adhere to alternative understandings (Mikkelsen & Wåhlin, 2020). At Los Robles, there were a few "hidden" meanings shared during interviews. Contests over the dominant means of pursuing student equity and whether students should be the only target highlight the dividing lines between those who more-or-less subscribe to the dominant meaning and those who do not, as well as point to how organizational rules and identity constrain meaning construction (Thurlow & Helms Mills, 2015). Specifically, organizational rules related to student enrollment, course caps, faculty workload, and college funding were points of tension. Pressures to grow enrollment, have high course caps, teach five courses a semester, alongside the inequitable funding of community colleges relative to the four-year public systems of higher education, made the idea of giving students "boxes" seem unreasonable to some practitioners, even among those who in principle agreed with student equity.

Finally, whereas traditional sensemaking treats cues and other influences from the environment as equals within a universe of possibility, a power and politics analysis introduces the idea that dominant world views and field-specific norms and values shape the direction and outcomes of meaning-making (Scott, 2008; Zilber, 2002). Thus, as much as elements within Los Robles (e.g., leaders, rules) constrained meaning-making, also active were elements operating beyond the campus. Notably, community colleges' institutional story as higher education's "gateway" (Dowd, 2007), the distributive thrust of most educational equity policy and reform work (DesJardins, 2002), and neoliberal pressures (Baber et al., 2019) created an institutional environment in which an egalitarian logic towards equitable student outcomes was the legitimate expression of equity. As such, messages like "the boxes" and equity being for students were readily accepted, not only because leaders equated them with equity but because the institutional environment did too. Constraints from the institutional environment can also help explain why democratic and transformative equity logics did not garner the kind of attention and legitimacy at Los Robles as the egalitarian logic. Even though egalitarian equity requires choices about who and on what to focus, it does not have as a starting position the exclusion of any student on the basis of some group characteristic (e.g., race/ethnicity). This starting position is in line with community colleges' open access mission and identity as a "gateway" institution. Democratic and transformative equity, in contrast, seek to remake education for students who do not hold dominant identities or social positions. Focusing equity exclusively on minoritized students could feel unfair to those who occupy dominant identities and positions (e.g., white, cis-gender men), and antithetical to who community colleges are and what they are supposed to accomplish.

Understanding how power and politics impacts meaning-making is critical, particularly in complex organizations such as schools and colleges with constituent groups and stakeholders who have different agendas, hold different positions, harbor different beliefs, and work under different conditions—all of which impacts what they think and do. Even as leaders attempt to corral organizational members towards a unified, dominant vision, fissures in the form of hidden and perhaps forbidden meanings likely remain. A power and politics approach not only helps locate these fissures but helps unpack why they exist. Further, as researchers, policymakers, and practitioners continue to strive for "equity," it is important to recognize that what it is and how it is pursued

are products of organizational (e.g., leaders with positional authority), field-level (e.g., institutional identity), and societal-level (e.g., egalitarianism) forces. Going beyond a traditional sensemaking approach to answer questions about power and politics—such as those that guided the analyses presented in this paper—sharpens focus on what enables, shapes, and constrains the quest for meaning, what is allowed to become meaningful and legitimate, and which meanings are deemed illegitimate and unacceptable.

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The Crafted Crisis in Higher Education Threatens our Democracy: A Review of After the Ivory Tower Falls by Will Bunch

After the Ivory Tower Falls: How College Broke the American Dream and Blew up our Politics— and how to Fix it by Will Bunch.
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Reviewed by Jeffrey Frenkiewich, University of New Hampshire

Abstract

In After the Ivory Tower Falls, Will Bunch argues that one of the root causes of the current political divide in the United States is the growing disparity in educational attainment amongst Americans, specifically one's ability to access (and pay for) higher education at America's colleges and universities. Bunch's argument shines a light on the surface-level conditions, such as skyrocketing tuition, that have contributed to limited access to higher education resources, but he also reveals additional motivations, some unintended, many intended, that undermine lower- and middle-income American's access to college. Bunch's blueprint for fixing this problem is worth consideration as he lays out important factors that need to be addressed, but the reviewer argues that perhaps most important, those who value American democracy and its system of higher education must reconceptualize and re-brand college as an essential institution in a functioning civil society and must convince those who now hold an anti-intellectual worldview that higher education is in their best interest.

Keywords: *college tuition; college loan forgiveness; privatization; college debt; higher education*

It seems the United States is more divided than at any time since the Civil War. The failed coup attempt of January 6, 2021 revealed the extreme nature of that division and the fragility of our democracy. In *After the Ivory Tower Falls*, Will Bunch argues that one of the root causes of this political divide is the growing disparity in educational attainment amongst Americans, specifically one's ability to access (and pay for) higher education at America's colleges and universities.

According to Bunch, the story of America's current political divide begins in a post-World War II United States where access to American colleges and universities was viewed as a "public good," necessary for integrating returning veterans back into society and expanding social mobility (chapter 2). Many Americans benefitted from this expanded access to higher education, but many others were altogether excluded from the economic and social benefits it provided. Likewise, those who had access to colleges and universities took part in cultural changes that those on the outside came to view as hostile to their way of life. By the first decades of the 21st century, the

vision of higher education as a "public good" turned into widespread "resentment of college" and a rejection of knowledge by those who were financially excluded from participation (chapter 7).

Bunch argues America's societal division is best categorized into four distinct groups. The base of the American population who now resent college and reject knowledge is made up of 1) Baby Boomers and GenXers "Left Behind" by expanded access to higher education and the changing economics of globalization and 2) younger Americans "Left Out," who have been blocked from accessing a college education due to limited resources and higher costs (p. 159). On the other side of the divide are 3) younger Americans who gained a college education but are "Left Broke" from the debt they incurred trying to pay for it (p. 158) and 4) their parents who benefited from an era of low-cost higher education, who benefitted economically from the opportunities that education provided, but who are now "Left Perplexed" as to why so many Americans resent the politics that protect and proliferate their economic and social status (p. 158). This, of course, is an oversimplification of society, but Bunch's work here frames the consequences involved in a system that has left 63 percent of Americans without post-secondary education (p. 258) and those who went to college with a collective debt that totals more than the entire credit card debt for the entire country (p. 5). Disaffected by a system that seems to work against their best interests, Americans "Left Behind" or "Left Out" of higher education have turned to an anti-intellectualism and anti-democratic worldview that now threatens American democracy; those who are "Left Broke" with college debt live disconnected from their neighbors who do not share that education, and there's an entire segment of the population "Left Perplexed" wondering why everyone else is so angry. Bunch argues that Americans need to address the role of colleges and universities in creating these divisions if we wish to maintain a functioning civil society.

The economic statistics Bunch provides deliver a clear picture for what's fueling this divide. For example, today's Millennials who do not hold a college degree earn just 62 percent as much as college grads (p. 255), and those who have gained access to a college education carry (as of the beginning of 2022) a collective student debt of over $1.7 trillion (p.5). America's current system of higher education has "Left Out" almost two-thirds of its people (p. 258), "Left Broke" those who have attended college, and "Left Behind" a generation of older Americans struggling to survive in a globalized economy (p. 158-159). Today, higher education in America appears to be a "rigged system" locking in "America's gross inequality" (p. 7); a system that proliferates a divide that threatens American democracy.

Difficulty gaining access to and paying for college, the economic side-effects of being blocked from that education, and the deluge of attacks on the college liberal-arts curriculum have ended with 54 percent of working-class Americans in 2016 feeling that college education today is a "risky gamble" - two-thirds of those Americans voted for Donald Trump in that year's election (p. 233). Needless to say, access to higher education and its economic benefits have a direct impact on American politics and the course of the nation. Bunch is clear that universal access to higher education, specifically a liberal arts curriculum, is essential for the functioning of a democracy and that a system which blocks a large segment of the population from accessing that education is dangerous to the future of the nation.

Bunch's argument shines a light on the surface-level conditions -- skyrocketing tuition, suffocating student debt, limited access to prestigious colleges, the economic and social status attached to a college diploma – that have contributed to limited access to higher education resources, but he also reveals additional motivations, some unintended, that undermine lower- and middle-income American's access to college, including a conservative backlash to civil unrest and the fight for civil rights (chapter 3) and societal racism and misogyny towards women and people

of color looking for equal opportunities (chapter 5). He also blames college trustees looking to attract the children of high-income earners by building campuses with resort-like amenities (p. 245) and Wall Street bankers "who found a way to monetize young people's hopes even while crushing them" (p. 258).

However, Bunch also identifies the various parties that have intentionally shaped these institutions to achieve their particular exclusionary ends. It was policies promoted and enacted by people like James McGill Buchanan, co-author of the book *Academia in Anarchy* (p. 94), Ronald Reagan, who as governor of California raised tuition in a university system that was once free to any Californian and as president enacted changes that devastated federal funding of colleges and universities (chapter 4), Lewis Powell, who prior to his appointment as a Supreme Court justice, wrote a memorandum warning that higher education is "the single most dynamic source" undermining laissez faire capitalism (p. 95), Rush Limbaugh, who fanned the flames of America's "culture wars" for decades on his radio show (p. 104), and Wisconsin governor Scott Walker, who in 2015 proposed a state budget that included language that would have changed the mission of the University of Wisconsin from a "search for truth" to "meet the state's workforce needs" (p. 216). In short, higher education has divided the nation along lines of wealth and privilege rather than serving as the primary institution ensuring meritocratic economic and social mobility for all citizens in a democratic society, but Bunch is clear that the year-over-year decline in public funding for American colleges and universities and the correlating increase in exclusivity at those institutions did not happen by chance; it was organized and orchestrated by those looking to achieve their own financial and political goals.

Many of these same actors took other actions that would have long-lasting impacts on American's abilities to pay for college, namely paving the road to globalization with economic policies that would leave most Americans unable to pay for college. Bunch does acknowledge Wall Street's role in creating the nation's college debt crisis (chapter 6), but corporations' role in gutting out America's well-paying unionized manufacturing jobs and leaving both rural and working-class urban Americans unable to pay the increasing price of college is worthy of emphasis. The impact this had on working class resentment toward college educated people cannot be overstated.

Similarly, Bunch does not give much attention to private for-profit colleges that preyed on Americans seeking access to the benefits of a college education, but the role of private education companies in this problem deserves scrutiny. For example, in 2021, the Federal Trade Commission placed 70 for-profit higher education institutions, including household names like Corinthian College, ITT Tech., and the University of Phoenix, on notice that it would investigate their false promises to would-be students (Nietzel, 2021); the Biden administration canceled $1 billion in student loan debt for tens of thousands of Americans who had been defrauded (Sheffey, 2021). Nothing undermines the perceived value of higher education like private companies selling snake oil in the guise of the American Dream.

One solution offered by Bunch is expanding access to community college as a means for allowing all Americans access to job training and liberal arts instruction (chapter 8), and the author also argues for a program of national service for young adults as a way of bridging this growing divide (chapter 9). In Bunch's vision, free two-year college is one vehicle for bridging the economic gulf that now divides this country, and programs like the Civilian Conservation Corps, Americorps, and Peace Corps would provide models for how to rebuild a functioning civil society able to communicate across racial, gender, socio-economic, and political lines.

The implication of this last point is perhaps Bunch's greatest contribution to the conversation as the author acknowledges that a "quick fix" such as student-loan forgiveness, or "free" tuition, are not the solution to long-running systemic problems, and certainly not the solution to conservative animosity towards college educated Americans and their more pluralistic worldviews (p. 257). The divisive reaction to Biden's plan to forgive student debt in August 2022 is just one example of how this problem needs a more nuanced approach if we wish to bridge the divides that now separate American society.

For over 50 years, conservatives have worked to undermine the structures that support the American system of higher education, and it may take 50 years or more to get that system back to full strength if it is to return at all. Bunch's blueprint is worth consideration as he lays out important factors that need to be addressed: America needs a more affordable system of 2-year and 4-year colleges, a youth service corps can bring together neighbors with differing politics, and something must be done about the privatizers looking to profiteer from the American education system. But perhaps most important, those who value American democracy and its system of higher education must reconceptualize and re-brand college as an essential institution in a functioning civil society and must convince those who now hold an anti-intellectual worldview that higher education is in their best interest.

That work must include addressing the "culture war" narratives that place a wedge between people who otherwise would share a common interest in fighting for economic justice. Bunch argues (chapter 7) what Richard Rorty predicted more than two decades ago (Illing, 2019; Rorty, 1998), that the perception that American colleges are focused on identity politics and a leftist narrative obsessed with America's failures, has turned off white rural working class and non-degree middle class Americans (rural, suburban and urban), and driven them to vote for candidates who promote this anti-intellectual ethos.

For many Americans today, the liberal arts curriculum is viewed as a vehicle for Marxist / socialist indoctrination and going to college is perceived as an "un-American activity" (Bunch, p. 221) that unmoors young people from their communities' traditions and values. Social justice issues are important and colleges must stand as beacons for equal treatment consistent with democratic principles. However, political leaders who care about the future of American democracy need to do a better job addressing the economic concerns of all citizens, and they need to place these efforts at the center of America's higher-education mission. As Rorty (1998) suggested, policy makers in higher education must return to bread and butter economic issues and not let the Right and far Left fear monger and divide the nation over identity politics. They must organize American colleges as the vehicle for achieving the American Dream for *all* Americans and re-brand the liberal arts curriculum as an essential mechanism for the promotion of healthy civil society in a democracy. Without this reorientation of its mission and a concerted re-branding effort, for many Americans, the idea of attending college, regardless of cost, will remain taboo, and the chasm between cultures will continue to grow.

It is clear that the narrative of American college as a means of economic and social mobility, as a "public good" for promoting a vibrant civil society, has transformed into a narrative where college is merely job training for those who could afford it; any other liberal arts instruction is "un-American" indoctrination. Conservatives' decades-long efforts of privatizing and dismantling the entire system of public funding for high education is all but complete; *After the Ivory Tower Falls* should remind all readers of the value of higher education in a democracy and it should remind all readers of the work that must be done to protect this institution so that democracy can survive.

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