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Opportunities to Learn

Investigating the Senior Capstone at Providence Christian College

Opportunities to Learn: Investigating the Senior Capstone at Providence Christian College

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Dedicated to Dr. Chuck Ryor.

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Executive Summary

Organizational Context

Providence Christian College, a four-year liberal arts college located in Pasadena, California, endeavors to provide its students with a robust liberal arts education embedded in a distinctly Reformed Christian context. Its mission is to "equip students to be firmly grounded in biblical truth, thoroughly educated in the liberal arts, and fully engaged in their church, their community, and the world for the glory of God and for service to humanity" (Providence Christian College, 2020b). As part of its efforts to assess the extent to which the mission is being accomplished, Providence requires its students during their final year of college to complete the Capstone. This summative set of tasks expects students to "demonstrate their understanding and mastery of their area of concentration by researching and producing a capstone project that consists of an ePortfolio, a Capstone paper/project, a public presentation utilizing presentation software, and an updated resume that is suitable for submission with job applications" (Providence Christian College, 2020c). Students present their Capstones at the end of the year before an audience of faculty, students, alumni, and parents.

Area of Inquiry

Providence's faculty, however, largely characterize the student Capstone work they receive as being unsatisfactory. The college's Capstone Improvement Subcommittee reported issues like poor quality research, mechanical and grammatical errors, unclear or undeveloped arguments, and unsatisfactory synthesis of ideas. They also identified issues with Capstone work demonstrating only a superficial understanding of the Reformed faith¹ and worldview², and a lack of depth and breadth of disciplinary knowledge. If the Capstone is meant to be the culminating experience for Providence students, the predominance of work that does not demonstrate mastery of the institution's religious and academic outcomes is a matter of serious concern to faculty and the board. In 2017, the college made efforts to address problematic capstone projects by implementing a year-long course called the Capstone Seminar during the students' final year of college, but the same problematic issues emerged in the capstone products.

¹ A theologically conservative branch of Protestant Christianity that stems from the teachings of John Calvin and other Reformation-era theologians.

² A perspective popularized by twentieth-century Reformed theologians like Abraham Kuyper that posited that Christians ought not to simply practice individual piety, but also actively engage in redemptive work in society, the workplace, and all of life.

Conceptual Framework

To direct my inquiry, I took up Greeno & Gresalfi's (2008) concept of opportunities to learn (OTL). Grounded in situated learning theory, this concept identifies learning as a social process that is facilitated over time as newcomers to a community increasingly adopt the group's central practices. OTL are resources that the community makes available to newcomers to help assist them in their learning and enable their eventual full participation in the community's central practices. Greeno & Gresalfi identify two primary OTL:

- *Informational resources*, or resources that help students "progress toward better understanding of concepts and principles of a domain or... toward more skillful performance of routine procedures or recitations" (p. 172)
- Interpersonal resources, or resources that help students "progress toward more engaged and successful contributions to a group's work or increased focus and concentration on independent work" (p. 172)

Using this framework, I set out to identify the central practices required for the Capstone, as well as the resources available that enabled these practices. According to my conceptual framework, a successful Capstone as an artifact ultimately symbolizes students' full affiliation with the Providence community and their adoption of the institution's most central practices of scholarship. An unsuccessful Capstone, however, represents the possibility that students were not able to adopt the community's central practices, and that the available resources in the community did not sufficiently enable their engagement with these practices.

Research Questions

- 1. What are the central practices required across coursework at Providence College and in what ways are these practices required to complete the Capstone?
- 2. What informational resources are currently available that enable students to participate in the practices required by the Capstone?
- 3. What interpersonal resources are currently available that enable students to participate in the practices required by the Capstone?

Findings

• Finding #1: Coursework at Providence requires 10 central practices. However, the written curriculum does not presently articulate how the practices embedded in each of the courses sufficiently prepare students for the Capstone, or clarify the extent to which these practices are actually necessary during the Capstone experience.

Practice #1: Interdisciplinary Critical Thinking

Practice #2: Researching

Practice #3: Writing

Practice #4: Oral Communication

Practice #5: Producing Original Work

Practice #6: Career Decision-Making

Practice #7: Seeking Faculty Advisement

Practice #8: Collaboration with Peers

Practice #9: Responding to Setbacks

Practice #10: Responsible Action

- Finding #2a: Prior coursework and the Capstone Seminar course were made available as resources to students, but these resources did not sufficiently enable the central practices of researching, writing, seeking faculty advisement, and responsible action (Practices #2, 3, 7, and 10).
- Finding #2b: Though the Capstone Seminar included several assignments that engaged the practices of interdisciplinary critical thinking, researching, writing, oral communication, career decision-making, and seeking faculty advisement (Practices #1, 2, 3, 4, 6, and 7), students overwhelmingly reported that these assignments were not meaningful for their Capstone, and that they actually inhibited the practice of responsible action (Practice #10).
- Finding #3a: Resources like course schedules with deadlines are made available to students, but students perceived that the types and frequency of deadlines that were communicated in the Capstone Seminar did not help enable responsible action (Practice #10).
- Finding #3b: Students gave inconsistent feedback regarding the quality of advising they received for their Capstone, and the extent to which this resource enabled the practices of researching, writing, and responding to setbacks was unclear (Practices #2, 3, and 9)
- Finding #3c: The Capstone was not integrated across the non-academic domains of the college, and non-academic staff reported that the Capstone was not a chief priority of theirs.

Recommendations

My recommendations on improving Capstone outcomes at Providence Christian College are as follows:

- 1. In order to better manage student expectations regarding the Capstone experience, Providence should explicitly articulate how coursework will prepare students for the Capstone, and incorporate Capstone-related tasks during each year of the academic program.
- 2. To provide students with the necessary resources to complete their Capstones, Providence should redesign the Capstone Seminar course during the final year to purposefully constrain the experience and allow for flexibility.
- 3. To provide students with the proper advisory support, Providence should identify, implement, and monitor expectations for faculty advisement for the Capstone experience. Providence should also consider reimagining the incentives offered to advisors to encourage more active participation.
- 4. To better support different types of students at the college, Providence should continue collecting and analyzing data on disaggregated groupings of students to see if any of these groups are experiencing Providence differently and require extra support.

Introduction

Providence Christian College was created in November, 2002 in hopes of providing students a robust liberal arts education in a distinctly Reformed Christian (Reformed) context. The mission of the college is to "equip students to be firmly grounded in biblical truth, thoroughly educated in the liberal arts, and fully engaged in their church, their community, and the world for the glory of God and for service to humanity" (Providence Christian College, 2020d). Providence was granted permission to operate as a degree-conferring institution in December, 2004 by the Bureau for Private Postsecondary and Vocational Education, and received its accreditation from the Western Association of Schools and Colleges accrediting agency (WASC) in March, 2013. The college is authorized to award eligible students who satisfactorily complete all graduation requirements a Bachelor of Arts degree in Liberal Studies.

As a relatively young institution, Providence is necessarily interested in whether they are meeting and/or exceeding their missional goals. Further, the college has determined five "student learner outcomes" as the core competencies that it desires for its students to demonstrate masterfully upon graduation (See Appendix A: Student Learner Outcomes at Providence). To help assess the extent to which the institution is truly successful in achieving its missional and academic goals, Providence requires its students to complete a broadly integrative culminating experience called the Capstone during their senior year. The college implemented a few iterative changes of the Capstone throughout its history, and Providence's Capstone Improvement Subcommittee (i.e., members of the faculty that were convened by Dr. David Alexander, Academic Dean, who were charged with improving Capstone outcomes) is interested in exploring what further changes may be necessary.

In what follows I will first share the organizational context of Providence Christian College, and then explain the problem of practice the college was experiencing as it pertains to the senior year Capstone. I will unpack what the literature says about undergraduate capstones and proceed to clarify the conceptual framework adapted from Greeno & Gresalfi's (2008) "opportunities to learn" theory that shaped my inquiry during this project. I will follow that with an explanation of my project methodologies, a presentation of my findings, and conclude with my recommendations for the institution as it moves forward into its preferred future.

Organizational Context

Providence Christian College as an idea was first birthed in 2001, when a small group of individuals began discussions to start a Reformed liberal arts college in the Pacific region of the United States, as many of the Reformed colleges were located primarily in the Midwest region at the time. The founding members were compelled by their Reformed faith and worldview to make such a college a reality in Southern California.

This Reformed faith and worldview informs all of Providence's practices. The Capstone Improvement Subcommittee informed me during our conversation in June 2021 that, as it pertains to faculty hiring and student enrollment, Providence requires its faculty members affirm their commitment to the Reformed theology and tradition when they are hired by signing a pledge in the employee handbook. Further, they clarified that Providence asks all admitted students to affirm the Apostle's Creed, a succinct statement of Christian faith. They explained that during the 2020-21 academic year, the college had 12 faculty members and approximately 130 students enrolled.

Providence receives its oversight first from the college's Board of Trustees, whose role is to determine and promote the ongoing mission and vision of the college. Currently, 21 members comprise the Board, and they live in various cities and come from a variety of Reformed denominations³ (e.g., United Reformed Church, Christian Reformed Church, Orthodox Presbyterian Church, Presbyterian Church in America, and others). Providence's administrative staff then provide leadership for the college's daily operations. Currently, Providence does not have a president as part of the administrative staff, as the previous president left the college to write his next book, and the search for the next president is ongoing. Lastly, as aforementioned, Providence has 12 faculty members (eight full-time and four part-time) who teach across seven different concentrations; and, as part of their responsibilities, engage in scholarship and research, provide service to the institution (e.g., serve on committees, etc.), advise students, and teach classes.

All classes at Providence are designed to develop and assess the college's "student learner outcomes" (SLOs). Created and subsequently revised over time by the academic dean and other faculty, the SLOs are five separate core competencies that are meant to be integrated across all the academic and student

³ Though the Reformed and Presbyterian denominations may subscribe to different practices, particularly as they pertain to church polity and liturgy, they are both characterized as "confessional" denominations. That is, Reformed denominations affirm a set of creeds, or "confessions," known as the Three Forms of Unity, and the Presbyterian denominations affirm a different set of creeds known as the Westminster Standards. Most Reformed and Presbyterian theologians and scholars agree that these creeds are fundamentally compatible, and that both sets of creeds offer an accurate presentation of Reformed Christian theology.

life experiences, and help evaluate the college's mission-driven efforts. The language of the SLOs can be found in Appendix A: Student Learner Outcomes at Providence.

Students at Providence encounter a curriculum that is sequenced across three distinct phases, which lasts eight semesters over four years. In Phase I, all students complete a common set of core requirements designed to develop students' ability to view the world through a holistic and interdisciplinary lens. Courses in Phase I include New and Old Testament, Composition, Civilization and Culture courses, mathematics and science courses, and other foundational coursework.

In Phase II, students then select a concentration from among seven disciplines in which to continue their studies:

- Biblical and Theological Studies (BTS)
- Business, Economics, and Entrepreneurship (BEE)
- Education (EDU)
- Health and Life Sciences (HLS)
- Communications and Media Arts (CMA)
- Philosophy, Politics, and History (PPH)
- Psychology (PSY)

Lastly, in Phase III, students engage in a year-long summative task called the Capstone, which is intended to be a synthesis of all their learning. They are expected to "demonstrate their understanding and mastery of their area of concentration by researching and producing a capstone project that consists of an ePortfolio, a Capstone paper/project, a public presentation utilizing presentation software, and an updated resume that is suitable for submission with job applications" (Providence Christian College, 2020c). The public presentation occurs in a day-long event at the end of the academic year before an audience of faculty, students, alumni, and parents. Through this entire process, students are expected to showcase their mastery of Providence's SLOs, demonstrate their competency in their disciplinary concentrations, and present a clear understanding of the Reformed faith and how it intersects with their inquiry. Students who successfully complete all three phases graduate from Providence and receive their diploma.

The primary stakeholder group that I worked with for this project was Providence's Capstone Improvement Subcommittee. The subcommittee comprises five faculty members who are keenly interested in the ongoing improvement of Phase III of the curriculum: Dr. David Alexander (Academic Dean), Jan Van Spronsen (Lead Instructor, EDU concentration), Danielle Alsky

(Instructor, Capstone), Dr. Isaiah Lin (Assistant Professor, PPH concentration), and Brandon Addison (Lead Instructor, BEE concentration). These members supported the project by providing any requested information, engaging in semi-regular conversations as the project was underway, and reflecting upon/negotiating/implementing the final recommendations as a result of this process.

Problem of Practice

As previously mentioned, students at Providence during Phase III must complete the year-long Capstone during their senior year. However, the Capstone Improvement Subcommittee has identified that students consistently submit work that does not meet or exceed the institution's SLOs, or showcase a rich understanding of disciplinary knowledge and/or the Reformed faith and worldview. The subcommittee informed me that this problem of practice spanned several years, despite their efforts to address the issue and make improvements.

Prior to 2017, the Capstone required students to complete a double-spaced, 20- to 25-page paper that demonstrated their ability to synthesize existing research and demonstrate writing standards aligned with their academic concentrations. Faculty served as advisors and provided deadlines for work and feedback on progress, and were compensated at a rate of \$250 per student per semester. The subcommittee shared that the quality of work during this iteration of the Capstone experience was inconsistent, as was the quality of advisement that the students received.

After 2017, Providence reconfigured the Capstone experience so that students would take a Capstone Seminar course during the fourth and final year (initially designed as a one-semester course, the Capstone Seminar was changed to two consecutive courses beginning in the 2020-21 academic year). Students were still required to complete the 20-25 page paper, but now received extra assistance in the form of these classes that provided the "foundation and support needed to begin the research portion of their capstone project" and an increased level of accountability (Providence Christian College, 2020c). Students were also asked in this iteration of the Capstone experience to select their advisor from their area of concentration.

However, despite the reconfiguration, the subcommittee reported that the completed tasks were still plagued with similar issues. Faculty members were still receiving capstone work that suffered from poor scholarly research and writing, as students were submitting papers with mechanical and grammatical errors, unclear or undeveloped arguments, and unsatisfactory synthesis of ideas. The students' submitted work also suggested they had only a superficial understanding of the Reformed faith and worldview, and a lack of depth and breadth of disciplinary knowledge. The subcommittee speculated about the nature of this problem and offered me the following conjectures:

• Students may be lacking the motivation to handle the scope of the Capstone work.

- Students may be having difficulty managing their time to divert necessary resources toward the Capstone. Student-athletes, in particular, appear to have more difficulty with time management.
- The requirements for the Capstone may be too broadly interdisciplinary, and may not adequately communicate what excellence in certain subjects looks like. Currently, most Capstone work is evaluated using three relatively broad rubrics to assess critical thinking, presentation skills, and interdisciplinary competence, instead of using more specific rubrics that may better evaluate understanding within the seven different areas of concentration at the college. I have appended these three rubrics in Appendix B: Capstone Rubrics.
- Similarly, the same Capstone Seminar course is required of all seniors, regardless of their
 concentration, instead of varied seminar courses that are more aligned to the various foci of the
 different concentrations. Some students find the Capstone Seminar course helpful for their
 work, but not all do.
- Students may be lacking the prerequisite skills in scholarly research, critical thinking, and developing and sustaining an argument.
- The scope and sequence of Providence's curriculum may not be providing students with the sufficient breadth of coursework from which to draw upon for their Capstone.
- Long term, the sustainability of the Capstone may be in jeopardy. The Capstone as it is currently designed may not be scalable as Providence continues to grow.

The above represents a significant problem of practice for Providence, for two reasons. First, if students are indeed not submitting high quality work, that could symbolically be viewed as the college's inability to support students with the necessary skills and resources they need to be able to produce such a distinctive product in the first place. The second reason is related to the first. Providence must submit evidence to WASC in their next accreditation cycle that its students are meeting or exceeding the SLOs, or potentially be subject to consequences such as probation or the withholding of their accreditation status altogether. Such an outcome would represent an existential crisis for the college. Suffice it to say, the Capstone is potentially the most consequential experience of a Providence student's education. The extent to which students are producing and submitting high quality work, therefore, is a key means of assessing whether the college is truly fulfilling its mission and vision as it intends to do.

Literature Review

In what follows, I present my review of relevant scholarly literature. First, I explore scholarship on the undergraduate capstone as a culminating academic experience as well as its positive outcomes. Then, I highlight concerns and challenges pertaining to the undergraduate capstone. Finally, I share strategies and suggestions on improving the undergraduate capstone experience, along with two case studies of colleges that implemented some of these strategies to improve outcomes at their institutions.

Undergraduate Capstone as Culminating Experience

The idea of a culminating experience in U.S. undergraduate colleges and universities is one that is at least over two centuries old. Upson-Saia (2013) explains that a culminating course called the "senior seminar" was first introduced in the 18th century, where the president of the college convened with students in their final year of college and used philosophy and religion to help make holistic sense of what they had learned during their time at school. Over time, colleges and universities experienced a variety of changes that would make indelible impacts on the culminating experience as it was once conceived: the role of the college president shifted from teaching to more fundraising and outreach efforts; specialized courses began supplanting the classically liberal curriculum; and a plethora of academic majors and disciplinary programs of study were introduced (Upson-Saia, 2013).

Today, culminating undergraduate experiences, where they exist, can be one of many things, ranging from independent research, to internships, to applied learning projects, and theses (Upson-Saia, 2013; Henscheid et al, 2019). The undergraduate capstone specifically as a culminating experience is a course or summative task during the final year of study where students are expected to fuse their disciplinary and co-curricular learning in a final paper, presentation, or project; and connect theory, methods, and content knowledge to broadly apply what they have learned during their time in college (Sill et al, 2009; Hauhart & Grahe, 2015; Henscheid et al, 2019; Shostak et al, 2019). In that sense, the undergraduate capstone has the potential to be a broadly integrative experience as it seeks to incorporate disciplinary learning with the overarching goals of liberal education (Hauhart & Grahe, 2010; Hauhart & Grahe, 2015). Undergraduate capstones can have a practical benefit, as well: the integrative and applied learning nature of the capstone is mostly emblematic of how professional and vocational life are structured (Hauhart & Grahe, 2015; Martin & Strawser, 2017; Pembridge & Paretti, 2019), and employers generally believe that younger job applicants should have successfully completed a major applied learning task before graduating (Henscheid et al, 2019). It is no wonder, then, that many undergraduate colleges and universities use the capstone experience as a "last chance" or a catchall

experience to prepare their students for the rigors of the real world (Upson-Saia, 2013; Henscheid et al, 2019).

Undergraduate Capstone Outcomes

As a broadly integrative and applied experience, the undergraduate capstone has the potential to enable students' abilities in making connections and applying their learning (Henscheid et al, 2019). Regardless of the type of summative product that students submit for their undergraduate capstone, students may benefit from an experience that requires them to integrate an array of disciplinary and institutional knowledge, reflect on their learning, and apply their learning in novel contexts (Wagennar, 1993; Hauhart & Grahe, 2010; Redman, 2013; Hauhart & Grahe, 2015; Henscheid et al, 2019; Shostak et al, 2019).

Undergraduate capstones can also be used to assess the health and quality of the institution and the education it provides. For example, the work that students submit for their capstone experience can help faculty address any program evaluation and review questions, and target interventions based on any identified growth areas (Wagennar, 1993). They can also be used to assess the quality of the major or program of study (Hauhart & Grahe, 2010). Capstone work can even help provide valuable insight on how best to develop students' research skills (Hauhart & Grahe, 2010).

Undergraduate Capstone Challenges

Having said the above, the undergraduate capstone as a curricular tool can also introduce a number of challenges. First, colleges and universities that offer undergraduate capstone experiences may discover that structuring such an experience can be difficult (Hartnett, 2016). A reason for this difficulty may stem from the fact that most capstones attempt to accomplish too many disparate goals and outcomes with just one culminating experience, and consequently implement an experience that is riddled with problematic design and a lack of necessary resources (Upson-Saia, 2013; Hauhart & Grahe, 2015; Hartnett, 2016; Martin & Strawser, 2017). Further, many institutional pressures bear heavily on the capstone design: the capstone is not only expected to have students synthesize their learning, but also provide a sense of closure as students approach the end of their baccalaureate years, incorporate learning that pertains to career and vocation exploration, and even assess the goals and outcomes of the institution at large (Upson-Saia, 2013; Harnett, 2016). In short, as Upson-Saia (2013) remarks, the capstone experience has become "bloated."

The second significant challenge of the undergraduate capstone concerns students' overall preparedness to engage with such a challenging culminating experience. Several colleges and universities that offer a capstone find that many of their students lack the requisite preparation for the capstone (Hauhart & Grahe, 2015; Henscheid et al, 2019). Specifically, such students are lacking the foundational experiences and skills of thoughtful reflection, effective writing and research, and engaging in rigorous learning environments (Henscheid et al, 2019). Consequently, capstone faculty have reported frustration when working with underprepared students as well as students who lacked the motivation to attempt the work (Gray & Schermer, 2011; Upson-Saia, 2013). Further, undergraduate colleges and universities that required students to take a capstone often had a limited number of faculty who were either trained or available to work with students, so a limited number of faculty members were tasked with the overall success of the capstone program, thereby compounding their sense of frustration (Upson-Saia, 2013).

Undergraduate capstones at different colleges suffer from other challenges as well. Faculty advising in the capstone can be inconsistent, and faculty members have a general lack of clarity on what they are expected to do (Hauhart & Grahe, 2015). The broad scope of the capstone makes connecting students and faculty advisors challenging, as student interests can be difficult to align with the expertise and experience of faculty members (Hartnett, 2016). Finally, because the undergraduate capstone prioritizes a broadly integrative and applied culminating experience for students, it may not provide the necessary focus that would effectively capture the depth and intricacies of students' disciplinary learning in their major or area of study (Wagennar, 1993).

Where Capstones Work

As previously mentioned, a challenge of the undergraduate capstone design stems from colleges and universities attempting to accomplish too many goals with just one culminating experience. As a result, capstone design may necessarily vary from one school to the next. However, the literature highlights a set of common practices that could be embraced by most post-secondary institutions to implement capstones effectively.

Faculty Advisement. Faculty support and development are important for enhancing the quality of the undergraduate capstone experience. High-quality faculty advising is critical because faculty buy-in is necessary for the capstone's ongoing success (Redman, 2013; Henscheid et al, 2019). Universities should ensure faculty are trained on how to provide such high-quality advising, as faculty tasked with capstone advising without receiving the necessary training experience less satisfactory outcomes than faculty who do receive such training (Martin & Strawser, 2017).

Pembridge & Paretti (2019) provide an "operational taxonomy" of advisory practices that they discovered through their interviews with a wide variety of capstone faculty. They categorized these practices as part of nine functions, which I present below:

Function	Associated Practices
Challenge	Integrate previous learning
	Prompt new learning
	Provide realistic experiences
Protect	Select projects and teams
	Ensure accountability
	Know status of projects and teams
	Mediate
Coach	Provide instruction and feedback
	Model tasks
	Direct to resources
	Listen and question
Promote employability	Provide access to potential future employers
	Provide marketable skills, experiences, and materials
	Provide recommendations
Provide exposure	Showcase student work
	Foster interactions with professionals
Provide role models	Describe professional engineering experiences
	Share values
	Model behaviors
	Mimic the workplace
Accept and confirm	Promote ownership
	Foster a sense of accomplishment

	Encourage
Counsel	Negotiate team relationships
	Address individual performance
	Explore career options
Build rapport	Cultivate availability and approachability
	Know students individually

Pedagogical Strategies. Other researchers have identified various pedagogical strategies that support students with the capstone experience. A more concerted focus on writing as a pedagogy was helpful, along with peer reviewing of writing (Jaafar et al, 2018). Embedding learning experiences that incorporated active learning, feedback, and opportunities for application also promoted capstone readiness (McKinney & Day, 2012). Ongoing reflection that invited students to be mindful of their progress and the development of their ideas over time through journals or portfolios was a particularly helpful strategy in several studies (Wagennar, 1993; Sill et al, 2009; Resner, 2011; Henscheid et al, 2019). Opportunities to learn from the community and incorporate real world connections also supported capstone work (Shostak et al, 2019). Lastly, though capstone work is typically an individual pursuit, capstones that incorporated teamwork and collaborative processes helped some students produce work that better reflected the quality of work in the real world as well as the preexisting norms across many different fields and industries (Henscheid et al, 2019).

Constraining the Experience. Capstone design also benefits from an intentional limiting of the scope of work. The capstone, as previously discussed, often faces a significant challenge to attempting to accomplish far too many goals with just one task, both in terms of student outcomes as well as institutional objectives. In her survey of capstone experiences across religious studies majors, Upson-Saia (2013) found that capstones that purposefully limited the number of outcomes being assessed were among the most successful as it pertained to student performance and faculty satisfaction. Harnett (2016) supports this notion and recommends that colleges and capstone faculty prioritize what they ask students to accomplish and discard any nonessential tasks. Different researchers suggest a variety of strategies on ways to accomplish this, from pre-designating a single artifact or issue for investigation instead of having students choose their own focus of inquiry (Hartnett, 2016), to judiciously narrowing the number of learning objectives that the capstone will assess (Upson-Saia, 2013).

Curriculum Sequencing. Lastly, researchers have found evidence to support the notion that the curriculum across all four years of the baccalaureate experience needs to be intentionally designed to adequately prepare students for the undergraduate capstone (Wagennar, 1993; McKinney & Day, 2012; Henscheid et al, 2019). As aforementioned in the section on undergraduate capstone challenges, many colleges reported that their students were not sufficiently prepared for capstone work, and faculty reported frustration when receiving underprepared students for the capstone. As a result, researchers like Wagennar (1993) suggest sequencing the curriculum in the first through third years of college to better incorporate the necessary skills and breadth of knowledge required for potential success in the capstone. Wagennar (1993) further recommends a sequence of curricula that includes introductory-level courses, required and "substantive" courses (or courses that are "encyclopedic" and cover an array of disciplinary knowledge without making interdisciplinary connections), advanced substantive courses, and the final capstone course where students integrate the various elements of the preceding coursework. Though Wagennar's (1993) suggestions are not necessarily rooted in empirical research, they offer practical ways to consider supporting the capstone experience throughout the entirety of the undergraduate years instead of simply during the final year. In the subsequent section, I will explore two case studies of colleges that adopted this type of approach, among other strategies.

Capstone Improvement Case Studies

Given the limited empirical work focused on the process of improving undergraduate capstones, I next draw on two separate case studies from the University of La Verne and LaGuardia Community College. These are colleges that sought to improve their undergraduate capstone experience, and approaches include some of the abovementioned capstone design strategies in various forms. These case studies may shed insight on how redesign can be accomplished for similar institutions (Redman, 2013; Stubbs, Feibel, & Arcario, 2013).

In 2009, the University of La Verne in Southern California commissioned an evaluation of their student capstone to determine whether students were meeting or exceeding the university's learning outcomes, and discovered that gaps existed in the students' ability to create effective thesis statements and make proper citations (Redman, 2013). Subsequently, the university developed and implemented the "First Year La Verne Experience" (or "FLEX"), or a group of three connected courses consisting of two discipline-based courses and one writing course. In the writing course, students were provided writing instruction that targeted the gaps in learning, and were also prompted to make meaningful connections between their two disciplinary courses and any cocurricular activities to help them bridge their theoretical learning with their practical experiences (Redman, 2013). FLEX became the "Sophomore La Verne Experience" (or "SoLVE") in the second year, where students continued

integrating their curricular and co-curricular experiences while also beginning work on their e-portfolio that they would complete and submit during their fourth and final year. The university also implemented a "Community Engagement Day" during each of the undergraduate years, where students could engage in humanitarian work with one of the university's several community partners (Redman, 2013). In the above ways, the University of La Verne restructured the curriculum in hopes of helping students develop requisite skills and gain access to co-curricular experience that aimed to connect learning to practice. Notably, these changes were not focused on the final year of undergraduate study when students began work on their capstone: they were focused instead on the years leading up to the final year.

At LaGuardia Community College, faculty in the liberal arts department (consisting of education, language acquisition, humanities, English, mathematics, social science, and natural science) found that providing capstone advisement to students was difficult, especially since the scope of the major was so broad and interdisciplinary (Stubbs, Feibel, & Arcario, 2013). As a result, the college introduced efforts to try to reform the undergraduate experience leading up to the capstone. Students in their first year were now required to take a "liberal arts cluster" of courses that included composition, research, and two other humanities or social sciences courses (Stubbs, Feibel, & Arcario, 2013). The faculty of these courses met regularly during the semester to plan integrative learning experiences, and their courses often featured team-teaching by faculty of different disciplines to help enable deeper integration across the liberal arts. By the end of their first year, students at LaGuardia Community College were asked to submit an assignment that gauged their ability to integrate the concepts, skills, and methodologies of the different cluster courses together (Stubbs, Feibel, & Arcario, 2013). Such an assignment provided so early on during the undergraduate experience helped faculty assess the extent to which their students would be ready for the senior capstone experience.

Summary

In summary, the undergraduate capstone differs from other culminating experiences in the ways that it requires students to integrate and apply their learning. The undergraduate capstone's merits as a culminating task stem from the ways in which it integrates disciplinary and co-curricular learning and enables students' reflection and application abilities. It also can serve as a way to evaluate the health and quality of the higher educational institution and the academic programs it offers. However, many colleges find it challenging to support a meaningful undergraduate capstone experience, as they face significant problems regarding its structure, student readiness for such a significant culminating task, and faculty preparedness. Though the literature on undergraduate capstones currently lacks a great breadth of empirical research, some strategies that were discovered to have been beneficial included

incorporating integrative learning opportunities, sequencing the curriculum across all four years to better support capstone outcomes, purposefully limiting the experience by prioritizing which institutional outcomes should be assessed, and providing faculty with the necessary resources to improve their capacity to advise students.

Conceptual Framework

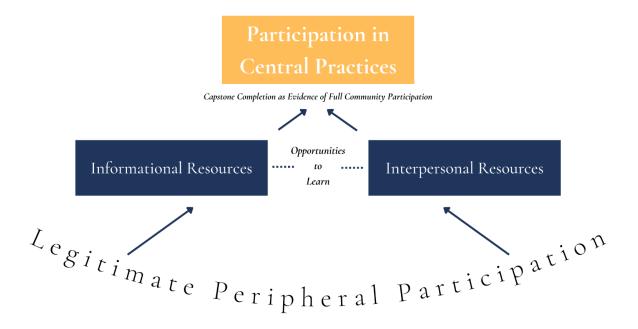
With an understanding of undergraduate capstones offered in existing scholarship, I now turn my attention back to the identified problem of practice at Providence Christian College. For the purposes of my inquiry, I take up the concept of opportunities to learn (OTL) as a conceptual frame grounded in situated learning theory (Greeno, 1998; Lave & Wenger, 1991). In particular, Greeno & Gresalfi's (2008) attention to *informational and interpersonal resources* that enable participation in human activity will serve as a dual lens for identifying opportunities to learn in Providence's Capstone context.

As mentioned above, OTL is grounded in situated learning theory, which identifies learning as a social process that occurs in the context of community with certain norms, practice, histories, and criteria for membership (Lave & Wenger, 1991). Learners in such a community are "situated" or positioned relative to one another, where they can learn from the experts in the community and also facilitate learning, albeit less sophisticated, for others who are less experienced than them. Lave & Wenger (1991) describe this learning as "legitimate peripheral participation." In other words, learners who are relative "newcomers" to this "community of practice" initially engage *peripherally* in the practices valued by that community, because their participation is relatively non-expert and thus, they are not yet central participants in the valued practices of the community. Nevertheless, their participation is still *legitimate* because they provide meaningful contributions to the community, even if the value of the contributions is relatively limited. Learning is enhanced over time as the processes, activities, artifacts, and specialized knowledge that enable full unfettered participation within the community of practice are gradually made accessible to the newcomers. These processes, activities, artifacts, and specialized knowledge are called "affordances."

According to Greeno and Gresalfi (2008), affordances can be understood as OTL and can be divided into two analytical categories:

- "Informational resources," or resources that help students "progress toward better understanding of concepts and principles of a domain or... toward more skillful performance of routine procedures or recitations" (p. 172)
- "Interpersonal resources," or resources that help students "progress toward more engaged and successful contributions to a group's work or increased focus and concentration on independent work" (p. 172)

OTL, then, are the means by which participation can maximize, and students can thereby enhance their trajectory toward more central participation in the community and ultimately adopt its central practices: the community's shared values, dispositions, and behaviors.



In the institutional context of Providence Christian College, students, as the relative "newcomers" to the practices valued by the college, observe and interact with others who are more experienced (i.e., faculty, staff, more senior students, etc.) and can increase their participation in certain central practices over time as various OTL are made available to them. These OTL presumably include informational resources, such as course syllabi, lectures, writing supports, and other curricular resources; as well as interpersonal ones, such as advisement from faculty members, opportunities for practice, ongoing feedback, and co-curricular experiences like athletics and student life. With full access to OTL, students' participation in the community should theoretically reach its apex, concurrently with the fourth and final year, and they ought to then be able to demonstrate their mastery by producing high quality work in the Capstone experience. Taking this conceptual framework, then, the scope of my inquiry will necessarily involve identifying what the central practices are at Providence, exploring what OTL (both informational and interpersonal resources) are available, and evaluating the extent to which they are sufficiently being made available for students so that these students can complete the Capstone satisfactorily.

Project Questions

Informed by relevant scholarship and the above conceptual framework, I designed the following project questions to direct this inquiry:

- 1. What are the central practices required across coursework at Providence College and in what ways are these practices required to complete the Capstone?
- 2. What informational resources are currently available that enable students to participate in the practices required by the Capstone?
- 3. What interpersonal resources are currently available that enable students to participate in the practices required by the Capstone?

Methods

Data Collection

I drew on course syllabi, semi-structured interviews, and survey data in an effort to answer the project questions. For my data collection efforts, I first requested from the Capstone Subcommittee a database of Providence alumni to elicit their participation in the survey. I also asked Professor Alsky of the Subcommittee, who was the Capstone Seminar instructor, to elicit the Class of 2022 cohort's participation in the survey as well. I adapted the survey design from the student capstone survey as created and administered by McKinney and Day (2012), but modified the language of some of the questions to better reflect Providence's organizational context of being a liberal arts college. In particular, McKinney and Day's (2012) survey included questions that asked respondents about their level of confidence/interest in pursuing further sociological studies or work after college. I rewrote these questions to ask Providence alumni and students about their interest in pursuing further liberal arts studies or work after college. I detail these changes in Appendix C1: McKinney & Day (2012) Capstone Survey and Appendix C2: Student Survey.

The student survey questions included demographic items (i.e., sex, age, race, income, overall GPA, enrollment status, start year at Providence and graduation year, and transfer student status) as well as 12 self-rating questions on a five-point Likert scale that asked respondents to share about their Capstone experience, their perceived readiness for their career, and their level of interest in pursuing further liberal arts studies. My survey also included one open-ended question that invited students to share their suggestions on improving the Capstone experience at Providence. Again, the full survey can be found in Appendix C2: Student Survey.

The data collected from the surveys highlighted how students perceived the Capstone experience, and informed the types of questions I wanted to ask to better understand how the Capstone was intended to be experienced. My next phase of data collection efforts was to analyze Providence's course syllabi and conduct document analysis to identify the central practices required for the Capstone and ascertain the extent to which students were engaging with these practices during their time at the college. To do this, I requested and received from the Capstone Improvement Subcommittee all of Providence's course syllabi.

This process allowed me to better understand the curriculum as it was intended to be experienced and helped identify the types of questions I wanted to ask Providence's faculty and staff. Specifically, I

wanted to understand how the required central practices were enabled through the various OTL available to students (i.e., informational resources and interactional resources), and designed an interview protocol to better understand whether faculty and staff provided these resources to facilitate their students' engagement with the central practices. I share my interview protocols in full in Appendix D: Semi-Structured Interview Questions.

Altogether, the data gathered from the course syllabi, semi-structured interviews, and surveys were analyzed to help generate a comprehensive understanding of the problem of practice.



The following details how my data collection efforts dovetailed with each of the project questions:

Project Question	Data Sources	Rationale
What are the central practices required across coursework at Providence College and in what ways are these practices required to complete the Capstone?	 Course syllabi Semi-structured interviews 	Identify the central practices for the Capstone and explore how/whether these practices were embedded across the curricular and co-curricular experience
What informational resources are currently available that enable students to participate in the practices required by the Capstone?	 Capstone syllabus Semi-structured interviews Surveys 	Determine the extent to which the central practices were actually being enabled through OTL
What interpersonal resources are currently available that enable students to participate in the practices required by the Capstone?	 Capstone syllabus Semi-structured interviews Surveys 	Determine the extent to which the central practices were actually being enabled through OTL

Participants

I drew my samples from faculty, staff, and alumni/Class of 2022 students for this project, as I deemed their input as stakeholders who had direct experience with the Capstone would be the most helpful in gaining insight into the project questions. For that reason, I intentionally did not sample other stakeholder groups at the institution (e.g., Board members).

For each of the stakeholder groups, I relied on non-probability sampling techniques, due largely to Providence's relatively young age and small size. I utilized convenience sampling techniques for the student stakeholder group. I sent all Providence alumni on the database an email to invite their participation (the language of the email invitation can be found in Appendix E: Recruitment Language for Student Survey), and Professor Alsky provided the language of my email to her Capstone students and asked them to participate. My survey required students who opened the survey to complete an "Informed Consent" document before they could access the survey questions, the language of which can be found in Appendix F: Informed Consent Document for Student Survey. I also informed the survey respondents that anyone who participated would be entered into a random \$100 Amazon gift card giveaway. In total, I received a total of 94 surveys: 84 from alumni (a 41% response rate) and 10 from students who indicated they were a part of the Class of 2022 cohort (a 40% response rate). After cleaning the dataset for non-responses and incomplete submissions, I had 83 responses remaining with which to conduct my analysis.

I created a purposive sample for the faculty and staff to ensure that I spoke with employees across as many domains of the college as possible who would have had firsthand knowledge of the Capstone experience. I relied first on the input of Dr. Alexander as well as the Capstone Improvement Subcommittee to identify which employees should be interviewed, and I sent emails in September, 2021 to invite their participation (the language of the email invitation can be found in Appendix G: Recruitment Language for Interview). Dr. Alexander sent a follow-up email to all Providence employees in October, 2021 to encourage more of his colleagues to participate in the semi-structured interviews. Altogether, the faculty sample included eight individuals: three faculty members, three co-curricular staff (e.g., athletics, residential life, etc.), and two administrative staff.

Data Analysis

Analysis of Student Surveys

As previously stated, I collected a total of 94 submissions to the student survey: 84 alumni (41% of alumni database) and 10 members of the Class of 2022 (40% of total number of students). Of the 94 submissions, only 83 responses remained after I cleaned the dataset for non-responses and incomplete submissions.

I first conducted descriptive analysis of the quantitative data from the surveys to help identify possible relationships that may exist in the dataset, as well as to determine how various groups perceived the Capstone experience. I was also particularly interested in examining how disaggregated groupings of

students by GPA (i.e., above or below 3.00), Transfer Status (i.e., transfer student or not), and Graduation Year (i.e., graduated before or after 2017, the year the Capstone Seminar course was implemented) experienced Capstone-related outcomes, and conducted chi-square tests of independence to identify potential differences in how these groupings of students responded to the survey. I acknowledge significant limitations with running statistical analysis on a dataset that includes sampling bias, and on survey questions that include psychological bias, and present any chi-square test results in my Findings section to simply identify potential trends that are worth investigating further in Providence's future data collection and analysis efforts. I elaborate more on these limitations later under Finding #2a.

I followed this process by coding the single open-ended question in the survey for meaning. Using a constrained inductive coding approach (Merriam, 2001), I made three passes through the open-ended responses to identify broadly the resources that students expressly wished were more available to them. I share in Finding #2 the codebook I generated from this open-ended survey question coding.

Document Analysis of Course Syllabi

I categorized each of Providence's syllabi by the college's seven areas of concentration (the Phase I core class syllabi were put in their own separate category). I first combed through each syllabus to count the number of instances the word "Capstone" appeared. The rationale for doing so was to explore a criticism that surfaced in the student surveys that stated the Capstone was not meaningfully integrated into the students' prior coursework. I wanted to determine how and the extent to which the Capstone experience was actually sequenced and intentionally incorporated across the curriculum.

Then, using an inductive coding process, I made a first pass through each syllabus to broadly categorize the central practices required for their Capstones. I read through each of the syllabi's descriptions of the course expectations, institutional expectations, course outcomes, and assignments to deduce what the central practices were and how the college defined them. I followed this process with a second and third pass to verify and/or add to my list of identified central practices. I share in Finding #1 the central practices that I uncovered as a result of this process.

I acknowledge that course syllabi are not meant to be a comprehensive record of the practices required in a course and do not necessarily represent the entirety of activities that occur in a course situated in time and space. Nevertheless, the syllabi provided at least a helpful glimpse into how the courses at Providence were intended to be experienced and were therefore formative for the purposes of this project.

Analysis of Semi-Structured Interviews

As previously mentioned, I interviewed a total of eight Providence employees (67% of total faculty and staff), three of whom were faculty members. For each of the faculty interviews, I posed open-ended questions that sought to verify any initial observations that were culled from the course syllabi document analysis. Specifically, I was curious to discover the extent to which the faculty enabled the necessary practices that were identified in my analysis of their course syllabi. I also asked other open-ended questions that invited participants to share any suggestions they might have for improving the Capstone experience so that better student outcomes might be achieved.

For the five non-academic staff interviews, I asked open-ended questions that invited participants to share about whether their work at Providence dovetailed with efforts to support students in their Capstone, and if they viewed their work as being compatible with the college's desired academic outcomes. I decided to ask these questions because though the non-academic staff would not have necessarily been responsible for providing any informational resources inside a classroom context to enable student practice, I wanted to explore whether their efforts helped provide any interpersonal resources across any co-curricular contexts. I also asked non-academic staff to share any suggestions they might have to improve the Capstone experience in their particular domain(s) so that better student outcomes might be achieved.

I conducted all of the interviews via Zoom video conference. Each of the interviews ranged from 30 to 45 minutes. Each participant consented to having his or her interview be recorded, and I uploaded the interview recordings to Otter.ai for transcription. Using deductive coding strategies, I used the codebook generated from the course syllabi document analysis to triangulate my findings from the interviews. Taking the interview transcripts, I categorized any relevant response describing an OTL under the relevant code, and made notations to any response where the participant described the frequency, amount, and/or extent to which he or she provided a certain OTL in his or her own practice.

Limitations

In addition to what I have already noted above, I wish to point out a few other limitations in the methodological design. My reliance on non-probability sampling methods, though necessary for a project of this scope and scale, inevitably introduced validity issues that require judicious interpretation of the data. Further, relying on student survey data instead of conducting a focus group and/or interviews with this stakeholder group limited my ability to gather qualitative data that might

have provided richer insights into how students experienced the Capstone. However, various constraints during the course of this project made conducting such conversations much too difficult; namely, the global COVID-19 pandemic and the subsequent school closures, social distancing requirements, and other related outcomes.

Findings

Project Question #1: What are the central practices required across coursework at Providence College and in what ways are these practices required to complete the Capstone?

Finding #1: Coursework at Providence requires 10 central practices. However, the written curriculum does not presently articulate how the practices embedded in each of the courses sufficiently prepare students for the Capstone, or clarify the extent to which these practices are actually necessary during the Capstone experience.

I discovered through my coding of the course syllabi 10 central practices that students required for success in their *coursework* (I present in Appendix H: Central Practices at Providence the following descriptions of each practice, as well as details from the course syllabi that confirmed these practices):

- 1. Interdisciplinary Critical Thinking: Interdisciplinary critical thinking at Providence examines how the Reformed Christian context intersects with every area of life. This practice invites self-reflection and participation in interdisciplinary learning by making connections across the disciplines of the liberal arts. Further, this practice involves comparing and contrasting differing ideas and philosophies, and adopting a critical lens with which to identify their strengths and weaknesses.
- 2. Researching: Researching at Providence requires collecting and summarizing outside information from articles and peer-reviewed journals for the purposes of a present inquiry or investigation. Further, this practice involves assessing the quality of any outside information or evidence. Engaging with this practice should ultimately lead to drawing conclusions that are supported by the evidence.
- 3. Writing: Writing at Providence is characterized by writing essays, papers, and discipline-specific pieces (e.g., BEE business plans, EDU learning agendas, etc.). This practice requires clear organization and few errors in mechanics and making ongoing revisions to improve the quality of writing.
- 4. Oral Communication: Oral communication at Providence involves speaking clearly and confidently in a wide range of contexts (e.g., interviews, debates, etc.) and using a variety of mediums (e.g., speech, videotaped response, etc.). This practice expects responses that are thoughtful, organized, and well-researched.

- 5. Producing Original Work: Producing original work at Providence involves abstaining from cheating, plagiarism, or any form of academic dishonesty. This practice requires attributing scholarship to original authors and researchers. Engaging with this practice should lead to producing an original written piece of scholarship that does not showcase dishonest work.
- 6. Career Decision-Making: Career decision-making at Providence involves engaging with the roles and responsibilities of careers and vocations of interest. This practice also expects career-related decision-making based on a biblical perspective.
- 7. Seeking Faculty Advisement: Seeking faculty advisement at Providence requires intentionally seeking an audience with faculty persons for the purposes of relationship-building and asking for academic help.
- 8. Collaboration with Peers: Collaboration with peers at Providence involves working constructively with classmates toward a common academic goal.
- 9. Responding to Setbacks: Responding to setbacks at Providence involves setting goals for improvement when faced with initial failure, and resubmitting work that demonstrates the willingness and capacity to show improvement.
- 10. Responsible Action: Responsible action at Providence involves demonstrating diligent and mature behaviors that are expected of students. This practice includes completing tasks as expected, participating actively, being prepared for every class, and altogether behaving in ways that are emblematic of an effective student.

The course syllabi made clear that these practices were embedded across the coursework leading up to the Capstone experience. Having said that, the syllabi did not make clear how engaging with the practices in each course specifically helped students prepare for the *Capstone itself*. Of the 30 course syllabi that I analyzed, only 12 syllabi ever explicitly mentioned the word "capstone." Of those syllabi, 11 syllabi mentioned "capstone" because they simply imported previously written language from the institution's SLOs as part of the documents, which included a bulleted point statement on what students should be able to do as it pertained to the Capstone (see Appendix A); so these 11 syllabi contained identical language that was broad and nonspecific to their course. They did not contextualize the SLO to explicitly connect how their course's assignments and tasks contributed to Capstone readiness.

The 12th syllabus that made mention of the Capstone was understandably the Capstone Seminar course syllabus itself. However, my review of this syllabus also confirmed the disparity between coursework and the Capstone and how the central practices were explored in both contexts. Though the Capstone Seminar embedded the central practices in varying degrees across the course, the course largely presented career decision-making (Practice #6) as being the most significant practice. The first

objective of the Capstone was to "[develop] the lifelong skills associated with career decision-making and management from a biblical perspective" (Providence Christian College, 2020c, p. 3). Key assignments included personality assessments (e.g., Myers-Briggs Inventory, Enneagram Inventory), response journals that asked students to reflect on readings and their future careers, and a "Career Exploration Project" (Providence Christian College, 2020c, p. 3). Students in the Capstone spent the first eight weeks of the course on career exploration, and only began researching for their Capstones starting in the ninth week of the course (Providence Christian College, 2020c, p. 9). Even at the end of the first semester, students' final assignment for the course was not a research proposal or even a draft of their Capstone, but rather an "Informational Interview" where they were expected to interview a person currently working in a career that interested them (Providence Christian College, 2020c, p. 10). To be fair, the students' research proposal was the penultimate assignment for the seminar's first semester.

In my subsequent interviews with faculty and staff, I wanted to further investigate whether the 10 central practices identified in the course syllabi were indeed considered necessary for the Capstone, despite what was communicated in the course syllabi. This process allowed me to confirm that many of the practices were deemed as important by faculty and staff for the Capstone (I include their descriptions of the practices in Appendix H: Central Practices at Providence). However, my interviews revealed the possibility that not all of the practices were considered equally important by the faculty. Here, I present a heat map visualization to indicate the degree to which each practice was discussed by interviewees: RED denoting at least 7 out of 8 interviewees mentioning the practice, ORANGE denoting 2-6 interviewees mentioning the practice, and GRAY denoting 0-1 interviewees mentioning the practice:



Heat map visualization indicating frequency of the central practices being mentioned by interviewees

As the above heat map makes clear, nearly every interviewee discussed the practices of interdisciplinary critical thinking, researching, writing, and seeking faculty advisement (Practices #1, 2, 3, and 7). Only one interviewee ever made mention of the practices of producing original work and collaboration with peers (Practices #5 and 8) as being central. This may suggest that though the curriculum as presented in the course syllabi considered these as central practices for coursework, faculty and staff either 1) believed that these practices are assumed in the Capstone experience and therefore needless to acknowledge aloud, or 2) perceived that these are at best marginal practices required for the Capstone and less consequential than other more important practices.

To sum up, I discovered that 10 central practices were foundational for coursework at Providence. However, for the Capstone itself, the importance of these 10 practices appeared to vary greatly. Only one practice in particular was featured the most prominently, as evidenced by the Capstone Seminar syllabus (i.e., career decision-making); and two practices may not have been as significant as the others as evidenced by conversations with faculty and staff interviewees (i.e., producing original work and collaboration with peers).

Project Question #2: What informational resources are currently available that enable students to participate in the practices required by the Capstone?

My reporting in Finding #1 helped uncover 10 practices that were foundational for coursework and also necessary in varying degrees for Capstone work. With the second and third project question findings, I turn my attention to presenting what resources were available at Providence to help enable these 10 practices.

During my analysis of the open-ended question on the student survey, I coded responses to uncover five categories of resources that describe what students broadly wished were more available to them across the curriculum related to Capstone:

Code (Resources)	How Do Students Define This Resource?	Example
Curricular Content Relevant to the Capstone	Access to relevant coursework and teaching that better equipped students with the necessary practices for the Capstone experience	"Having a tutorial class for all majors/concentrations would be helpful. The process of reading several books, summarizing the argument, and orally defending it is an important stepping stone to writing a Capstone, I believe."
Meaningful Tasks	Assignments and tasks that have a clear rationale and do not appear disconnected or haphazardly designed	"Give less busy work. Some of the work has nothing to do with the development of the Capstone."
Accountability	Deadlines for work and to report progress on tasks communicated clearly and in advance	"Include more checkpoints along the way."
Faculty Advisement	Access to available faculty advisors who provide high-quality advisement	"I felt my advisor was not very involved in my Capstone process. With more guidance or direction, I think I would have had a better experience and more satisfaction in my process."
Culture Promoting the Capstone	Environment that celebrates and prioritizes the Capstone and encourages students to take it seriously	"Not sure how Providence could foster a more encouraging environment for the non-passionate student, but if they found a way to do so, it would really raise [the] student's academic efforts."

In Finding #2, I will explore the first two of these codes (relevant instruction and meaningful tasks), which can be understood as informational resources in Providence's institutional context. Greeno & Gresalfi (2008) define informational resources as the resources that enable students' interactions with "information, concepts, and principles of subject-matter domains" which lead students toward "better understanding of concepts and principles of a domain" (p. 172). Similarly, these first two codes describe resources that, if provided effectively, would theoretically enable many of the central practices.

My findings here will be divided according to each of these two codes:

Finding #2a (Curricular Content Relevant to the Capstone): Prior coursework and the Capstone Seminar course were made available as resources to students, but these resources did not sufficiently enable the central practices of researching, writing, seeking faculty advisement, and responsible action (Practices #2, 3, 7, and 10).

As part of the survey, I asked participants to rate a) the extent to which they believed their undergraduate coursework prepared them well for the Capstone, and b) their level of satisfaction with the Capstone Seminar course itself. I based these questions on a five-point Likert scale, where "Strongly Disagree" corresponded with a score of 1 and "Strongly Agree" corresponded with a score of 5. I present below the mean score of the 83 respondents' answers to these two questions:

Question	Mean Score out of 5.0 (n = 83 respondents)
Coursework prepared me well.	4.0
Satisfied with Capstone Seminar course.	3.4

I then disaggregated the survey dataset by graduation year (i.e., whether the participant graduated before or after 2017, the year when the Capstone Seminar course was implemented), cumulative GPA (i.e., above or below 3.0 GPA), and transfer status (i.e., whether the participant was a transfer student or not). I conducted chi-square tests of independence on these disaggregated groupings to test against a null hypothesis that there were no differences between these groupings and to see if there were any statistically significant differences in how different groups of students at Providence experienced the college's academic program. I set as my threshold a confidence interval of 95%; in other words, any significant differences would be denoted by a *p*-value of less than 5% (or p < .05). As a result of these tests, I did observe one significant difference in how students with GPAs either higher or lower than 3.00 rated their satisfaction with the Capstone Seminar course, $\chi^2(4, N=83) = 10.09$, p = .039.

	Means of Groups (out of 5.0)	χ² Statistic	df	p (**denotes significance)
DISAGGREGATED I	BY GRADUATION YEA	1R(N=66)		
Coursework prepared me well.	4.6 (Before 2017); 3.6 (2017 and after)	9.32	4	.054
Satisfied with Capstone Seminar course.	N/A (Students prior to 2017 did not have a Capstone Seminar course)			
DISAGGREGATED I	BY TRANSFER STATUS	S(N=83)		
Coursework prepared me well.	4.2 (Not a transfer); 3.5 (Transfer)	6.53	4	.163
Satisfied with Capstone Seminar course.	3.5 (Not a transfer); 3.2 (Transfer)	7.84	4	.098
DISAGGREGATED I	SYGPA (N = 83)			
Coursework prepared me well.	4.1 (> 3.00 GPA); 3.5 (< 3.00 GPA)	7.54	4	.109
Satisfied with Capstone Seminar course.	3.5 (> 3.00 GPA); 2.7 (< 3.00 GPA)	10.09	4	.039**

Chi-square test of independence (Coursework and Capstone Seminar)

Now, I pause here to mention some important limitations with the above chi-square test results. These results require a sense of restraint in how they are interpreted, as there were two major biases I could not overcome during the course of this project: sampling bias and psychological bias. My use of convenience sampling for my student sample meant that there was little control over who ultimately decided to respond to my survey invitation in the first place. As a result, my student sample was not a truly randomized one. Further, the above results need to be carefully weighed against the likely psychological bias present in the ways people respond to Likert-style questions on surveys. Though statistical analysis assumes a linear relationship in the variable's options to improve validity, respondents may not naturally assume a linear relationship between the different options of the survey question. Psychologically, the gap between choosing between a 4 and a 5 on a Likert-style question may be a vastly different consideration than choosing between a 3 and a 4, for example. As a result of these

biases, I strongly suggest that any statistically significant differences be interpreted as potential trends for Providence to explore more deeply in their future data collection and analysis efforts.

Turning now to my faculty and staff interviews, I found that interviewees believed that they as well as the institution at large were doing a satisfactory job in preparing students for the Capstone and supporting students during the Capstone. Their responses corroborated their usage of common instructional resources that were mentioned in various course syllabi: providing writing instruction, teaching oral communication skills, integrating the Reformed perspective, and incorporating co-curricular learning. A few interviewees also made mention of the college's provision of the Academic Resource Center, which supported students by providing writing assistance and academic coaching.

Feedback from students suggested, however, that they would not agree with what the faculty shared in their interviews. I present the following student responses that were collected from the survey's open-ended question:

- "Needed help with narrowing down a thesis and expectations for research quality."
- "The process of reading several books, summarizing the argument, and orally defending it is an important stepping stone to writing a Capstone."
- "Better preparation earlier on in my undergraduate coursework, with a more cohesive and sequential curriculum, would have been helpful for my success."
- "I felt like I was entirely on my own with little to no knowledge of where and how to pursue ideas."
- "Make sure that each student [is] equipped to write extensive papers. I did not feel prepared for that aspect at all."

Each of these comments contain a throughline of feeling underprepared or ill-equipped to engage with the practices of researching and writing. Further, these comments also suggest that students might have felt as though they needed, but did not receive, help or assistance from faculty, and that students were left to their own devices without being sufficiently prepared to engage in the practice of independent work. Despite the fact that both course syllabi and faculty interviewees strongly suggested that resources were indeed available to enable students in these practices, student responses nevertheless suggested that they might not have actually perceived and/or leveraged them as resources and ultimately felt as though their ability to complete the Capstone was hampered.

My interviews with faculty helped uncover some possibilities for why students felt as though they did not receive the resources they needed, even if faculty might have felt as though they did provide those resources. Some faculty brought up how academic expectations were not necessarily adjusted to better meet students' needs, and how a rigid set of common expectations seemed to be applied to all students. One interviewee's perspective was representative of these faculty respondents:

"The Reformed tradition is a very rich, intellectual tradition. And I think we appreciate that. But I think we also are, we have to recognize, when we're dealing with 17-, 18-, 19-year-olds, we've got to adjust our expectations and create a pathway for them to get there instead of expecting them to be what we want them to be at the end when they come in."

Further, many faculty also reported that they did not make the Capstone visible in the undergraduate years by explicitly connecting for students how the activities and assignments in their courses were prelude to the Capstone experience. This representative quote from a faculty member succinctly encapsulates this observation:

"I haven't taken that overarching view [of pointing underclassmen to Capstone] yet."

In sum, Providence students believed that they were not enabled to sufficiently engage in the central practices required for the Capstone, despite the college's provision of various curricular resources like coursework and instructional strategies by its faculty. Faculty interviews highlighted potential reasons for these responses from students: the faculty did not necessarily adjust their expectations to better meet their students' needs, and they did not explicitly communicate to their students how engagement with their course content helped enable Capstone preparedness.

Finding #2b (Meaningful Tasks): Though the Capstone Seminar included several assignments that engaged the central practices of interdisciplinary critical thinking, researching, writing, oral communication, career decision-making, and seeking faculty advisement (Practices #1, 2, 3, 4, 6, and 7), students overwhelmingly reported that these assignments were not meaningful for their Capstone, and that they did not enable the practice of responsible action (Practice #10).

In my review of the Capstone Seminar syllabus, I observed several central practices were embedded in the course. Students were asked to seek out an advisor (Practice #7), submit a Reformed perspective reflection paper (Practice #1), produce annotated bibliographies and research proposals (Practice #2), conduct career preparation tasks like writing resumes and cover letters (Practice #6), conduct an informational interview (Practice #4), and submit numerous writing assignments (Practice #3).

Students reported mixed feelings about the Capstone experience in the survey data (average satisfaction ratings of the course can again be found in the above Finding #2a section). With the exception of students in the EDU concentration who reported a great deal of satisfaction with their Capstone experience, nearly every other student opined that their Capstone suffered because there were far too many assignments that were not meaningful or contributing to their final Capstone paper or project. Some of their comments are shared below:

- "Some of the work has nothing to do with the development of the Capstone, and it is so much work. Such as personality tests or unnecessary assignments."
- "All the busy work just stresses people out more. Let Capstone be a showing of all the skills you have acquired through your time."
- "Go away from the small assignments and worry more about the overall aspect of the Capstone project..."

Further, several students shared how the abundance of tasks they perceived as less meaningful affected their engagement with some of the central practices required for the Capstone. The following representative comment shares how the sheer amount of assignments impacted students' ability to responsibly take care of all of their concurrent academic priorities (i.e., Practice #10):

"For the Senior year, the Capstone is so heavy and so many [of us] have so much work to do for other courses."

This general feeling about the assignments in Capstone were reflected in the interviews with faculty as well. The following are two representative comments, the first shared by a faculty member and the second shared by a non-academic staff member:

- "Instead of thinking about requiring so much, maybe we need to require a focused amount. So I think students would see [the Capstone] as more important if they're like, 'I can focus on this.'"
- "I'm not an expert at all in this, but I know that [students] felt that the Capstone class took away from their time to actually write the Capstone. It was a lot of busy work."

In sum, the Capstone experience required students to conduct research and submit a completed Capstone paper, but it also tasked students with completing multiple assignments that were not necessarily relevant. Consequently, Providence students reported that they were not enabled to engage with the central practices required for the Capstone paper, because they found that the various Capstone Seminar assignments ultimately detracted them from their work.

Project Question #3: What interpersonal resources are currently available that enable students to participate in the practices required by the Capstone?

In Finding #3, I take up the remaining three codes that can be understood as interpersonal resources in Providence's institutional context: accountability, faculty advisement, and a culture promoting the Capstone. Interpersonal resources, again, involve "students' interactions with each other, a teacher, and other people" and contribute toward increased engagement and "successful contributions to a group's work or increased focus and concentration on independent work" (Greeno & Gresalfi, 2008, p. 172). These three codes have less to do with procedural knowledge, and more to do with interactions between persons and the overall environment at the college.

My findings here will be divided according to each of these three codes:

Finding #3a (Accountability): Resources like course schedules with deadlines were made available to students, but students perceived that the types and frequency of deadlines that were communicated in the Capstone Seminar did not help enable the central practice of responsible action (Practice #10).

In one particular interview with a non-academic staff member, I listened as the interviewee began speculating on what types of students at Providence submitted the best Capstones. I found his response noteworthy, as he surmised that students who were the most heavily involved in various student life activities were often the ones who submitted high-quality Capstone work:

"What I find [are] strong Capstones are often from students who have the most involvement in extracurricular activities as well. This is purely anecdotal. I could not give you stats on this. However, I look back on the strong Capstones, and I look back on the strong students. They were part of student leadership. They were involved in arranging on- and off-campus events. These were students who wanted to invest in Providence, and they put the same level of investment in their studies."

Yet, I found his response somewhat inconsistent with what another faculty member interviewee shared with me. She suggested that students with the most significant involvement in co-curricular activities, namely athletics and part-time jobs, were the ones who appeared to struggle with the Capstone the most:

"They have a lot of competing demands, most of them are athletes. So we're already talking a 25-30 hour a week commitment. Most of them also have work responsibilities. So yes, there is a lot of requirements on them."

In any case, both of these interviewees were considering what the root cause might be for what they perceived to be a major contributor to the Capstone dilemma: a lack of preparation. Truly, all of the interviewees shared something similar during their conversations with me, as the following representative quote demonstrates:

"There seems to be a lack of preparedness, despite the amount of time that you had to prepare."

Again, that quotation sums up a sentiment that I broadly noticed in all of the interviews. Faculty interviewees bemoaned the fact that they provided resources like coursework and instruction and advisement, and that students should have had time to work on their Capstones during their final year, but students were still either unprepared or were submitting poor quality work by the very end.

Some students shared in the open-response question that they believed increasing accountability was necessary to address this problem. Specifically, their feedback centered around the desire for more frequent deadlines. Some asked for "more checkpoints along the way" and others asked that deadlines for assignments like bibliographies and research proposals take place "sooner in the semester." One interviewee even believed that increasing the frequency of deadlines would have a positive impact on students' ability to work on their tasks (i.e., Practice #10):

"When we are seniors, we have a problem of getting our work done, so these deadlines are also very important in encouraging the diligent working of students."

I returned back to the Capstone Seminar course syllabus in hopes of discovering why students felt as though more deadlines were required. Certainly, even a cursory glance at the syllabus shows how many deadlines were imposed on students in the course, and each of the deadlines were clearly communicated. However, a little more than half of the deadlines were actually relevant for the Capstone paper. The other deadlines were for assignments that addressed the career decision-making component of the seminar course (e.g., various reading response journals, personality inventories, etc.). Despite the abundance of deadlines that were already being offered, students may have responded in the way that they did because a) they did not perceive or recognize the available deadlines as relevant resources, and/or b) they desired for more Capstone-related deadlines and fewer deadlines related to assignments they believed were not urgent. This echoes what I discovered back in Finding #2b

concerning meaningful assignments: deadlines as a resource were certainly made available at Providence, but students may not have believed that they were truly meaningful ones.

Finding #3b (Faculty Advisement): Students gave inconsistent feedback regarding the quality of advising they received for their Capstone, and the extent to which this resource enabled the practices of researching, writing, and responding to setbacks was unclear (Practices #2, 3, and 9).

My interviews with faculty and staff helped verify just how highly valued faculty advisement was as an interpersonal resource. Every interviewee discussed advising students as a major part of their responsibilities at the college, and each shared different priorities they had in their advising. Most commonly, faculty interviewees shared that their advising allowed them to help students with their researching and writing skills (Practices #2 and 3). One common objective many interviewees discussed was using advisement to teach students how to respond to failure and develop a sense of resiliency:

"I would rather just have them try something and fail and have them stand up when they defend their capital and say, 'Here's where I tried, and here's all the walls that I hit.' But if they could get to, you know, 'I would learn to do it differently if I had to do it again,' which to me is like, 'Alright, that's a growth mindset of continual learning.' And they're willing to not only just learn, but to unlearn, relearn."

Another interviewee addressed the same objective of helping students navigate failure, and how she used failure as a premise to help her students set goals and attain them (i.e., Practice #9):

"If they get a 90 or above, they can just choose to apply that to their third article evaluation, which is worth 15%. So, you know, there's lots of impetus to really work at this, right? If they don't, I give them the choice of either doing a revision with me or doing a 30% valuation. Nobody chooses the 30% valuation. They all choose the revision. But I give them a checklist of things that I want them to do. Then they come in and see me... we talk about what's going on, and then they rewrite it for me. It's a way of helping students kind of incrementally grow in some of these skills."

Yet another common objective interviewees discussed regarding advisement was concerning their ability to provide emotional and spiritual support for their students. A few interviewees even went so far as to state that this type of advisement was critical to student success on the Capstone:

"There are aspects of developing Capstone with [my students] in terms of the thinking process. There's also the emotional support of going through it."

I ascertained from my interviewees that faculty and staff prided themselves on their provision of this resource. One interviewee even framed his advisement as "discipleship in disguise," and stated that he cared less about the "subject matter, but the subject who matters." Having said that, student survey data revealed mixed results on whether the advisement they received for their Capstone was actually helpful. On one hand, students on average rated the "My advisor was/is helpful" question quite high:

Question	Mean Score out of 5.0 (n = 83 respondents)
Advisor is/was helpful.	4.3

Once again, I disaggregated the dataset by GPA, transfer status, and graduation year, and conducted a chi-square test of independence using a confidence interval of 95% to see if different groups of students experienced faculty advisement differently. I observed one significant difference in how students with GPAs either higher or lower than 3.00 rated their satisfaction with their faculty advisors, $\chi^2(4, N=83) = 14.68$, p = .005.

	Means of Groups (out of 5.0)	χ² Statistic	df	p (**denotes significance)
DISAGGREGATED E	BY TRANSFER STATUS	S(N=83)		
Advisor is/was helpful.	4.4 (Not a Transfer); 4.3 (Transfer)	5.45	4	.244
DISAGGREGATED E	BY GRADUATION YEA	1R(N=66)		
Advisor is/was helpful.	4.4 (Before 2017); 4.4 (2017 and after)	4.93	4	.295
DISAGGREGATED BY GPA $(N = 83)$				
Advisor is/was helpful.	4.6 (> 3.00 GPA) 3.6 (< 3.00 GPA)	14.68	4	.005**

Chi-square test of independence (Advisor)

Again, I wish to clarify that the above statistical data should be used to highlight potential trends for Providence to explore more deeply in their future data collection and analysis efforts.

However, on the other hand, students also gave a large number of responses to the open-ended question that seemingly contradicted the quantitative data. Many students perceived their faculty advisors were not as available as they would have preferred, as shown in this representative comment:

"My advisor was not very involved in my Capstone process."

Others believed that their professors were simply taxed with other responsibilities that precluded their full participation as advisors:

"My Capstone advisor was overburdened and not able to provide me with the individual support I wanted and needed at the time. Unless Providence decides to invest in its professors, I fear this will continue with other students."

Altogether, I found this apparent contradiction between the quantitative and qualitative data quite surprising. Tentatively, I speculated from the data that students at Providence did actually believe their faculty advisors were helpful, but may have simultaneously wished that the help they received from their advisors came more frequently. I would recommend that Providence explores this tension in the data further in the future.

I will also note here that not all students in the survey felt this way. In particular, EDU students found the advising they received was truly helpful for their Capstone work, and I share some of their comments below:

- "My experience was amazing because I had Professor Van [Spronsen]. Without her, I think it would've been very stressful."
- "Prof. Van Spronsen did an excellent job pacing us in our Capstone paper and guiding us through the research and writing of it."

Providence should leverage the insights from the EDU faculty to better understand what they are doing differently, and I will elaborate on this more in the Recommendations section.

Finding #3c (Culture Supporting the Capstone): The Capstone was not integrated across the non-academic domains of the college, and non-academic staff reported that the Capstone was not a chief priority of theirs.

My survey included Likert-style questions that asked students to rate the extent to which their involvement in athletics, student life activities, and/or residential life contributed to their feelings of preparedness in the Capstone. I present below the average scores to these questions:

Question	Mean Score out of 5.0 (n = 83 respondents)
My involvement in athletics helped prepare me for my Capstone work.	2.6
My involvement in student life activities helped prepare me for my Capstone work.	2.9
My involvement in residential life helped prepare me for my Capstone work.	3.1

Again, I disaggregated the dataset by GPA, transfer status, and graduation year, and conducted a chi-square test of independence using a confidence interval of 95%. I wanted to see if these different groupings of students believed differently as to whether their co-curricular involvement helped prepare them for the Capstone. I present these findings in the following table:

	Means of Groups (out of 5.0)	χ² Statistic	df	p (**denotes significance)
DISAGGREGATED E	BY TRANSFER STATUS	S(N=83)		
Athletics helped prepare me for Capstone	2.5 (Not a Transfer); 2.9 (Transfer)	7.76	4	.101
Student life helped prepare me for Capstone	3.0 (Not a Transfer); 2.6 (Transfer)	2.43	4	.657
Residential life helped prepare me for Capstone	3.2 (Not a Transfer); 2.9 (Transfer	3.91	4	.418
DISAGGREGATED BY GRADUATION YEAR ($N = 66$)				

Athletics helped prepare me for Capstone	2.1 (Before 2017); 2.9 (2017 and after)	20.56	4	.0003**
Student life helped prepare me for Capstone	2.9 (Before 2017); 3.0 (2017 and after)	0.55	4	.968
Residential life helped prepare me for Capstone	3.1 (Before 2017); 3.0 (2017 and after)	5.16	4	.271
DISAGGREGATED I	3Y GPA (N = 83)			
Athletics helped prepare me for Capstone	2.6 (> 3.00 GPA); 2.5 (< 3.00 GPA)	12.7	4	.01**
Student life helped prepare me for Capstone	2.9 (> 3.00 GPA); 2.9 (< 3.00 GPA)	12.71	4	.013**
Residential life helped prepare me for Capstone	3.1 (> 3.00 GPA); 3.0 (< 3.00 GPA)	6.77	4	.148

Chi-square test of independence (Athletics, Student Life, Residential Life)

I discovered a few statistically significant differences in this series of tests. There was a significant difference between how pre-2017 graduating students viewed their involvement in athletics as contributing to Capstone preparedness and how post-2017 students viewed the same, $\chi^2(4, N=83) = 20.56$, p = .0003. Similarly, I found a significant difference between students with 3.00 or higher GPAs and students with below 3.00 GPAs in how they viewed their athletics involvement as contributing to Capstone preparedness, $\chi^2(4, N=83) = 12.7$, p = .01. I observed a third significant difference between students with 3.00 or higher GPAs and students with below 3.00 GPAs in how they viewed their student life involvement as contributing to their Capstone preparedness, $\chi^2(4, N=83) = 12.71$, p = .013. Once again, as I previously stated, these statistically significant differences ought to be interpreted only as potential trends for now, given the sampling and psychological biases inherent in this project, and should be investigated more deeply in future data collection and analysis.

My interviews with non-academic staff confirmed that the Capstone was not meaningfully integrated in their domains of the institution. When I asked about the extent to which things like the Capstone were communicated to non-academic staff, one interviewee stated thus:

"I don't recall the last time that the academic goals were reiterated or, you know, refocused on... I can't remember the last time that happened, or if it ever really happened formally, to be honest with you."

Another interviewee was more candid in his response when I asked him about the ways in which the athletics department helped support the student learner outcomes:

"[The athletic department doesn't] interact with the SLOs. It's one of those things they heavily interact with when WASC comes around, and you develop them, everyone agrees that this is what we're doing, this is how we should do it. And then they're not really in the front when you move beyond that."

Another interviewee shared that Capstone was not a priority for the student life department, and that the staff members prioritized other important goals and outcomes in their responsibilities:

"Capstone is not necessarily a task on the Student Life vision. It's not at the forefront of the goals for Student Life, particularly. I think we are aware that it goes on, I think we're aware that it's important. But I think the focus for Student Life is mostly community building, spiritual development, and managing events."

These responses make clear that the Capstone in its current iteration is relegated as simply an academic matter, instead of integrated meaningfully across the entirety of the college. The implications of this finding bear mentioning here. The Capstone Improvement Subcommittee shared that the college designed the Capstone to be a summative assessment that measured the extent to which students met or exceeded the SLOs, and that the entirety of the college's curricular and co-curricular experiences were meant to help students make progress toward the SLOs. For the Capstone to only be an academic matter indicates a strong possibility that students are not being enabled in the required central practices across the co-curricular domains of the college.

Recommendations

I preface this next section with a brief reflection on the findings that surfaced as a result of this project. The culminating experience at Providence Christian College intends to gauge whether students have met or exceeded the institution's student learning outcomes, and the college's faculty and coursework present 10 practices as being central for success in this experience. However, I discovered that the presently available OTL at the college do not sufficiently enable students' full participation in and engagement with the required central practices. As a result, students are submitting Capstone work that falls short of the institution's expectations.

These reflections lead me to invariably ask: is the Capstone as it currently exists the right culminating experience for Providence Christian College? Is the Capstone in its current iteration an adequate means of assessing what students are expected to know, do, and be by the time they finish college? Is there an alternative culminating experience that would be better enabled by the college's OTL, and more thoroughly encapsulate all of the central practices instead of a limited few? Would a different culminating experience better assess the student learner outcomes, as the college desires to do?

If Providence Christian College indeed desires to keep the Capstone as its culminating experience, then I offer four recommendations here to improve Capstone-related outcomes that are based on my findings.

Recommendation #1: In order to better manage student expectations regarding the Capstone experience, Providence should explicitly articulate how coursework will prepare students for the Capstone and incorporate Capstone-related tasks during each year of the academic program.

McKinney and Day (2012) write that the undergraduate capstone requires "strategies to help students see the connections between their past learning and their capstone projects" (p. 155). One such strategy they highlight is to have faculty who teach courses leading up to the capstone "explicitly reference how an assignment or learning outcome might be used in the capstone" (McKinney & Day, 2012, p. 155). Wagennar (1993) supports this notion of making the links between prior coursework and the capstone experience explicit by stating the capstone should clearly "link knowledge gained from one... course with that gained in another" and then "participate competently in a discussion of the basic arguments in the field" in their capstone task (p. 211). These insights from the literature connect with the data collected in this project. Document analysis of the course syllabi suggested that the Capstone was not

intentionally woven into the fabric of every course at Providence. Both faculty and student stakeholders suggested that bringing Capstone to the forefront earlier on would help improve outcomes. Providence should seek to make the Capstone more visible to all students and make explicit the connections between its myriad of learning experiences and Capstone readiness.

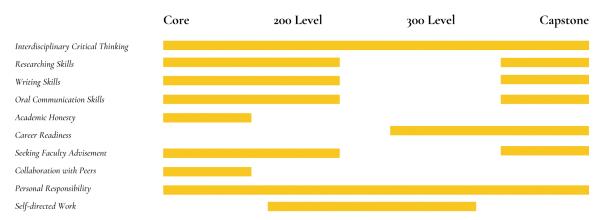
My first recommendation can be divided into three parts: explicitly articulate how every course prepares students for the Capstone, collaborate with non-academic staff on ways to integrate Capstone readiness across co-curricular domains of the college, and incorporate Capstone-related tasks during each year of the college experience.

Explicit Articulation. I would first recommend that all of the course syllabi include a new section titled "Capstone Readiness" that lists all of the central practices that will be required for the Capstone experience. Even the core and/or first year syllabi should include this section. Providence faculty, under the supervision of the Dean of Academics and/or the Capstone Improvement Subcommittee, should then engage in discussions concerning how the central practices required for the Capstone should be sequenced across all four years of learning. For example, the practices of researching and writing and seeking advisement from faculty may be one that students need to engage in as early as the first year, but the practices of critical thinking and self-management may not be rehearsed more fully in-depth until the second or third year. Some faculty members like the following have already been doing this on an informal basis and prioritizing certain practices over others naturally:

"We just have to get these skills to [the students] because [they] don't have them right now, particularly in areas of argumentation and understanding structure. Things like how to cite and you know, that all of these things are just roadblocks to students and being successful."

The rationale, then, is for the faculty to collectively generate a clear plan of which practices will intentionally be prioritized in each course instead of doing so casually, which can lead to some gaps despite the faculty's well-intentioned solo efforts. Faculty should map out these practices alongside the Dean of Academics and/or the Capstone Improvement Subcommittee and identify how they will engage with the practices in each of the classes over the course of four years. I present below in Figure 7 a sample of what such a map could look like:

Map of Central Practices Timeline

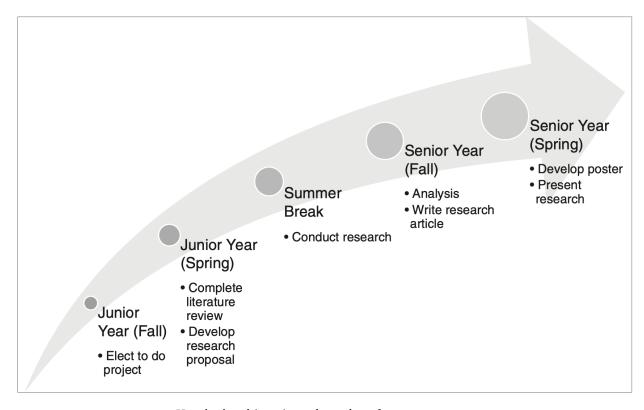


Sample diagram that maps out how students will engage with the central practices across four years

Upon completion of these collaborative discussions, faculty should add to the "Capstone Readiness" sections of their syllabi to explicitly detail how their planned experiences, assignments, and assessments are aligned with the central practices, and explain how success in these tasks will invariably prepare students for potential success in the Capstone. Providence can rely on student performance data on these tasks as leading indicators that predict potential Capstone outcomes, instead of relying simply on lagging indicators like whether or not a student completed his or her Capstone satisfactorily.

Co-Curricular Integration. Similar to the above, Providence non-academic staff should have a similar conversation with the Dean of Academics and/or the Capstone Improvement Subcommittee to explore how students can be monitored and assessed in their ability to engage with the central practices across co-curricular spaces. They should similarly be tasked with mapping out where and how the central practices are necessary in each of the domains of the college (e.g., students may not necessarily need to engage in research and writing in athletics, but they might benefit from using these practices in student life, etc.), and clarify how these practices will be assessed. As non-academic staff do not typically have assignments or tasks they can rely on to assess the central practices, they should work instead to identify observable behaviors for each practice (e.g., for the practice of personal responsibility, an observable behavior might be establishing new goals after facing setbacks, etc.) and create rubrics that assess these observable behaviors. Non-academic staff should communicate explicitly with students how they will engage with the central practices for the Capstone in their particular contexts, and share rubric evaluations annually with them as well as with the Dean of Academics and/or Capstone Subcommittee.

Capstone Tasks Every Year. Providence students should have opportunities each year to not only rehearse the central practices across each of their courses, but also in novel Capstone-related contexts. The case studies from the University of La Verne (Redman, 2013) and LaGuardia Community College (Stubbs, Feibel, & Arcario, 2013) help reveal the necessity of redesigning the years leading up to the final year in order to improve undergraduate capstone outcomes. By redesigning each year of the undergraduate experience, Providence can ensure that the Capstone remains highly visible for students, and assess their students' competencies with the central practices as well as their increasing readiness for the Capstone. Strategies could include requiring an integrative paper or project that requires students to connect the learning across their core classes, or incorporating career and/or other co-curricular learning opportunities during the first two years of the undergraduate experience. By the third year, students should already be well underway on generating their research proposals and completing their literature reviews. Henscheid et al (2019) offer the following sample timeline to illustrate such an arrangement:



Henscheid et al (2019) sample timeline of capstone experience

In Providence's context, third-year students could even be asked to participate in the Senior Capstone presentations at the end of the year by sharing their research proposals and a summary of their literature reviews in a session reserved for third-year presentations. Their presentations could also

include a short blurb of what they hope to uncover as they continue their research and writing during their final year at Providence. Such an experience would naturally help students rehearse two of the required central practices: communicating orally in front of a live audience (Practice #4), and taking responsible action as they would now become accountable to the audience for completing their projects during their final year (Practice #10).

Recommendation #2: To provide students with the necessary resources to complete their Capstones, Providence should redesign the Capstone Seminar course during the final year to purposefully constrain the experience and allow for flexibility.

The current iteration of the Capstone Seminar at Providence Christian College appears to include too many disparate outcomes; particularly, career decision-making. Concurrent with the demanding task of finishing the Capstone paper/project, students in the Capstone Seminar are also asked to submit several assignments that require research in and reflections on their preferred career or post-baccalaureate goals. Indeed, as I shared in the Findings section, one of the most numerous complaints that students shared in the survey's open-ended question was concerning the amount of "busy work" they had to complete during the Capstone Seminar.

My second recommendation can be divided into two parts: constrain the experience; and clarify standards to allow for flexibility.

Constrain the Experience. The Dean of Academics, Capstone Improvement Subcommittee, and the Capstone Seminar instructor(s) should discuss the extent to which any tasks that are not meaningful or necessary for the Capstone paper or project should be required during the course. Arguably, each of the tasks that are not essential for addressing the Capstone outcomes could nevertheless be seen as essential in addressing the SLOs (e.g., career decision-making-related tasks could fall under the purview of SLO #5), so I would caution against discarding the tasks outright. Instead, perhaps the nonessential tasks could be incorporated into the curriculum across the prior years as mandatory tasks to complete for Capstone readiness (see Recommendation #1). Or, perhaps some tasks could be reimagined and refocused in other ways, as one interviewee who discussed career decision-making suggested:

"Maybe [offer] career services as a necessary component. It would be helpful to students to separate those things out so there's more dedicated time to the Capstone project itself. And then there's a place and resources available for them for career services and support."

The goal here is to prioritize what needs to actually get done during the Capstone Seminar, and consider the extent to which the nonessential tasks are actually formative and important during the final year (Upson-Saia, 2013; Hartnett, 2016).

Clarify Standards to Allow Flexibility. The abovementioned members along with each of the department heads should also consider developing and using unique Capstone rubrics for each concentration. Such rubrics should clarify what the standards of excellence are in each discipline, and frame those standards in broad language that is inclusive of different types of Capstone experiences that may not necessarily be paper writing. During the data collection phase of this project, I discovered that provisions were made in the past to accommodate alternative Capstone submissions in concentrations like BEE (e.g., case studies, business plans, etc.) and EDU (e.g., writing a children's book). I recommend that these types of efforts be standardized across every discipline so that the Capstone could become an even more relevant and flexible experience for Providence students.

Recommendation #3: To provide students with the proper advisory support, Providence should identify, implement, and monitor expectations for faculty advisement for the Capstone experience. Providence should also consider reimagining the incentives offered to advisors to encourage more active participation.

As part of Recommendation #2, I cited the finding that one of the most numerous complaints that students shared regarded the amount of "busy work" they had during their final year. The number one complaint I received was that students found the quality of advising they received in their Capstone work to be greatly lacking.

This finding corroborates what many researchers have stated regarding the importance of high-quality faculty advising during the undergraduate capstone. Henscheid et al (2019) suggested that the role of capstone advisor required coaching and facilitating skills, and consequently, training and development was required to support this role. Martin & Strawser (2017) discovered in their research of capstone courses that the most effective faculty advisors were prepared to help facilitate connections between the capstone experience and the entirety of their students' undergraduate learning. Insights like these make clear that the responsibility of faculty advising ought not to be undertaken haphazardly, but rather with careful development, planning, and preparation.

Providence similarly should take great care to identify and implement expectations for faculty advisement for the Capstone, provide training and development, and monitor the extent to which

faculty are providing advisement that meet or exceed the expectations. To do this, I recommend adapting Pembridge & Paretti's (2019) "operational taxonomy" that identifies nine different functions along with their associated practices of the capstone faculty advisor. Providence faculty, under the direction of the Dean of Academics and/or the Capstone Improvement Subcommittee, could first invite the EDU instructors to share about the ways in which they advise students, as their advisement received the most enthusiastic praise from student respondents. Then, Providence faculty could complete a self-rating inventory to gauge whether and how they demonstrate the various practices shared by both the Pembridge & Paretti (2019) taxonomy as well as by their EDU colleagues. Data from the inventories can help identify what gaps exist across the institution, which then can inform the type and quality of training that faculty should receive. Pembridge & Paretti's (2019) "operational taxonomy" can then function as a checklist that faculty advisors can reference as they work with their Capstone students to ensure that they are complying with an empirical standard. Providence can monitor faculty advisement each semester by incorporating extra questions in the biannual course and teaching evaluations that asks students to share about the experiences with their advisors.

I would also recommend that Providence considers new or reimagined incentives for faculty who advise students during the Capstone. Though it would be difficult to make a specific recommendation here due to my limited understanding of the institution's monetary constraints, I would nevertheless suggest that \$250 per student per semester is not enough of a motivating incentive to advise students well. I recommend that the Capstone Improvement Subcommittee (in concert with the pertinent representatives from the finance and operations department, if necessary) consider alternative incentives that could address faculty advisors' willingness and capacity to more intentionally assist students with their Capstone.

Lastly, in line with the suggestions put forth in Recommendation #1, Providence should consider having students select their Capstone advisor as early as their third year. One interviewee even made such a suggestion when asked what the institution could do to better support Capstone outcomes:

"Maybe earlier on, you know, beginning that Capstone earlier on, having your advisor your freshman year, and that person kind of helps you through. Maybe have a subject identified by your junior year."

This step aligns with the overall recommendation that the Capstone be better sequenced across the undergraduate years. Having students identify and work closely with their selected advisor across two years may help ensure that students have sufficient time to receive targeted support based on the

Pembridge & Paretti (2019) "operational taxonomy" so that they can complete the Capstone satisfactorily during their final year at Providence.

Recommendation #4: To better support different types of students at the college,
Providence should continue collecting and analyzing data on disaggregated groupings of
students to see if any of these groups are experiencing Providence differently and require
extra support.

Briefly, my final recommendation for Providence Christian College is connected to the various statistical tests that I ran on disaggregated groups of students here at the college (e.g., by Transfer Status, Graduation Year, and GPA). The data I collected hinted at what I could only suspect are potential trends worth investigating further. I would recommend that Providence continues taking similar data on their students and disaggregate these groups to generate more robust findings over time on whether different groups of students experience Providence differently and therefore need more support.

Conclusion

To close, I present a comment that an interviewee shared during his time speaking with me:

"I think if you see evidence of students just checking boxes, we should change the whole thing. If there's already any tendency of just phoning it in, then it's not worth doing. And if it doesn't have that gravitas towards it, then crumple it up, throw it away, and redo it. You know, this is not just another assignment. This is the culmination of everything."

This statement encapsulates a common sentiment that I found all of Providence's faculty and staff and several of its student stakeholders shared. The Capstone at Providence is meant to be something special. This experience is one that ultimately defines whether students have successfully adopted the community's central practices as their own. The Capstone, then, truly is so much more than "just another assignment," as this interviewee stated: it is the very product that confirms that students have been enabled by the various OTL presented by the community and have verifiably demonstrated mastery of all that the community expected from them.

In this project, I set out to explore alongside the Capstone Improvement Subcommittee why Providence Christian College continued to experience challenges with their Capstone experience. To that end, I conducted document analysis of course syllabi, engaged faculty and staff in semi-structured interviews, and administered a survey to alumni and current students to gauge the quality of their Capstone experience. My findings helped substantiate the dual reality that the institution was already doing several things well and also had areas in which it could improve.

Providence should be commended for embedding required central practices across the entirety of its curriculum. Whether the practices were presented in the course syllabi or alluded to during my conversations with faculty, these 10 practices were identified as being critical for success. Further, Providence has provided various informational and interpersonal resources to help enable student work in the Capstone as well as in all of the undergraduate courses it offers. In particular, the institution embeds key OTL such as helping students improve their writing and researching abilities, providing emotional and spiritual support, and facilitating important metacognitive processes. The institution's provision of the Academic Resource Center, which provides academic coaching and writing help, in particular, is also quite noteworthy.

As Providence moves forward into its preferred future with regard to the Capstone, it now needs to consider ways to make this culminating experience much more visible. I recommend that Providence take the central practices that are already embedded in the curriculum and clarify how students' engagement with these practices will inevitably prepare them for the Capstone. Further, I also recommend making explicit how the various assignments, co-curricular experiences, and other resources will help students develop the central practices needed, and improving alignment across the academic and non-academic domains of the college so that the Capstone remains the supreme objective across the entire institution. Further, my analysis of the data suggested a very compelling need to address the quality of faculty advisement. Leveraging tools like Pembridge & Paretti's (2019) "operational taxonomy" of capstone advising practices and learning from EDU colleagues who are advising well could help Providence improve greatly in this area.

Altogether, my project exploring the Capstone at Providence Christian College led me to believe that this culminating experience is rife with enormous potential. My hope as I conclude this paper is that the recommendations presented here will help facilitate improved outcomes for students who undertake this memorable experience and provide great value for the institution as it moves forward with its mission and vision into the future.

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Appendices

Appendix A: Student Learner Outcomes at Providence

Providence Christian College Student Learning Outcomes (Revised June 2017)

Core competencies to be assessed for all Providence students. Bullet points indicate elaboration of meaning and point to the kind of evidence appropriate for assessment.

- 1. Interdisciplinary Competence: Students will be able to produce evidence of the ability to make connections across the disciplines of the Liberal Arts (humanities and sciences) curriculum.
 - Articulate a Reformed biblical perspective that is integrated in all areas of study
 - Integrate a broad liberal arts perspective through self-reflection and participation in experiential education
 - Exhibit awareness of diversity in both historical and contemporary cultures
 - Construct and effectively present research using quantitative and qualitative reasoning and scientific data
 - Create capstone projects that reflect interdisciplinary competencies and a love of life-long learning
- 2. Creative- and Critical-Thinking: Students will be able to critically evaluate claims and research, consider multiple perspectives, discern sound premises, and develop biblical viewpoints and creative solutions to problems.
 - Incorporate a Reformed Christian worldview into thought, attitudes, and actions seeking to diminish the power of egocentric and socio-centric tendencies
 - Work diligently to develop the habitual virtues of intellectual integrity, humility, civility, empathy, and justice
 - Think with contextual discernment in order to live reflectively, rationally, reasonably, and compassionately
 - Analyze and evaluate issues objectively in order to form sound judgements and reasoned actions
 - Develop and demonstrate creativity, innovation, and imagination

- Media and Information Literacy: Students will understand the functions of media and other
 information providers to evaluate critically and make informed decisions as users and
 producers of information and media content.
 - Use media, information, and technology as a redemptive tool
 - Foster responsible, conscientious engagement in digital communication and communities
 - Embody the knowledge, skills, and attitudes needed to research with wisdom and discernment
 - Demonstrate media literacy by accessing, evaluating, using, producing and communicating information and technological content
 - Communicate transparently by identifying and accounting for presuppositions and biases in media resources
- 4. Communication: Students will be able to communicate across diverse audiences effectively, creatively, and persuasively in oral, visual, and written formats.
 - Assimilate a biblical worldview into all types of communication
 - Weigh the personal, social, ethical, and spiritual consequences of communication and honor the dignity of every person as created in the image of God
 - Create effective communications for intercultural and cross-cultural contexts
 - Communicate collaboratively with others in discovering truth and developing solutions to complex problems
 - o Promote reasoned and civil discourse in philosophical, political, and religious arenas
- 5. Global Citizenship and Community Connectedness: Students will exhibit biblical habits of the heart through nurturing respect for all, building a sense of community belonging, and being responsible and active global citizens.
 - Nurture wisdom and discernment (Deeper Learning for Greater WisdomTM) in order to fulfill God's mandate for faithful stewardship over the creation and service to humanity
 - Serve God and neighbor through compassionate moral action with a clear sense of calling for the service of humanity and glorification of God
 - Assume an active role in facing and resolving community and global challenges in order to become proactive contributors in the redemption of creation
 - Participate in the complex process of developing wisdom, discernment, and maturity by committing to lifelong learning

Appendix B: Capstone Rubrics

Critical Thinking Rubric

You will be evaluated on your ability to critically think on this assignment, which is Providence's Learning Outcome #2.

Final Paper Grading Rubric (100 pts); 20% of Final Grade

Course Objectives	Meets Expectations (20-19 pts) (10-9 pts)	Approaching Expectations (18-17 pts) (8-7 pts)	Below Expectations (16-14 pts) (6-4 pts)	Needs Work Toward Expectations (13-12 pts) (3-2 pts)
Critical Thinking: Explanation of Issues Writing: Intro & Context Organizatio n and Structure (20 or 10pts)	Issue or problem to be considered critically is stated clearly and described comprehensively , delivering all relevant information necessary for full understanding.	Issue or problem to be considered critically is stated, described, and clarified so that understanding is not seriously impeded by omissions.	Issue or problem to be considered critically is stated but description leaves some terms undefined, ambiguities unexplored, boundaries undetermined, and\or backgrounds unknown.	Issue or problem to be considered critically is stated without clarification or description.
Critical Thinking: Evidence Writing: Argument Developme nt through Analysis of Sources Used (20 or 10pts)	Information is taken from source(s) with enough interpretation\e valuation to develop a comprehensive analysis or synthesis. Viewpoints of experts are questioned thoroughly.	Information is taken from source(s) with enough interpretation\e valuation to develop a coherent analysis or synthesis. Viewpoints of experts are subject to questioning.	Information is taken from source(s) with some interpretation\e valuations, but not enough to develop a coherent analysis or synthesis. Viewpoints of experts are taken as mostly	Information is taken from source(s) without any interpretation or evaluation. Viewpoints of experts are taken as fact, without question.

			fact, with little questioning.	
Critical Thinking: Context, Assumptions and Alternative Viewpoints Writing: Research & Source Usage Evidenced through Sources Used and Analysis (20 or 10pts)	Thoroughly (systematically and methodically) analyzes own and other's assumptions and carefully evaluates the relevance of contexts when presenting a position. There is ample evidence of a Reformed Christian worldview being used in consideration of the perspectives and premises.	Identifies own and other's assumptions and several relevant contexts when presenting a position. There is evidence of a Reformed Christian worldview being used in consideration of the perspectives and premises.	Questions some assumptions. Identifies several relevant contexts when presenting a position. May be more aware of other's assumptions than one's own (or vice versa). There is little evidence of a Reformed Christian worldview being used in consideration of the perspectives and premises.	Shows an emerging awareness of present assumptions (sometimes labels assertions as assumptions). Begins to identify some contexts when presenting a position. There is no evidence of a Reformed Christian worldview being used in consideration of perspectives or premises.
Critical Thinking: Student's Argument Writing: Thesis & Analysis Thesis and Analysis of Sources Throughout Paper (20 or 10pts)	Specific position (thesis\argumen t) is imaginative, taking into the complexities of an issue. Limits of position (thesis) are acknowledged. Others' points of view are synthesized within position. There is strong evidence of the influence of a Reformed Christian	Specific position (thesis\argume nt) takes into account the complexities of an issue. Others' points of view are acknowledged within position (thesis). There is evidence of the influence of a Reformed Christian worldview.	Specific position (thesis\argumen t) acknowledges different sides of an issue. There is some evidence of the influence of a Reformed Christian worldview.	Specific position (thesis\argument) is stated but is simplistic and obvious. There is no evidence of the influence a Reformed Christian worldview.
	worldview.			
Critical Thinking: Conclusions Writing: Conclusion Concise Synthesis of Ideas (20 or 10pts)	Conclusions and related outcomes (consequences and implications) are logical and reflect student's informed evaluation and ability to place evidence and perspectives discussed in priority order.	Conclusion is logically tied to a range of information, including opposing viewpoints; related to outcomes (consequences and implications) are identified clearly.	Conclusion is logically tied to information (because information is chosen to fit the desired conclusion); some related outcomes (consequences and implications) are identified clearly.	Conclusion is inconsistently tied to some of the information discussed; related outcomes (consequences and implications) are oversimplified.

Capstone Presentation Rubric

RUBRIC -Professional Capstone Presentation:	Out of 140
1. Preparation of Powerpoint, Prezi, or graphics for presentation	total points
Professional quality graphics or Powerpoint/Prezi/Poster/Chart with aesthetically pleasing background, contrast for text	/10 pts
Readable font and limited text per slide/page	/5 pts
Charts/diagrams appropriate to display understanding of statistics and/or concepts	/5 pts
Appropriate number of slides to present pertinent information	/5 pts
Professionally handles slide transitions, with confidence and proper mechanics of presentation	/5 pts
Total points for section 1	/30 pts
2. Professional Presentation Skills *If completing via recording or online platform (i.e. Zoom) these are to be interpreted as best as possible for the online medium	
Professional attire and appearance (Business attire)	/5 pts
Dynamic vocal modulation and interest expressed through enthusiastic speech pattern and positive non-verbal body language and gestures	/10 pts
Creativity and innovation with presentation	/20 pts
Engagement with audience (Eye contact, directs attention to all participants, reading audience engagement, facilitating question and answer times)	/25 pts
Organized presentation of research, as determined by content adviser	/25 pts
Well-paced, follows time parameters (Able to stop at 20 minutes)	/5 pts
Engaging, pertinent, salient, persuasive information presented in an interesting manner	/20 pts
Total points for Section 2	/110 pts
Total points from all Sections	/140 pts
Student Presenter/Title:	
Adviser Name	

Further Adviser Comments:

Annotated Bibliography Rubric

Annotated Bibliography Rubric LBS 490

A, 9 or 10/10:

- 1. Has an appropriate number of sources for the project (approx. 15 for capstone papers & approx. 6 for case study).
- 2. Sources are pertinent and relevant to the chosen topic (as determined by adviser)
- Sources are current and accurately reflect the current state of the field (as determined by adviser).
- 4. Enough sources have been chosen to accurately reflect both sides/multiple perspectives of the argument.
- 5. Based off of what is written in the annotations, the student seems to fully grasp the complexities of the argument and the perspectives of the authors writing on this topic.
- 6. Includes a thesis that reflects deep evaluation of the sources and the issues at stake

B, 8/10:

- 1. Has an almost-appropriate number of sources for the project (approx. 12 for capstone papers & approx. 4 for case study).
- 2. Sources are mostly pertinent and relevant to the chosen topic (as determined by adviser)
- 3. Sources are mostly recent and mostly reflect the current state of the field (as determined by adviser)
- 4. Most sources have been chosen to accurately reflect both sides/multiple perspectives of the argument; a few might be a bit out of place.
- Based off of what is written in the annotations, the student seems to almost grasp the complexities of the argument and the perspectives of the authors writing on this topic; may reflect a bit of binary thinking about the issue.
- 6. Includes a thesis that reflects an evaluation of the sources and the issues at stake

C, 7/10:

 Has an acceptable number of sources for the project (approx. 8 for capstone papers & approx. 2 for case study)

- 2. Sources are somewhat pertinent to the chosen topic; may reflect surface-level research, not much in-depth (as determined by adviser)
- 3. Sources might be a bit scattered regarding the topic, and not necessarily relevant to the current state of the field (as determined by adviser)
- 4. Sources have been chosen to only support their side of the argument
- Based off of what is written in the annotations, the student might not be thinking deeply enough about the subject, simply taking the sources as truth rather than evaluating them thoughtfully
- 6. Includes a thesis that reflects what the sources, might not reflect their contribution

Interdisciplinary Competence Rubric

Interdisciplinary Competence Rubric (Providence PLO #1) combined with ACCU rubric for Integrative Learning (Draft 2 with adjustments from APPR meeting on September 18)

(From ACCU)Integrative learning is an understanding and a disposition that a student builds across the curriculum and co-curriculum, from making simple connections among ideas and experiences to synthesizing and transferring learning to new, complex situations within and beyond the campus.

	4 (Capstone)	3	2	1
Connections to Experience Connects relevant experience and academic knowledge Providence PLO#1b	Meaningfully synthesizes connections among experiences outside of the formal classroom (including life experiences and academic experiences such as internships and travel abroad) to deepen understanding of fields of study and to broaden one's own points of view.	Effectively selects and develops examples of life experiences, drawn from a variety of contexts (e.g., family life, artistic participation, civic involvement, work experience), to illuminate concepts/theories/framew orks of fields of study.	Compares life experiences and academic knowledge to infer differences, as well as similarities, and acknowledge perspectives other than one's own.	Identifies connections between life experiences and those academic texts and ideas perceived as similar and related to one's own interests.
Connections to Other Discipline Sees (makes) connections across disciplines and perspectives Providence PLO#1c? (weak)	Independently creates a whole out of multiple parts (synthesizes) or draws conclusions by combining examples, facts, or theories from more than one field of study or perspective.	Independently connects examples, facts, or theories from more than one field of study or perspective.	When prompted, connects examples, facts, or theories from more than one field of study or perspective.	When prompted is able to present examples, facts, or theories from more than one field of study or perspective.
Transfer Adapts and applies skills, abilities, theories, or methodologies gained in one situation to new situations Providence PLO#1e	Adapts and applies, independently, skills, abilities, theories, or methodologies gained in one situation to new situations to solve difficult problems or explore complex issues in original ways.	Adapts and applies skills, abilities, theories, or methodologies gained in one situation to new situations to solve problems or explore issues.	Uses skills, abilities, theories, or methodologies gained in one situation in a new situation to contribute to understanding of problems or issues.	Uses, in a basic way, skills, abilities, theories, or methodologies gained in one situation in a new situation

Integrated Communication Providence PLO#1d	Fulfills the assignment(s) by choosing a format, language, or graph (or other visual representation) in ways that enhance meaning, making clear the interdependence of language and meaning, thought, and expression.	Fulfills the assignment(s) by choosing a format, language, or graph (or other visual representation) to explicitly connect content and form, demonstrating awareness of purpose and audience.	Fulfills the assignment(s) by choosing a format, language, or graph (or other visual representation) that connects in a basic way what is being communicated (content) with how it is said (form).	Fulfills the assignment(s) (i.e. to produce an essay, a poster, a video, a PowerPoint presentation, etc.) in an appropriate form.
Reflection and Self-Assessment Demonstrates a developing sense of self as a learner, building on prior experiences to respond to new and challenging contexts (may be evident in self-assessment, reflective, or creative work) Providence PLO#1b	Envisions a future self (and possibly makes plans that build on past experiences that have occurred across multiple and diverse contexts).	Evaluates changes in own learning over time, recognizing complex contextual factors (e.g., works with ambiguity and risk, deals with frustration, considers ethical frameworks).	Articulates strengths and challenges (within specific performances or events) to increase effectiveness in different contexts (through increased self- awareness).	Describes own performances with general descriptors of success and failure.
Reformed Perspective Exhibits a creation, fall, redemption worldview Appropriates a biblical worldview grounded in creation, fall, and redemption. This sees every area of life as reflecting God's good creation, while also radically impacted by sin, and into which Christians bring the effects of redemption in Christ through their vocations in the world. Providence PLO#1a	Demonstrates a mastery of Reformed perspective and applies it to relevant areas of study	Demonstrates a satisfactory understanding of Reformed perspective and applies it to relevant areas of study	Demonstrates a beginning level of understanding of Reformed perspective and applies it to relevant areas of study	Demonstrates little understanding of Reformed perspective and how to apply it to relevant areas of study

Appendix C1: McKinney & Day (2012) Capstone Survey

1. Demographic Information

- a. Institution
- b. Sex
- c. Age
- d. Race
- e. Social Class
- f. Overall and Sociology GPA
- g. Full- or Part-Time Status
- h. Transfer Status

2. Likert Questions (self-rating from 1-5)

- a. Motivation in the course
- b. Engagement in the course
- c. Extent to which you see yourself as a sociologist
- d. Level of anxiety during the course
- e. Level of worry about the course
- f. Confidence in sociology work or job
- g. Interest in sociology graduate work or job
- h. Course satisfaction
- i. Perceived quality of one's project/thesis

3. Open-ended Question

a. List 1-5 expectations for or about the course

Appendix C2: Student Survey

1. Demographic Information

- a. Sex
- b. Age
- c. Race
- d. Annual Income
- e. Overall GPA at Providence
- f. Enrollment Status
- g. Start Year at Providence
- h. Year of Graduation
- i. Are/Were you a transfer student?

2. Likert Questions (self-rating from 1-5)

- a. I am/was highly motivated to complete my Capstone requirement.
- b. I am/was not anxious or worried about my Capstone requirement.
- c. I am/was confident in the quality of my Capstone work.
- d. I am/was interested in pursuing further study in the liberal arts for graduate work or my career.
- e. I am/was satisfied with the Capstone Seminar course.
- f. I believe/believed my Capstone showcases high quality work.
- g. My undergraduate coursework prepared me well for the Capstone requirement.
- h. My Capstone advisor is/was helpful.
- i. My involvement in athletics helped prepare me for my Capstone work.
- j. My involvement in student life activities helped prepare me for my Capstone work.
- k. My experiences in residential life (e.g., dorms, on-campus housing, etc.) helped prepare me for my Capstone work.
- 1. I believe my Capstone work will prepare me for future work in my career.

3. Open-Ended Question

a. What suggestions do you have for improving the Capstone experience at Providence Christian College?

Appendix D: Semi-Structured Interview Questions

Interview Protocols for Faculty

- 1. Describe your approach to teaching.
- 2. What practices do you believe are needed for students to complete the capstone requirement?
- 3. To what extent do you teach and reinforce these practices in your classes?
- 4. What are the most important things you do as a capstone advisor? Why do you believe they are important?
- 5. What is the single most important step Providence could take to improve the capstone experience? Why?
- 6. How can the school help support a culture of valuing the capstone experience?
- 7. Is there anything that you would like to add regarding the capstone that we may not have covered?

Interview Protocols for Non-Academic Staff

- 1. In what ways do you help achieve the SLOs in your work at Providence?
- 2. How does your work at Providence help support students in their capstone?
- 3. Do you find that your work is congruent with the academic goals with the institution? Why or why not?
- 4. What suggestions might you have to better support students in their capstone work in your particular domain (e.g., athletics, residential life, student life)?
- 5. Is there anything else that you would like to add regarding the capstone that we may not have covered?

Appendix E: Recruitment Language for Student Survey

Dear Alumni/Students of Providence Christian College:

My name is Joseph Chai, and I am a doctoral student at Vanderbilt University. As part of my studies, I am working with the Capstone Subcommittee at Providence Christian College as they consider how to improve the senior capstone experience for their students. I would like to invite you to take a survey to share about your capstone experience. Your input as someone who has engaged in and/or completed the work will be highly valuable for the purpose of this study.

Please note that your participation is completely voluntary, and your responses will be kept anonymous. Further, you have the option to not respond to any question on the survey that you choose.

Should you agree to participate, you will be entered into a random drawing to win a \$100 Amazon gift card. The winner will be announced on Friday, October 29.

If you have any further questions about this study, please do not hesitate to contact me at joseph.s.chai@vanderbilt.edu. You may also contact my faculty advisor, Dr. Michael Neel, at michael.a.neel@vanderbilt.edu.

Thank you in advance for your participation!

Click here to access the survey

Sincerely, Joseph Chai

Appendix F: Informed Consent Document for Student Survey

INFORMED CONSENT DOCUMENT

The following information is provided to inform you about the study and your participation in it. Please read the below carefully and feel free to ask any questions you may have about this study and the information given below. You may do so by emailing the principal investigator at joseph.s.chai@vanderbilt.edu.

OVERVIEW

You are being asked to take part in this survey because you have either completed the capstone requirement at Providence Christian College, or are enrolled currently in the capstone requirement. Your survey results will be analyzed in concert with other data collection efforts to help identify ways to improve the capstone experience for future students. The survey will take approximately 15 minutes of your time to complete.

Your participation is voluntary. You may choose not to be in this study simply by exiting this survey. Your responses will remain anonymous. One question at the end of the survey will invite you to submit your email address to be entered into a random drawing for a \$100 Amazon gift card; however, no other identifying information will be collected.

This study has been reviewed and approved by the Vanderbilt University Institutional Review Board. For additional information about giving consent or your rights as a participant in this study, to discuss problems, concerns, and questions, or to offer input, please feel free to contact their office at (615) 322-2918 or toll free at (866) 224-8273.

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Appendix G: Recruitment Language for Interview

Dear Providence Faculty and Staff:

My name is Joseph Chai, and I am a doctoral student at Vanderbilt University. As part of my studies, I am working with the Capstone Subcommittee at Providence Christian College as they consider how to improve the capstone experience for their students. I would like to interview you for this study because of your perspective and your varied experiences as a faculty or staff member that works closely with

Providence students.

Your participation is completely voluntary, and your responses will be kept anonymous. Further, you will have the option to not respond to any question that you choose.

Should you agree to participate, I would appreciate your visiting my Calendly link posted below to sign up for a 45-minute Zoom call. If you have any further questions about this study, please do not hesitate to contact me at joseph.s.chai@vanderbilt.edu. You may also contact my faculty advisor, Dr. Michael Neel, at michael.a.neel@vanderbilt.edu.

I look forward to hearing from you. Thank you.

Calendly link: https://calendly.com/joechai/providence

Sincerely,

Joseph Chai

Appendix H: Central Practices at Providence

Interdisciplinary Critical Thinking

Interdisciplinary critical thinking at Providence examines how the Reformed Christian context intersects with every area of life. This practice invites self-reflection and participation in interdisciplinary learning by making connections across the disciplines of the liberal arts. Further, this practice involves comparing and contrasting differing ideas and philosophies, and adopting a critical lens with which to identify their strengths and weaknesses.

Examples from Syllabi:

- "Reformed Christian context... and its impact on every area of life" (LBS 101)
- "Analyze and critique Western ideas and values in light of a Christian worldview" (HUM 211)
- "Integrate a broad liberal arts perspective through self-reflection and participation in experiential education" (EDU 101)
- "Critically analyze and intelligently interpret content" (COM 234)
- "Demonstrate how accounting principles lead to more strategic business thinking" (BUS 201)

Examples from Interviews:

- "... showing them arguments and having them actually take them apart."
- "... summarize, and decipher, and critically look at the materials..."
- "... the Reformed perspective, the Reformed faith tradition, and thoughtfully integrating that into your class."

2 Researching

Researching at Providence requires collecting and summarizing outside information from articles and peer-reviewed journals for the purposes of a present inquiry or investigation. Further, this practice involves assessing the quality of any outside information or evidence. Engaging with this practice should ultimately lead to drawing conclusions that are supported by the evidence.

Examples from Syllabi:

- "2-3 page evaluations of articles from online [journals] in education" (EDU 101)
- "Interact with the important academic commentaries available" (BTS 395A)
- "Evaluate the quality and reliability of sources in print and online" (EDU 324)
- "Research a problem, gather and assess evidence, draw conclusions" (LBS 101)

Examples from Interviews:

- "... doing comparisons and contrasts..."
- "... get peer reviewed journals to back up their sources..."

Writing

Writing at Providence is characterized by writing essays, papers, and discipline-specific pieces (e.g., BEE business plans, EDU learning agendas, etc.). This practice requires clear organization and few errors in mechanics, and making ongoing revisions to improve the quality of writing. This practice also involves identifying and sustaining a clear argument throughout the course of the essay or paper.

Examples from Syllabi:

- "Analytical essays based on the major texts" (ENG 212)
- "Create a strategically positioned business model canvas" (ENT 201)
- "Effective writing and research, including correct English, clarity, logical flow..." (BTS 311)
- "Understand and employ proper grammar, syntax, and word usage" (EDU 324)
- "Leave time to edit, rewrite, and proofread" (LBS 311)

Examples from Interviews:

- "... get skills [to students]... particularly in areas of argumentation and understanding structure."
- "... writing drafts, me reading them, me scratching this out, like, 'hey, let's incorporate that,' having them write that..."

4 Oral Communication

Oral communication at Providence involves speaking clearly and confidently in a wide range of contexts (e.g., interviews, debates, etc.) and using a variety of mediums (e.g., speech, videotaped response, etc.). This practice expects responses that are thoughtful, organized, and well-researched.

Examples from Syllabi:

- "Adapt messages to communicate effectively to diverse audiences" (EDU 324)
- "Examine the presentational, organizational, and research skills needed to succeed in public communication" (COM 101)
- "Develop and record one 10-minute class presentation" (EDU 101)
- "Participating in class discussion (sharing responses, observations, comments)" (BTS 311)

Examples from Interviews:

- "Writing skills and public speaking skills are two things that I think are really, really vital to presenting the best Capstone that you can. If you can't write, then you can't communicate really well at all."
- "... back up our own choices of why we did the test this way and not the million other ways we could have went and did it."

Producing Original Work Producing original work at Providence involves Examples from Syllabi: abstaining from cheating, plagiarism, or any form of "You may NOT copy and paste the same academic dishonesty. This practice requires attributing answer. You must use your own words." (BTS scholarship to original authors and researchers. Engaging 311) with this practice should lead to producing an original "The degree of honesty and integrity written piece of scholarship that does not showcase employed when creating and preparing work dishonest work. is expected to be of the utmost quality." (HUM 115) "Show integrity in all of our relationships and in all of our behaviors" (HIS 361) Examples from Interviews: "Just doing a lot of direct instruction with... things like how to cite..." "... doing other work than just a paper that they're copying from Google." 6 Career Decision-Making Career decision-making at Providence involves engaging Examples from Syllabi: with the roles and responsibilities of careers and vocations "Internship will aid the student in adjusting of interest. This practice also expects competently building from college to full-time employment" (EDU out resumes and engaging confidently during job interviews, and making career-related decisions based on "Reviewing and defining the roles and a biblical perspective. responsibilities associated with various careers" (HLS 200) "Take up the means of producing and creating within this field" (COM 234) "Demonstrate social responsibility and pursuit of justice at the local, national, and global levels according to the biblical imperatives" (LBS 101) Examples from Interviews: "... she has been assigning things like, 'what are your long-term career goals?' And start thinking about it now. Start your freshman year, start thinking about what you will need to complete those." "I help them walk through, like, what an interview process looks like." **Seeking Faculty Advisement** Seeking faculty advisement at Providence requires Examples from Syllabi: intentionally seeking an audience with faculty persons for "Invite me to lunch or coffee; I'd like to get to the purposes of relationship-building and asking for know you." (HIS 361)

	academic help.	 "I will be available to you outside of class for assistance." (EDU 101) "Seek help and discuss class topics with your professor" (PSY 201) Examples from Interviews: " develop relationships with some students on a friendship level, I would say, when they
		sometimes just want to come into my office and chat." • " understanding where the student's context is, and the best way to navigate them or mentor them in that direction." • "The more time I can spend in my office with them, or at a coffee shop with them, and poring over and discussing it to me like that is not time wasted."
8	Collaboration with Peers	
	Collaboration with peers at Providence involves working constructively with classmates toward a common academic goal.	 Examples from Syllabi: "Many of the projects in class require group work" (COM 101) "Work collaboratively to develop solutions to complex issues" (ENT 201) "Ability to work in groups to attain knowledge and share insights" (KIN 301) Examples from Interviews: " breaking them up into groups, having them write"
9	Responding to Setbacks	
	Responding to sethacks at Providence involves setting goals for improvement when faced with initial failure, and resubmitting work that demonstrates the willingness and capacity to show improvement.	 Examples from Syllabi: "Students can re-do assignments to earn a higher mark" (COM 101) "I am looking for improvement over time. If you move from getting a D on the first argument paper to getting a B on the last one, you will get a B" (PSY 360) "Open-ended questions such as 'I don't get it' will not receive a response. I want to know specifically what you do not understand This exchange is helpful because I know you have attempted to work on the issues on your own" (MAT 243) "Do not tell yourself, 'I'm no good at this,' 'I can't do it,' etc. Do not succumb to passivity.

Do not simply give up." (HIS 361) Examples from Interviews: "You're constantly reworking it with your boss or your superior and going through it and tweaking it and getting it like everything's an iterative cycle. So you're trying to get better at it." 10 Responsible Action Responsible action at Providence involves demonstrating Examples from Syllabi: diligent and mature behaviors that are expected of "You must be prepared for each and every students. This practice includes completing tasks as class. You must be an active participant..." expected, participating actively, being prepared for every (EDU 101) class, and altogether behaving in ways that are "Be punctual for all class sessions" (PSY 201) emblematic of an effective student. "Late papers will NOT be accepted. Exceptional circumstances (hospitalization, etc.) must be confirmed." (PHL 340) "Develop habits of local and global service to God and neighbor..." (BTS 311) "Work diligently to develop the habitual virtues of intellectual integrity, humility, civility, empathy, and justice" (BUS 201) "Participate in the complex process of developing wisdom, discernment, and maturity by committing to lifelong learning" (ENT 201) Examples from Interviews: "... thinking about the time [management] issues. You know, one of the things that came out in our student satisfaction inventory... was just how overwhelmed students feel." "... seemed to be a lack of preparedness, despite the amount of time you had to prepare." "... hearing juniors and seniors, mostly seniors, saying, 'Hey, can I leave class early? My Capstone is due next week, and I'm still writing it.' You know, that kind of thing, which would lead me to think that maybe they were not as well prepared in advance as they should have been."

