Finding Community in Learning:

Encouraging Group Learning and Cohesiveness in the Workplace

by

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ABSTRACT

This action research project centered on a group of instructional technology professionals who provide support to instructors at a public university in the United States. The practical goal of this project was to increase collaboration within the team, and to encourage alignment of the team's efforts in relation to the university's proposed redesign of its general education curriculum. Using the communities of practice perspective as a model for the team's development, participants engaged in a sixteen-week activity in which they studied and discussed aspects of the proposed curriculum, and then used that knowledge to observe classes and compare the extent to which classroom pedagogy at the time aligned with the aims of the proposed curriculum. This qualitative action research study then explored how the team used these experiences to construct knowledge and the extent to which the group came to resemble a community of practice. Additionally, this study explored the changes that took place in the group's capacity to interpret instructional environments. The first major finding was that the group's identity changed from being one characterized by relationship management with their clientele to one that aligned with the institution's instructional priorities and could be projected into the future to devise coordinated plans in support of those priorities. A second major finding was that the team developed a group-specific language and a rudimentary capacity to interpret instructional environments as a group.

DEDICATION

To my mother, whose encouragement and support to push myself in all of my life's ambitions was responsible in no small measure for accomplishing this particular achievement. *Anima eius, et ánimæ ómnium fidélium defunctórum, per misericórdiam Dei requiéscant in pace.* And, to Dear Old Dad, who modelled integrity and intellectual curiosity for me, especially early in my life. While he claimed that the best thing I did was to ignore everything he told me, in fact, I paid attention to his lessons, especially the unintentional ones.

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Chapter 1

INTRODUCTION AND CONTEXT

Information Technology is so entwined in the life of higher education today that it gets increasingly difficult to remember or even imagine how colleges and universities got along without digital technologies, despite its relative newness to the institution. While some claim that technology's ubiquity in university life has not substantively transformed the core identity of a centuries-old institution, it can hardly be disputed that its presence has at the very least shaped higher education's operational culture and day-to-day existence (Duderstadt, 2002). Indeed, at my institution, like so many other public universities, just about every expression of the university's tripartite mission of teaching, research and service involves digital technology in some way. It is readily observable that our ongoing teaching, scholarship and research efforts, as well as more mundane things like interpersonal and official communications are facilitated by, if not dependent upon, technology. Perhaps less apparent because of its behind-the-scenes nature is our use of massive enterprise resource planning (ERP) systems that, as is the case at most any other institution, form the backbone of every part of our operations: facilitating students' enrollment, predicting course demand, stewarding donor information, managing payroll, tracking research expenditures, analyzing credit hour production, store information on contracts and grants, and assist in physical space and other resource allocation planning. Obviously, this was not always the case. Not too long ago, such pervasive technology was a hallmark of very elite colleges and universities, but now, especially in an acutely competitive environment for the best faculty and students, it is simply expected that any higher education institution will have a robust network, current classroom technology, substantial technical support, and that students and faculty will be using technology in

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teaching and research just as a matter of course. Given this state of affairs, at least two related predictions can be made with a high degree of confidence: (a) the use of technology in higher education is unlikely to diminish, and (b) students as digital natives and consumers of education will continue to drive the use of technology in colleges and universities.

It is beyond the scope of this paper to discuss the myriad global, economic and political factors that led to the prevalence of technology on college campuses, but it does not go too far to observe that access to technology over the last two decades has grown considerably. Like the trajectory of the television before it, a personally-owned computer was a rare household item until the late 1980s; and now smartphones, that in many respects have replaced the functionality of both technologies, are affordable to most socioeconomic strata. Similarly on many college campuses, it was once the case that any kind of digital technology was the domain of the most technical and well-funded departments, but in recent years, faculty, staff and students in any discipline benefit in some way from having access to commonplace technologies such as fast and reliable university networks, inexpensive robust computers, commodity cloud-based services and virtualization, and digital classroom technology that has moved from the realm of the experimental, clunky and novel to the normal, easy-to-use and reliable. In short, as technology has become more powerful, easier to use and affordable, its widespread access has democratized it. Such democratization has made the landscape in higher education very different from what it was 30 years ago, and it has transformed the ways in which universities carry out their missions (Becker et al., 2018; Wetzel & Pomerantz, 2016).

At the University of North Carolina at Chapel Hill (UNC), there is a program called the Carolina Computing Initiative (CCI) that was launched nearly 20 years ago. Although personal computers had been on the market for some time, it was still the case that when the program started, technology at UNC was mostly in the domain of the esoteric and in the hands of the well-funded. The CCI was intended to democratize technology on campus, encourage the use of technology in the UNC community, create a more contemporary instructional climate, and promote experimentation with technology use in instruction. A major component of the CCI program was its mandate that all undergraduate students own a laptop for use throughout their undergraduate career. To make it affordable, UNC negotiated volume discounts with vendors and provided grants to those students who demonstrated financial hardship. A second component of this program provided a new computer to every member of the instructional staff in the College of Arts and Sciences every four years at no cost to them or their departments. Within three years of the launch of the CCI, every faculty member in every department in the College of Arts and Sciences had a new computer, and by the fourth year of the CCI, every undergraduate owned his or her own laptop.

This infusion of technology at UNC had some immediate effects. Non-IT people suddenly had the ability to experiment with powerful technologies on their own terms and to grow in their ability to use technology more effectively. Some continually tried new things and found ways to more effectively and/or more interestingly carry out their work, while others used technology only in those occasions when they had to, and still others resisted altogether. For some who had a more "pioneer spirit" to try new things, they quickly found themselves in situations of having to troubleshoot something they had done, only then to realize that the problem might be out of their depth to solve. Added to

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this was the fact that the technology at the time was not flawless by any means, failing at seemingly the most inopportune times. And so, while the CCI represented a significant step in UNC's deliberate effort to provide equal access to technology on campus and set the University apart from its competitors, the Provost at the time also understood that simply injecting technology into the environment would not, on its own, result in the kind of sophisticated uses that would lead to significant improvements in teaching and research; rather, he recognized that there was a need to increase the level of technology support to fix problems as they came up, thereby helping faculty realize the potential benefits of technology in their teaching and research endeavors. This was the impetus for the creation of many IT support positions and organizations across UNC.

In the early years of the CCI program, there were also incentive programs to encourage instructional innovation using technology. Some of the projects that came from these programs bore fruit, but as the available technology at the time was complex and not altogether reliable, the key ingredient for the success of these projects was basic technical troubleshooting expertise (Lang, 2003). In more recent years, as technology has improved, become more reliable, ubiquitous and easy to use, our clients have become more confident in experimenting with technologies in instructions. This has also spelled a shift toward self-sufficiency on the part of many instructors in dealing with basic technical obstacles. According to our internal records, in 2017 my organization witnessed a fairly sharp drop—approximately 40%—in the yearly number of so-called break/fix requests from our clients since 2012. This local trend seems to correspond to a broader trend that was revealed in a national study conducted in 2015 in which faculty reported that the number one source of IT support among the faculty surveyed was themselves, followed by a trusted expert, which was typically an IT staffer. These top

two sources of IT support accounted for more than 60% of the responses; after that, the next two sources of help faculty sought were from a colleague, and then from online sources (Brooks, 2015). In short, whereas once the IT staffer was almost always the first go-to person for all technical help, that no longer seems to be the case. This state of affairs represents a significant change in the kinds of technology support services that are needed. Wetzel and Pomerantz (2016) found the role of IT support was moving from troubleshooter and technology provider to trusted advisor. They suggested:

> The IT organization is not the gatekeeper of technology anymore. IT units need to take a consultative approach to delivering IT services to help campus stakeholders make decisions in their best interests and in the best interest of the institution. Relationships are more important than ever, both on and off campus. (p. 9).

Likewise, Malcolm Brown, director of the EDUCAUSE Learning Initiative points out, "[w]e increasingly regard digital technology as *infrastructure* and hence a stepping-stone to the real end, enabling *digital environments*" (as cited in Brooks, 2015, p. 9).

For leaders of service organizations like mine, this depiction of how our work environment has evolved over the last two decades naturally has implications for the staff we recruit and the staff development opportunities we select. There will almost certainly remain a wide range of skill levels among our clientele, and with that an ongoing need for basic troubleshooting help; but if this trend persists and we continue to see what might be viewed as our clients' "average" skill level moving upward with time, those who manage IT organizations in higher education, when recruiting, might well consider placing less emphasis on the pure technical abilities of candidates, and instead placing more emphasis on candidates' collaborative skills and their desire for learning outside of their technical

domains. Where staff development is concerned, IT leaders might similarly consider approaches that encourage continual learning so that those in technology support roles can stay in step with clients' evolving needs, but with a special emphasis on understanding the context in which they work. In other words, if what clients in higher education need are more collaborators and consultants, IT leaders in higher education should recognize that those in support roles will need to have both technical acumen as well as an understanding of the myriad challenges and opportunities within their institution, if not also within the broader higher education context. Providing those in technology support roles with opportunities to develop both their technical acumen along with an understanding of their broad context enables them to better relate to their clients' goals, collaborate with them, and perhaps even allows them to foresee emergent opportunities and/or challenges before their clients do.

Local Context

This study was situated within the College of Arts and Sciences at UNC ("the College"). For most of its history, the College has been a large and vibrant academic community, and in fiscal year 2017 it consisted of approximately 16,000 undergraduate students, 1,000 faculty, 2,500 graduate students and 600 staff. As a point of reference, this accounts for about 89% of UNC's total in undergraduate headcount and 30% of its graduate (excluding professional students) headcount (UNC Office of Institutional Research and Assessment, 2017). The sheer size and academic scope of the College have traditionally positioned it as the foundation of UNC's intellectual capital. According to our internal records in fiscal year 2018, the College generated approximately 61% of the total credit hours on campus, and 86% of the undergraduate credit hours. My organization, the Office of Arts & Sciences Information Services (OASIS), was founded

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in the spring of 2000 as part of the CCI program mentioned earlier to provide technical support to the College's faculty, staff, and graduate students in service of advancing the College's instructional mission. Shortly after its inception, OASIS' staffing level grew to 25 full-time people, which has ebbed and flowed around that level ever since. The vast majority of OASIS' funding came through Education and Technology fees, but it also has included other sources, such as recurring state funds.

When this study began I had been OASIS' director for more than ten years. For most of my time as director, the organization was stable in terms of its staffing levels, but not quite as stable in terms of internal organizational "health". In fact, when I became director, it was at a time when the organization was in great turmoil. There was widespread internal acrimony that led to infighting and distrust, and outwardly, the organization had become alienated from its peer organizations on campus. I then led the organization through what might be called a "revolutionary change" in the first year and an "evolutionary change" for the four to five years that followed. Through attrition and a variety of changes, we repaired our internal health and restored our reputation on campus.

As a component of the efforts to repair our internal "health", we collectively developed a core organizational mission statement that made plain our commitment to partnering with our faculty members and students who, in the words of our former Chancellor, "solve the world's greatest challenges" as well as providing them with sustainable technological solutions in support of their goals. In this way, we grew to view our organization as enablers of our clients' goals so that they could accomplish what they set out to do, viz., create new knowledge to solve challenging problems, teach our students to become great thinkers and global citizens, and contribute meaningfully to the state, nation and the world.

The ability to carry out our entire mission to the College as enablers was set back in fiscal year 2011 by severe budget cuts that continued for two more years. In order to manage these cuts, we used the budget from vacant positions as well as laying off a few positions. Unfortunately, this state of affairs largely returned the organization back to its core set of services, which might be characterized as "keeping the lights on" instead of advancing the mission of the College. Fortunately, the budget situation stabilized in fiscal year 2014, and with some funding allocated from the Provost's office, we were able to begin forming a new functional area devoted to applying technology specifically for instruction in fiscal year 2015. Since the budget stabilized, the organization regained a lot of its forward-looking approach that it had to largely forego during those bleak budget years.

Another one of the key changes that had a direct bearing on the organization came in fiscal year 2016 when the College's leadership changed. With that change came a clear recommitment to undergraduate education throughout the College. As mentioned earlier, the College accounts for the vast majority of undergraduate credit hours generated at the University, and while the College's leadership could have rested on this fact and its good reputation, the recommitment to undergraduate education intended to place special emphasis on furthering the quality of the undergraduate experience and not just the quantity of it. From the very beginning, the new leadership actively promoted new interest in experimentation and novel thinking in pedagogy, and in that vein, the Dean launched two visible expressions of this: the establishment of an instructional innovation office and the redesign of UNC's general education curriculum, branded as "IDEAs in Action". Around the same time and at the broad institutional level, UNC made online education a university priority. Until that point, UNC's online degree offerings were

confined to just a couple of programs, and outside of those programs, only a modest number of online classes. This shift led the College to begin exploring possible degree options provided mostly or entirely online. For OASIS, the fact that technology was connected to all of these institutional priorities, put the organization in a good position to once again be enablers of our faculty's and institution's goals.

There are ostensibly four functional areas in OASIS' structure, each with its own type of work aimed at advancing the College's mission. Two of these groups have their own managers, and the remaining two are managed by one person; all three of these managers report directly to me. The first functional area, Client Services, is the longest standing group in OASIS' history and has represented the cornerstone of our service portfolio for many years. There are 12 technicians in this group, and like other groups of this sort, members of Client Services have responded to our clients' technical needs through a help request system, and have done so by providing direct, in-office troubleshooting expertise. In addition to providing these services and by virtue of their close contact with our clients, they often serve as a conduit to other services, whether provided by OASIS or by others on campus. In terms of the kinds of work they perform, the group very occasionally engages in project-based work, but the vast majority of their service to our clients could be characterized as 'break-fix', which is very transactional in nature, e.g., a client puts in a help request for something to be fixed, and a technician works to fix the issue.

The next group, which is the second oldest in OASIS, is referred to as Enterprise Solutions. This group is made up of seven software developers who write custom software applications for widespread use in the College, as well as in some of the professional schools. This group has had a long history of innovation and owing to the

College's large size and diverse makeup of disciplines, many of their applications that have proven to be useful in the College have been extended for use University-wide. Although most of the custom applications they have built focus on administrative functions, such as financial reporting, they have also written software in support of instructional and research endeavors. Far and away, the kind of work this group has performed is project-based, but there is occasional transactional troubleshooting work as well.

The third group, Systems and Infrastructure, has managed servers and other infrastructure services for the College for several years. With only three people, this is the smallest group, but their work supports faculty and staff across the College as well as the infrastructure needs of OASIS. This group is involved in such things as maintenance of our file servers, application servers, web servers, instructional labs and research-specific infrastructure. Although this group started some years ago and was a significant contributor to the tumultuous period in OASIS' history mentioned earlier, it has more recently been a stable and effective team for the last four years. In terms of the balance between transactional and project-based work, this has a nearly equal balance between those two types.

The newest of the four functional areas, and the focus of this research, is the Instructional Technology group. In the broadest sense, this group was established for the purpose of assisting our teaching faculty who wish to enrich their instructional approaches by implementing some form or forms of technology. Although it is not easy to identify a precise starting point for this group, a useful one might be in fiscal year 2015, when we hired a position specifically to support instructional technology using the funds recently allocated to us. Since then, the group has expanded and over that time, its

members have spent a substantial amount of individual energy exploring different ways they can serve our teaching faculty. Before this study began, the range of possible engagements this group might have encountered was wide, from adding a basic multimedia element in a single class to working extensively with a faculty member to redesign an entire course. And, because of this breadth of possibilities, the nature of the work could be characterized as both transactional, such as troubleshooting a singular problem, to project-based work, such as an entire course redesign that takes several months.

It bears mentioning here that OASIS' functional areas might seem like any other multi-team structure in an organization, particularly because we have all the formal trappings of an organization that the state and the University expects, e.g., reporting relationships, job descriptions, and performance reviews. However, these artifacts only vaguely capture the nature of how OASIS really operates. In fact, each group operates collaboratively with its peers, and it is not unusual for members of one group to spend significant amounts of time working with and participating in other groups, which makes the boundaries between these functional areas porous and somewhat blurry. At the same time, by virtue of the common passions, talents, and skills of its members, each functional area contributes differently to the advancement of the organization's mission, and by extension, the College's. While such organizational fluidity might strike some as chaotic and unstructured, this set of conditions has in fact promoted transparency across the organization, instilled ownership in our work and in the organization's direction, dramatically reduced attrition, and allowed each functional area to benefit from the different knowledge and experiences of others.

As one who tries to practice a transformational leadership style, I work to enable the groups in OASIS to self-organize and define their own visions and goals within a very broad set of constraints. While I routinely work with these groups in a way that helps them refine their own visions within the parameters of the College's mission, I view my role as facilitating their discussions and relationships—rather than levying organizational mandates—and working to enable their success wherever possible. What keeps the organization from otherwise balkanizing into groups that are driven purely by their own self-interests is that we often discuss, both in our regular departmental meetings and in casual conversation, issues and opportunities that the College, UNC and the academy writ large face, and how in that context, our work has connections beyond what we immediately see. I also encourage everyone in the organization to continually widen their perspectives by not only participating in other functional areas, but also by participating in our cross-functional team structure, which are groups setup to address pan-organization issues, and by furthering their own intellectual growth, which can include taking advantage of learning opportunities that are both inside and outside of the information technology domain.

OASIS' organizational ethos was one of the key factors that gave rise to the Instructional Technology group. Since its first staff hire, the group has gradually accreted members, either through subsequent hiring or by drawing in people from other parts of the organization who, because of their interest in and dedication to the instructional mission of the College, found themselves interested in supporting instruction with technology. In addition to being united under the professional practice of instructional technology, what sets this group apart from the others in the organization is that this is the first one to be established almost entirely from whole cloth since I became

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director; the others existed before my arrival and have simply evolved during the time in which I have been director. One of the great virtues of this particular group is that each member has professional strengths that easily overlap with others' strengths, and that can translate directly into instructional support. More than one member of the group has taught at the collegiate level and most have highly developed acumen for project management. Three are experts in applying multimedia to instructional situations, and their collective experience provides a way to see and balance both the possible and the practical in complex projects. Two members of the group have significant experience as instructional technologists at other universities, and possess well-developed theoretical knowledge of pedagogy that can resonate well with our faculty clientele. Two group member have significant expertise in classroom technology, and by virtue of their work, they have cultivated fruitful relationships with faculty and other professionals outside of OASIS. Three members of the group have helped some of our faculty with course redesigns, facilitated faculty learning communities, and have extensive experience developing online resources. The group also has a manager, who is a devoted advocate for his team, and he will support his staff in any way possible to achieve their goals. He is passionate about supporting our faculty in their teaching and has worked directly with many of them for several years. Owing to his long-term relationships with our faculty, he can often serve as the broker between what a faculty member might want to accomplish and the available resources. Another great virtue of this group is that, in addition to the official group members, there are two individuals who are formally members elsewhere in the organization, but because of their interest in supporting the instructional mission of the College, they attend and participate in nearly every Instructional Technology group

meeting, as well as consult with faculty on matters of integrating technology into instruction.

In terms of my role in this group, I have positioned myself as a sort of *ex officio* member. Not unlike what I do for the other functional areas and by virtue of my role as director, I participate in their meetings to give them some organizational perspective, but at the same time, I try to be mindful that I extend sufficient flexibility to the group so that its members can chart its own way forward. In addition, I provide support in various forms where needed and act as a mentor to the group's manager.

Problem of Practice

As mentioned earlier, the College administration renewed and expanded its commitment to undergraduate education, and one of the most visible expressions of this is the redesign of the general education curriculum, which at the time of this study, was expected to pilot in fiscal year 2020. The general education curriculum is administratively housed in the College and is intended to be the common experience that all undergraduates at UNC have, irrespective of major choice. While there is continuity of spirit between the proposed curriculum and past ones in terms of preparing students for the greatest number of possible life paths after graduation, the mechanics of the proposed curriculum are substantively different from curricula of the past. Because of these mechanical changes, the proposed curriculum represents a large-scale change in the College, which will need support from many sources to succeed.

Where the Instructional Technology group is concerned, particularly in view of their considerable technical acumen and professional bearing to support our faculty in this new curriculum, the group had a great opportunity ahead of them. However, there were two main impediments that curtailed their ability to respond to this opportunity,

namely knowledge of the College's emerging curricular goals and a coherence to the group's identity. With respect to the curricular goals, this was largely a technical matter in that the group had simply not been very engaged with this aspect of the College's instructional mission, and as a result, few members of the group knew much about the nature of the new curriculum being developed. Alongside this was the broader issue that the group's energies were not coordinated, despite being nominally connected to the instructional mission of the College. With the convergence of these things, herein was the problem of practice: how to encourage this fairly nascent group to coalesce like the other groups in OASIS and, within the scope of the College's evolving instructional mission, become a coordinated, self-organizing, learning team that can effectively work in partnership with our faculty to identify and apply technology solutions that enhance instruction in the College.

To be sure, at the beginning of this project, each member of the group had been doing good work and thoughtfully operating under the aegis of contributing to the instructional mission of the College; but because each person was operating almost independently, using their own individual conceptions of what the College's instructional mission was, the group as a unified functional area was in need of more overall coordination and coherence to their work. While the group's members need not all do the same things, having an overall coherence to the group's activities related to the guiding instructional principles of the College was intended to make their work more sustainable, allow them to learn from one another, and align their energies better with the needs of our faculty. Indeed, on those occasions in which the group has coordinated its efforts toward some end, the results have been excellent; because of the success of these instances, there was good reason to believe that were the group to coalesce around a shared purpose that

is strongly tied to specific aspects of the College's instructional mission, the team would flourish.

Purpose Statement and Research Questions

The purpose of this study was two-fold: as a matter of professional practice, it was to implement a research-based intervention that was intended to bring about a change in the group so that its efforts could become better aligned with broader College-wide changes; and as a matter of scholarship, it was to understand how the Instructional Technology group in OASIS might evolve over the course of the study toward becoming a team that operates as, at least in spirit, a community of practice. The hallmarks of such a community include developing a common language and ways of doing work, called the shared repertoire; group members, who engage with one another regularly to learn from each other and improve the practice, called mutual engagement; and development of a common purpose, called the joint enterprise. Subsumed under the primary scholarly purpose, this study sought to understand how the group's ability to learn and make meaning of information from their work context changed during the study. One of the potential short-term outcomes of the intervention activities included the development of a group identity that was clear to them. The long-term goal of the intervention was to catalyze all three traits of a community of practice in the group, so that they could continually take in information from the clientele we serve and collectively negotiate how to respond to, perhaps even anticipate, our clients' emerging needs where pedagogy and technology intersect. In pursuing these aims, the research questions for this study were:

RQ 1: How does the Instructional Technology group in OASIS change over the course of this project relative to a community of practice?

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RQ 2: How does the Instructional Technology group's capacity to interpret the

College's instructional environments change over the course of this project?

Chapter 2

THEORETICAL PERSPECTIVES AND RELATED RESEARCH

This chapter provides information on the theoretical perspectives, related research, and previous action research cycles that guided the conduct of this project. At the meta-theoretical level this project operated within the social constructionism paradigm; at the meso-theoretical level, there were two frameworks at play, namely, communities of practice and sensemaking. I chose these theoretical perspectives for several reasons. First, social constructionism proposes that people are relational beings, and that they construct knowledge and meaning with each other in relation to pre-existing social realities. In the context of this project, it was the goal to encourage a group of coworkers to experience their work context in new ways, and then to use those experiences as social building blocks in an effort to collectively define their group's functional purpose and identity. This activity certainly took place in pre-existing social realities, but it also led to the development of new ones within the group, and thus social constructionism was well suited to frame all aspects of the study. Additionally, social constructionism was apropos here because this project featured a decidedly pragmatic outcome for the group and the research portion of this endeavor sought to understand— with the researcher also as participant—how this particular group came to accomplish its outcomes, versus attempting to deconstruct and/or critically evaluate the social structures that were at play (Gergen, 2015; Koro-Ljungberg, Yendol-Hoppey, Smith, & Hayes, 2009). As a derived construct within the social constructionism paradigm, the communities of practice perspective informed part of the design of the intervention activities, but it also provided a structured way in which to interpret the group's dynamics over the course of the intervention. Additionally, this framework was pertinent to this

project because there were clear parallels between it and OASIS' internal culture, insofar as the other functional areas in the organization already operated in ways that closely resembled communities of practice. In this way, the communities of practice perspective thus also stood as a model of the goal state for the group in addressing the problem of practice. The final theoretical perspective, sensemaking, is also under the umbrella of social constructionism. As a derived construct within social constructionism, sensemaking makes claims about how groups of people interpret novel contexts, and through their social interactions, construct meaning and knowledge in order to take future action in some way. In conjunction with the communities of practice perspective, sensemaking therefore also informed the design of the intervention, particularly in those instances when the participants were to be dealing with novel situations as a group during the intervention activities. In other words, sensemaking moments were intended to provide participants with contextually relevant opportunities for the group to negotiate meaning together, and in doing so, arrive at reasonably coherent interpretations of those situations. Moreover, in doing this activity repeatedly over the course of the intervention, those moments were intended to serve as building blocks for the group to construct knowledge of its own. The five sections that follow provide overviews of social constructionism, communities of practice and related research, sensemaking and related research, a discussion of previous action research cycles, and finally a summary and implications for research.

Social Constructionism

Social constructionism is a theory of knowledge that centers on how the daily interactions between people in societies result in the creation of knowledge. This knowledge comes into being within the fabric of social discourse—along with its pre-

existing social conventions—rather than residing in the mind of the individual or anywhere else. It begins with the proposition that humans are relational beings, and through the use of language and other non-verbal cues in our daily interactions, we co-construct contextual knowledge that helps us understand and operate in the myriad contexts in which we live (Berger & Luckmann, 1966; Gergen, 2003; Shotter, 2003). Indeed, this is not creating knowledge for knowledge's sake, but rather this perspective contends that, "[f]orms of negotiated understanding are of critical significance in social life, as they are integrally connected with many other activities in which people engage" (Gergen, 2003, p. 16).

That humans are relational beings has important implications in social constructionism. In the same way that inanimate objects do not inherently possess meaning, social constructionism makes the claim that individual humans have meaning when in relation with other humans. Put another way, the different selves that humans project via our language and behavior into different contexts are meaningful because of "the others" present in those contexts. As such, "[t]he ability of the individual to mean anything—to be rational or sensible—is owing to participation in the process. Self and other are locked together in the generation of meaning" (Gergen, 2015, p. 106). The implications of this decidedly non-Western thinking are that an individual cannot be meaningful when in isolation, and that "the social selves of any individual, as perceived by others, change according to the differing social structures that simultaneously shape and maintain those structures and cultures" (Koro-Ljungberg & Hayes, 2006, p. 392). In the context of the present study, participation in the process was a requirement, and because of that, the emphasis was on the group and how its members use social means as the way to create meaning and knowledge within and specific to the group.

Communities of Practice

  Employees in most any organization carry out their work within formal and informal structures that reflect myriad organizational traits. Teams, divisions, bureaucracies, functional units, task forces, etc., are examples of formal and intentional structures used to align employees' efforts in order to advance some common purpose(s). Alongside the formal structures and owing to regular social participation that goes on among employees, it is not uncommon to see another special kind of grouping that is less formal, develops organically and that often transcend any formal structures. These groups or communities encourage participation from people who share similar interests that relate in some way to a generalized type of work, often called a practice. These communities also have a language that is highly related to the practice, and that allows them to engage with one another and learn. In the early 1990s, Etienne Wenger and Jean Lave gave a name to these kinds of social entities, calling them communities of practice. When they proposed this label, Wenger and Lave also developed a comprehensive theoretical model and a vocabulary to describe how these groups operate. Although Wenger and Lave freely admitted that what they were proposing was really a reformulation of ideas within social learning theory, their efforts nevertheless provided a potent way to describe and analyze such groupings of people who coalesce around shared interests and learn together in service of those interests. Moreover, their model provided insight into how these communities can be encouraged to develop and mature, which can be in service of specific organizational aims.

  As learning entities that exist within and across formal organizational structures in service of a common interest makes these communities of practice, at least upon first blush, perhaps akin to taskforces. Task forces come about when there is some

organizational problem to be solved within some period of time, and like communities of practice, they can draw their membership from across and even outside organizational lines. Communities of practice, however, have no mandated goal or time limit; they usually exist as long as the community members continue to learn, engage with one another and find value in participating. Further, a community of practice tends have porous group boundaries so that people both become part of and leave the community in relation to how much their identities are shaped by the community and the extent to which their identities shape the community itself.

Although communities of practice tend to be organic in their formation and evolution, there is nevertheless a clear structure to any community of practice that keeps it together, namely, a shared repertoire, a joint enterprise, and mutual engagement (Wenger, 1998). In brief, the shared repertoire is essentially the community's common language and ways of working. That language and ways of working contribute to the set of resources the community can use in learning from one another and in carrying out their work. The joint enterprise is the domain of knowledge or work that all members are interested in, and it represents the thing that group members devote their energy toward. Finally, the mutual engagement is the ongoing social participation between members of the community. Within that component, one finds modes of belonging. These are kinds of participation which describe how community members negotiate meaning, situate their practice within broader contexts (be it similar or dissimilar), and coordinate their energies in a way that resonates with those broader contexts. Wenger (1998) labels these different modes of belonging as engagement, imagination and alignment.

Of the three structural elements, it is the mutual engagement between members that keeps the community developing over time. When community members interact in

an ongoing way, they negotiate meaning and identity (both at the group and individual levels); this negotiation in turn shapes the joint enterprise and shared repertoire of the community, to become "the attainment of the subjective perspective of a group of individuals engaged in a shared enterprise that is contained with artifacts, behaviors and language" (Plaskoff, 2011, p. 202). During the negotiation of meaning in mutual engagement, there is a complimentary relationship between members' participation and various artifacts that symbolize and express aspects of the practice itself (Brown & Duguid, 1991).

On the participation side of engagement, mutuality is key; but the degree of mutuality also depends on a member's standing and trajectory within the group—that is, a full member or a peripheral member—and his or her membership trajectory—either toward the center or away from it—within the community. Full members have attained a known level of competence in and familiarity with the community, and they are expected to use this credibility in mutually negotiating meaning with the rest of the community. In doing so, full members not only shape each other's sense of meaning and identity, but the community depends on it; this aspect makes full members accountable for their participation. Put differently, "in this experience of mutuality, participation is a source of identity. By recognizing the mutuality of our participation, we become part of each other" (Wenger, 1998, p. 56). Where newcomers are concerned, their position near the periphery of the community affords them a modest level of legitimate participation. Still, because their ability to shape the community's sense of meaning and identity is limited, and their own identity within the community is being highly influenced, full mutuality is not yet there. However, as they first observe how the community conducts itself and continue to participate in it, they begin a trajectory from the periphery toward becoming a

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full and mutual member in the community (Lave & Wenger, 1991; Prinz, 2009; Sawyer & Greeno, 2009). It is a useful aside to note that for existing members, diminishing levels of participation can indicate a loss of mutuality and thus a membership status that is either on a trajectory toward the community's periphery or near it.

Of course, a prerequisite for full and peripheral members to negotiate meaning at all is that there needs to be something to negotiate meaning around. In the communities of practice model, objects that concentrate the community's energies toward negotiation of meaning are referred to as reifications. In its fullness, the notion of reifications is somewhat complex, but a good conceptual approximation is to think of them as being the common social currency that actors in a community use in negotiating meaning. In this way, they are representations of the community and its practice, which can take the form of physical artifacts, such as documents, but also abstractions of the community in symbols and symbolic language. At the same time, reifications can differentiate one community of practice from others. Reifications, whether physical or not, are meaningful to the community and, "whereas in participation we recognize ourselves in each other, in reification we project ourselves onto the world, and not having to recognize ourselves in those projections, we attribute to our meanings an independent existence" (Wenger, 1998, p. 58). Because reifications and participation are entwined in the negotiation of meaning, they form a duality in a community's ongoing mutual engagement (Allen & Meyer, 1990; Brown, Collins, & Duguid, 1989; Nonaka, 1994; Wenger, 1998).

When one talks about things such as reifications, participation, newcomers and full members, it points to the existence of an identifiable group, and along with that comes the concept of group boundaries. Boundaries can be formal organizational units, but in this context, it refers mostly to those social things that unify and circumscribe a

community's membership and practice. In a community of practice, a group's boundary is a social disjuncture that causes the group to be identifiable and distinct. Even though the community's boundaries may be intangible and symbolic, they nevertheless exist to define who is a full member, who is a legitimate peripheral participant, and who is an outsider. Boundaries, "no matter how negotiable or unspoken – refer to discontinuities, to lines of distinction between inside and outside, membership and non-membership, inclusion and exclusion" (Wenger, 1998, p. 120).

In the community of practice model, group boundaries serve an important function in the development and learning of a community. Boundaries "are a sign the communities of practice are deepening, that their shared histories give rise to significant differences between inside and outside. This is what inevitably happens when serious learning is taking place" (Wenger, 1998, pp. 253-254). From the newcomers' perspective, there is an implied (and occasionally explicit) boundary that marks a discontinuity between the familiar and the unfamiliar or altogether new. As they begin to engage with a new community, learn its discourse and practices, the assimilation and integration of this new information can begin their trajectory from the periphery toward becoming full members of the group (Fenton-O'Creevy, Dimitriadis, & Scobie, 2015; Harvey, Peterson, & Anand, 2014). Furthermore, this trajectory of learning the community's practice and moving from the periphery shapes their group-defined competence, and as a corollary, their identity within the group. As discussed before, this affords them increasing ability to engage in a mutual way with the rest of the community. But, the relationship is not entirely unidirectional: full members, who are aware of their own community's boundaries and practices, afford newcomers limited engagement, which allows 'outside' perspectives to enter the discourse and practices of the

community, which affects the group's learning and alters its boundaries (Aldrich & Ruef, 2006; Brown, Collins, & Duguid, 1989; Brown & Duguid, 2001; Choi & Hannafin, 1995; Wenger, 1998). From the community's perspective, this process of engagement with newcomers provides two important things to the community: it reaffirms and codifies elements of the group's joint enterprise and shared repertoire, and of equal importance, it brings newcomers' perspectives and knowledge into the community's discourse, which contributes to the community's development and learning (Fuller, Hodkinson, Hoskinson, & Unwin, 2005; Wenger, 1998). In other words, the relationship between an existing community of practice and newcomers is a symbiotic one, and it contributes to shaping the community (Akkerman & Bakker, 2011; Billett, 2012; Lave & Wenger, 1991; Wang, Kammeyer-Mueller, Liu, & Li, 2015).

A group's boundaries are a strong part of its identity, and thus they play a role in group learning even when newcomers are not present. Existing team members work within an understood group boundary to engage with one another in discourse and practices as they perform their work. This often involves the negotiation of meaning about aspects of the work, which in turn makes new learning possible, and possibly expand or contract the group's boundaries (Billett, 2012; Buysse, Sparkman, & Wesley, 2003; Wenger, 1998). In addition to this, boundaries foster group learning by a phenomenon called "boundary spanning" or "boundary brokering." This is when members of one team interact with members of other teams, and that external information becomes integrated into the ongoing discourse and practices of the team (Kubiak, Fenton-O'Creevy, Appleby, Kempster, Reed, Solvason, & Thorpe, 2015; Wenger, 1998). In a phenomenological study, Druskat and Wheeler (2003) conducted interviews and focus groups on boundary spanning activity and developed a model that describes the learning

processes that take place when team members (particularly leaders) cross into domains of other teams in the organization. They found that in self-managing teams, people who possessed the right political acumen to cross team boundaries and who recognized the potential value in other teams' practices and knowledge, were able to significantly contribute to the learning of their original team, and ultimately, its effectiveness. Harvey, Peterson, and Anand (2014) extended these findings by showing that similar results occur in contexts beyond the immediate organization to which a team belongs.

Assuming one is within a community's boundary and therefore a part of it in some fashion, the communities of practice perspective holds that there are so-called modes of belonging. These modes really describe the ongoing ways in which community members interact and negotiate meaning within it. As mentioned earlier, there are three modes of belonging: imagination, alignment and engagement. Imagination is about "constructing an image of ourselves, of our communities, and of the world, in order to orient ourselves, to reflect on our situation, and to explore possibilities" (Roberts, 2006, p. 625). Imagination, therefore, allows people in a community to connect what they view as the "here and now" of their practice to other structures that are not immediately present. For example, knowing that I am part of a larger practice of IT professionals, most of whom I do not and will not ever see, I have a conception of how people in this profession operate and do not operate. When dealing with a particular situation in the 'here and now', I abstract features of that situation into what I imagine the greater practice does and does not do, so that I can perhaps explore possibilities, explain to others how things are done, share histories that may be useful to learning in the moment, etc.

Alignment is the mode of belonging that coordinates a community's energies in small- and large-scale ways toward some intended goal state. On a small scale, it might

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simply be the agreement between coworkers to complete some task or the following of some procedure; on a grander scale, it could be regularly doing or planning to do things in support of a vision for an organizational or the whole profession. One can also see alignment as a characteristic of action research: insofar as action research is about taking action(s) in order to disrupt the status quo in pursuit of another goal state, the alignment of perspectives and energies is therefore a necessary feature of any intervention, and that is indeed the case in this study. Alignment is a way that communities come together, often involving the negotiation of various perspectives that exist and emerge within a community (Wenger, 1998). Coordinating a group's energies toward some end also involves negotiating perspectives among the group's members, and with that coordination comes expressions and reconciliations of power relations. With the inevitable give and take that happens between a group's actors to reconcile their perspectives toward some goal state(s), differential authority and/or credibility among its members will play a hand in those efforts.

Engagement as a mode of belonging is about doing things together and interacting regularly around the joint enterprise. Whereas mutual engagement discussed earlier stresses the mutuality part as being a primary characteristic of a community of practice, what is meant by engagement her is simply interacting with others regularly. This kind of engagement is therefore more primordial in that it leads to a community's shared histories, boundary development, evaluation of individual and collective competence, and development of trajectories in the group (Fenton-O'Creevy, Dimitriadis, & Scobie, 2015; Wenger, 1998). Engagement is fundamental to the communities of practice perspective because "practice does not exist in the abstract. It exists because people are engaged in actions whose meanings they negotiate with one another" (Wenger, 1998, p.73).

It has been pointed out that communities of practice are usually entities that form on their own and evolve organically. At the same time, an organization need not leave it to chance that a community of practice will emerge to serve some organizational goal(s). In the extant literature on communities of practice, it is clear that in the last fifteen years, there has been growth in the intentional creation and use of communities of practice across various industries to foster collaboration, group learning, and innovation (Plaskoff, 2011). Indeed, Etienne Wenger himself has parlayed the community of practice knowledge base into a consulting firm that offers various services to organizations that wish to implement communities of practice in service of their organizational goals. Within the body of published empirical research on forming communities of practice in technology organizations, studies typically focus on organizations that have innovation as part of their core purpose; however, for IT service organizations like my own, there was very little to be found in the literature.

In deliberately encouraging a community of practice, it is important to note that they are not born into existence, but instead take time to develop and mature, giving them their own lifecycle. Wenger, McDermott, and Snyder (2002) propose that "although communities of practice continually evolve, we have observed five stages of community development: potential, coalescing, maturing, stewardship, and transformation" (p. 68). Potential is characterized as the phase in which some important topic emerges and captures the attention and attracts members of the organization. Coalescing is considered to be the time when the group actually begins and relationships start to form. Maturing is the developmental phase in which the group's role and/or function becomes clearer. Stewardship is considered to be when the group cultivates a sense of ownership over their knowledge domain and takes in new ideas, members and approaches. Finally,

transformation is the phase in which the community either continues to grow and evolve, or if it simply "runs its course" and starts to decline and ultimately become disbanded. The main point here is that communities of practice are not fixed entities once they coalesce around some topic; rather, communities of practice demonstrate the ability to evolve, acquire new and lose existing members, change focus, etc. Like the people that make up any community of practice, the community itself is a living entity (Wenger et al., 2002).

Although there is little published research pertaining to IT service organizations, what exists in the research literature does offer heuristics for encouraging a community of practice to form. Perhaps the two most important ideas from the literature involve providing proper managerial and infrastructure support for the community of practice (Wenger et al., 2002). In terms of managerial support, a burgeoning community of practice requires a managerial "champion" but not one that is regularly involved in the community's ongoing activities. To this point, Borzillo and Kaminska-Labbé (2011) followed the development and effectiveness of five communities of practice that had been created in a German chemical company. Each group had substantial support from management, but little direct influence from them in terms of how the communities conducted their affairs. Although the management "champions" checked in periodically on groups' progress and to offer support, each community of practice effectively owned the responsibility for its knowledge creation, purpose, and membership. Of course, managerial support is not just about providing a "light touch" to guide the group, it also involves trusting the group to carry out its activities and creating an enabling environment for its members (Plaskoff, 2011). As an integral part of a supportive and enabling environment, there need to be allowances for adjusting members' regularly

assigned workloads so that participation in the community of practice is possible. Without this compensating factor, a community of practice's sustainability is likely to be at risk because of competing priorities (Gibson & Birkinshaw, 2004).

With respect to infrastructure support, communities of practice that are formally and intentionally organized around some theme tend to experience an initial sense of artificiality. This occurs because the organizing theme was provided (perhaps even mandated) and not organically developed as a result of circumstances of the context. To help overcome this, communities of practice need infrastructure support in the form of a group facilitator or coordinator who, as part of the group's core, facilitates discussions and provides continuity as other members move in and out of active membership (Wenger et al., 2002). However, it is also important, particularly in the early stages of a group's evolution, that the person serving in this coordinating role simply bring coherence to the group's thinking, and avoid the perception that the coordinator-facilitator somehow "owns" the group, controls its membership, or has his or her own agenda (Akkerman, Petter, & de Laat, 2008).

In addition to appropriate support structures from the organization's management, there are other factors that have a clear bearing on a community of practice's ability to form, evolve, and be effective. Generally speaking, an organizational culture that embraces risk-taking and experimentation is beneficial to the emergence and sustainability of a community of practice (Neves & Eisenberger, 2014; Watkins & Marsick, 1993). And, organizations in which the hierarchical structure is perceived to be less rigid, if not even structurally flat, have also been found to support the formation and growth of community of practice (Borzillo, Schmitt, & Antino, 2012; Veenswijk & Chisalita, 2007). Kirkman, Matieu, Cordery, Rosen and Kukenberger (2011) proposed

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and tested a model of constructs believed to be present in effective communities of practice (defined as the extent to which the community met business objectives and shared information relevant to community objectives). The constructs they proposed and assessed were task interdependence (how much individual member's work depended on other members' work); community-oriented leadership (i.e., support for the community of practice from organizational leadership); the community of practice Core (i.e., how closely the community's function is tied to a core activity of the company); and the community of practice's sense of empowerment. They found that community of practice effectiveness was directly related to the Core, the community's task interdependence, and the group's sense of empowerment. Empowerment itself was found to be directly influenced by community-oriented leadership. Taken together, these results confirm what Wenger et al. (2002) proposed to be the case: communities of practice can be intentionally encouraged to form and be effective when sufficient support structures are in place and when organizational climate enables the community of practice to operate.

As recent research suggests, the communities of practice model has gained considerable traction in recent years as a way to promote group learning, creative thinking and innovation. The research also shows that communities of practice can be established as a way to cultivate organizational learning, so that its members can use their learning to evolve and take on emergent challenges. It is noteworthy to say here that the model itself has evolved considerably since Lave and Wenger first wrote about it, and with that evolution has come differing views about what constitutes a community of practice is and in what situations it applies. I have based this discussion on the communities of practice version as presented in the late 1990s by Wenger, which is very precise about how communities of practice operate, but it is also less prescriptive in terms

of how it can be applied in organizational settings. That version clearly articulates how communities of practice work, and it shows how a community can create an environment that fosters organizational learning and team members' development.

Sensemaking

Before delving into the literature on sensemaking, consider the following scenario. There is a group of teammates who because of their common professional interests makes them members of a large community of practice. They understand that by connecting themselves with another, quite different and also large community of practice, they have the potential to enter into a relationship with the other community in a way that solves problems and benefits both communities. Of course, whatever tangible and intangible benefits might come from such an alliance remain only imaginary and theoretical unless members of one community engage with members of the other, so as to begin understanding that community's particular joint enterprise, shared repertoire and identify where potential opportunities might exist. The literature on communities of practice maintains that such an engagement will involve members of one community crossing community boundaries to become legitimate peripheral participants for a period of time in the other community. Although the team might have some pre-existing familiarity with the other community, their boundary crossing to become legitimate peripheral participants inevitably brings about moments of unfamiliarity and ambiguity that the team in the scenario will need to reconcile among themselves in a way that integrates learnings into their practice. Examples of these sorts of intersectional relationships are many: mechanical engineers and physicians developing prosthetics, musicians and psychologists developing therapies for recovering cancer patients, community organizers and economists solving issues in areas of poverty, etc. Within the

paradigm of social constructionism, the literature on sensemaking describes in a very robust way the dynamics that occur when people cross boundaries and encounter the ambiguous and unfamiliar, like the teammates in this scenario.

Much research has been done on sensemaking in recent decades, but the theory is often attributed to Karl Weick, whose initial work in this area involved how people handle confusion in crisis situations. He and several others have extended the theory to many other contexts so that now, as a mainstream concept in organizational theory, it represents an especially robust account of the way in which people in groups negotiate meaning and identity within ambiguous and novel contexts. In this way, it provides a powerful way to describe the dynamics and group learning that occur in the participation-reification duality mentioned earlier in the community of practice model (Brown, Colville, & Pye, 2015). It is useful to note here that whereas the communities of practice perspective tends to prioritize learning over doing, sensemaking places greater emphasis on doing and the mechanisms leading up to it (Creech, Laurie, Paas, & Parry, 2012; Weick, Sutcliffe, & Obstfeld, 2005). In relation to other social learning theories, such as situated cognition and situated learning, it also goes further in its ability to account for the social components and the processes that ultimately lead to group learning, making it a useful analytical perspective for this research project.

Boiled down to its essence, sensemaking is a social process used by people in groups to reconcile ambiguity or problems in their environment with what they know that the environment should be like based on their past experiences. For Weick, and in line with social constructionism, this is not just a matter of "getting the story straight" with others; this is process that leads to an actionable reality for social actors in the context, based on available information and plausibility (Weick, 1993; Weick, Sutcliffe, &

Obstfeld, 2005). Moreover, as the theory connects social actors to the context and to each other, sensemaking can be seen as Heideggerian in spirit insofar as the social interpretation of a context is not some disembodied, passive activity, but rather, a mutual shaping takes place between the context and the social actors (Taylor & Van Every, 2000). The theory assumes that people have, through their experiences over time, developed contextual models of the way things "should be" in various contexts; when something is perceived as unusual in a context, such as an unexpected event, something novel, confusing, ambiguous, etc., it is considered a discontinuity. As humans have the natural desire to reconcile discontinuities with their expectations, they negotiate socially constructed narratives of the contextual reality with those around them in order to accommodate the discontinuity, and therefore make sense of it. That sensemaking holds axiomatic the necessity of social interactions and negotiations between people as the mechanism by which narratives of reality are built in the first place, and then revised when necessary, places the theory squarely within the social constructionism perspective (Berger & Luckman, 1967).

Identity is one of the seven foundational properties of the sensemaking model. Identity in this case is not a fixed thing or is wholly controllable by the individual, but rather is referring to the interplay between context and individual. In other words, identity in sensemaking is about how someone's identity shapes and is shaped by the context. Similar to the communities of practice perspective and social constructionism, the sensemaking perspective also holds that people enter into a kind of reciprocal relationship with the social context in which they are operating, and project a "self" that is derived from the behaviors of others in the context, but which at the same time shapes the social context in return (Berger & Luckman, 1967; Mead, 1934). What is important

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about this contextual identity phenomenon in sensemaking situations is that the derived identity of someone can influence what all the actors in a given context notice and how they interpret it (Weick, 1995).

Another fundamental aspect of sensemaking, and a corollary to context-specific identity is the idea of retrospection. Retrospection is the referencing of "lived experiences" that serve as points of equivocality in the sensemaking process (Weick, 1995). When people in a context apprehend a discontinuity of some kind and experience ambiguity, they compare the discontinuity with a set of past experiences to find equivalent events so that they can interpret and synthesize the more immediate discontinuity. What ties identity to retrospection so closely is that what gets noticed as a discontinuity and how that gets reified in the group depends on a person's socially negotiated contextual identity. This was one of the key things that led to the breakdown of sensemaking (and the deaths of the firefighters) as described in Weick's influential paper on the Mann Gulch disaster. In that instance, over the course of the whole tragedy, the foreman's negotiated identity on the crew had gone from experienced leader to reckless person as members of the otherwise inexperienced crew witnessed acts of his that, in the moment, ran counter to what seemed sensible in relation to their own lived experiences. Thus, despite his own lived experience that allowed him to notice key things in the context, the crew disregarded his instructions and acted in ways that ultimately cost them their lives (Weick, 1993). According to both sensemaking specifically and social constructionism in general, this example also illustrates that the intersection of identity and retrospection makes lived experiences emergent, rather than static bits of information frozen in time and imported into the present. In a sensemaking situation, via the process of ongoing social negotiation, past experiences are essentially

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re-created and re-authored into meaningful structures in newer contexts (Berger & Luckman, 1967; Weick, 1988).

Although the sensemaking model consists of interconnected components and is a non-linear process, the starting point of the sensemaking model is what Weick and others refer to as enactment. Enactment is the third property of sensemaking, and it speaks to people's presence in and engagement with the context or situation. It represents the moment when the raw materials of sensemaking, in a manner of speaking, are reified as objects that can be used in the negotiation of meaning and the reduction of ambiguity or uncertainty. In sensemaking, the process of enactment begins when unusual contextual events are noticed and bounded by people as discrete things to be interpreted. In situations where a discontinuity of some sort is noticed amidst the endless stream of potential noticeable things at the time, the theory proposes that people will "bracket" these discontinuities into manageable and potentially meaningful units. It is through enactment that these objects become labeled and then are exchanged in the social process of sensemaking (Chia, 2000; Weick, Sucliffe, & Obstfield, 2005; Wenger, 1998).

Insofar as sensemaking is situated within a social constructionism perspective, social interactions and how people have been socialized are central aspects of sensemaking, and the discourse between social actors "is what constitutes our social world…[it] is first and fundamentally the organizing of social reality" (Chia, 2000, p. 517). This social reality applies even when someone is alone and is sensemaking, what they attend to and how they make meaning depends on their own past experiences as members of a society as well as on recent social experiences (Garfinkle, 2003). In the group setting, "[o]rganizational sensemaking is a fundamentally social process: organization members interpret their environment in and through interactions with others,

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constructing accounts that allow them to comprehend the world and act collectively" (Maitlis, 2005, p. 21). This is the point in the sensemaking process where bracketed experiences are used as social currency to become meaningful through conversations, story-telling, and other ways of communicating. And, as part of that social process, people are afforded the chance to connect these events with past experiences as well as with ambient contextual cues, so that what is bracketed can be labeled as something meaningful, and ultimately retained for subsequent sensemaking (Weick, Sutcliffe, & Obstfeld, 2005; Whiteman & Cooper, 2011).

Although sensemaking can be described as a process with an entry point, that we live in a world of continual events which need interpretation and reinterpretation leads to sensemaking's "ongoing" and fifth property. Given this, sensemaking activities might better be thought of as an episodic process that is triggered by discontinuities that seem to disrupt the continual flow of otherwise undifferentiated ambient contextual information people are faced with every day. Weick and others also point out that mood and changes in emotional states are also highly connected to sensemaking opportunities. He argues that disruptions in the normal flow of things tends to prompt changes in people's emotional states and their mood, and that those emotional states strongly affect both what is apprehended in the current context as well as what is referenced during retrospection. Further, during the time of sensemaking when meaning is being negotiated in the social arena, the discourse that people use unfolds over time, and that discourse is in contention with other ambient contextual things and emotional states, all of which have an effect the sensemaking process (Weick, 1995; Weick, Sutcliffe, & Obstfeld, 2005). In other words, sensemaking in any given situation is iterative and emergent.

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Sensemaking relies and builds upon so-called extracted cues, which are "simple, familiar structures that are the seeds from which people develop a larger sense of what may be occurring" (Weick, 1995, p. 50). Extracted cues come from the context, from past experiences, and from interactions with others; because of their familiarity, they serve as a way to reduce ambiguity or uncertainty in a situation. Through social means, extracted cues are negotiated as applicable (or not) to the situation at hand insofar as they bring discontinuities into alignment with what is expected. What is eligible to be an extracted cue also depends on what is noticed in the context and by whom. For example, if someone with considerable experience and/or authority in the group acts in a "sensegiving" way by associating bracketed and labelled objects to past experiences, that act will tend to constrain what is and is not noticed and/or eligible to be part of the sensemaking process (Brown, Stacey, & Nandhakumar, 2008; Mills, 2003). At the same time, emotion and mood states can also constrain what is noticed in the moment and what is brought forward from past experience as an extracted cue. For example, someone who is anxious about resolving the issue at hand might fail to bring to light or discard potentially useful extracted cues; this was another aspect of the Mann Gulch tragedy. In the end, "the importance lies in the fact that these cues tie elements together cognitively. These presumed ties are then given more substance when people act as if they are real" (Weick, 1995, pp. 53-54).

Finally, "sensemaking allows people to deal with uncertainty and ambiguity by creating rational accounts of the world that enable action" (Maitlis, 2005, p. 21). This statement embodies the seventh property of sensemaking having to do with people's predilection for plausibility over accuracy when attempting to reconcile discontinuities with what was expected. Put more plainly, when assembling the pieces of a story

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together to make sense of the situation at hand, people prefer to assemble the pieces together quickly until enough of a rational and understandable narrative is present, rather than be certain that all of the "right" pieces are present, accounted for, and fit together seamlessly (Abolafia, 2010; Weick, Sutcliffe, & Obstfeld, 2005). Thus, when constructing meaning in an ambiguous situation, social actors will bring into alignment contextual discontinuities with their socially constructed reality only as much as is necessary to produce "accounts that are socially acceptable and credible" (Weick, 1995, p. 61).

Sensemaking theory is a mainstream perspective in organizational development circles (Brown, Colville, & Pye, 2015). It richly describes the process by which groups of people manage ambiguity and change in their contexts. Its ability to do this makes it a very useful perspective to consider when planning changes and interventions in teams and even organizations. In addition to its helpfulness in this way, using it as part of an overall change plan builds the capacity for teams to efficiently deal with future change and ambiguity. This capacity, oftentimes called resilience, can serve a team well whenever adaptation is necessary:

> when organizations and organizational members encounter intervention initiatives, they are often encountering non-routine problems, difficult decisions, ambiguous and conflicting information, shifting goals, time pressure, and dynamic conditions. In such situations it is critical that people not act on autopilot or normalize change out of existence, as may be their tendency. Rather, organizations need the capacity to continually make sense of dynamic situations if they are to successfully respond to interventions" (Jordan et al., 2009, p. 7).

Although there is a place for ordinary team-building activities such as trust falls and the like, a team that engages in sensemaking activities can encourage that team, as a distinct entity, to construct knowledge that can be further developed and built upon in the future. That knowledge can then become part of the team's own repertoire of lived experiences and can later be applied when dealing with novel situations and/or ambiguity in the future.

Previous Cycles of Action Research

Previous cycles of my own research leading up to the present study focused mainly on understanding the context in which the Instructional Technology group operates. In cycle zero, I conducted interviews of faculty members in different departments to determine whether there was an "opportunity space" or areas of need in which this group could help. What I found was that these faculty members, because they were generally self-sufficient in their technical troubleshooting abilities, expressed a desire for having access to technology support in a consultative way for their ongoing projects. They also attempted to speak on behalf of some of their colleagues, suggesting that their peers would also benefit more so by having technology consultants who could partner with them on instructional projects than ones who could simply perform troubleshooting tasks. Although the sample was not representative of all College faculty, it gave me reason to believe that there was a role for the instructional technology group in the academic life of the College.

Cycle one involved a mixed-methods approach to further understand the different aspects of technology support needs in the College. For the quantitative segment, a survey went out to a sample of the College's teaching faculty, asking them about their perceptions of our existing instructional technology service offerings as well as reactions

to potential ones that had emerged in the cycle zero study. Findings from the quantitative segment of the study showed that College faculty viewed our service offerings as they existed at the time to be still useful, but that there was a growing need for sustained, partnership-style support for instructional projects. Findings from the qualitative segment also supported this proposition, but that OASIS also had a unique opportunity by providing instructional technology services to be a technological leader and advocate for faculty technology needs campus-wide. Taken together, the results from cycle one suggested that College faculty had begun to "outgrow" our traditional service offerings, which mimicked and extended the findings from the cycle zero study, and that there was a growing call for support of instructional projects.

The attention for cycle two of the action research was on the Instructional Technology group itself. As a way to evaluate how cohesive the group was in terms of having well-defined functional boundaries, I conducted interviews of two group members to understand how they perceived the group's identity and its boundaries. Findings from this cycle showed that these group members described a group whose boundaries were so diffuse that they were virtually non-existent. In addition, despite the group's members being under the aegis of the same functional purpose, interviewees reported the level of mutual engagement among team members outside of weekly check-in meetings was so infrequent that any interactions did little to contribute toward the group's functional boundary and sense of identity. Taken together and viewed through the developmental lens that Wenger, McDermott & Snyder (2002) propose, these findings suggest that as a group on a trajectory toward becoming somewhat of a community of practice, the group would probably be characterized as being in an early stage of development toward that end. At the same time, the members of this group are connected by a general interest in

furthering the instructional mission of the College through the thoughtful application of technology to facilitate teaching; what lacks is ongoing mutual engagement around a more focused theme than what currently unites them.

Summary and Research Implications

The theoretical models and the accompanying research just discussed support the proposition that it was possible to successfully encourage a group such as Instructional Technology to evolve in a way that resembles a community of practice. While there might have been any number of reasons to follow a more traditional path in creating a team with a coherent sense of purpose, the virtue in facilitating the development of a group like this into one that resembles a community of practice is that it promotes group self-organization, encourages innovative perspectives, and fosters the group's continual learning. As discussed early on in this paper, more of our faculty clientele have been evolving in their use of technology toward the more sophisticated and experimental. With this evolution comes the need for a technology support structure that is adaptive, collaborative and forward-looking. The capacities that come with opportunities for sensemaking as well as being a community of practice were intended to serve the group well in being adaptive as our clients grow in their own application of technology. The choice to cultivate this group as a community of practice also rested on being consistent with an overall organizational culture that encourages distributed ownership in the organization's direction, which has worked for more than ten years. Moreover, the internal culture of OASIS allowed the individuals who make up the Instructional Technology group to coalesce around a desire to advance the instructional mission of the College, and it has always been my commitment, qua director, to support their efforts in a way that maximizes the strengths that each member brings to the table in service of broad

College goals. At the same time, it was my appraisal that the group needed a set of organizing principles as well as practice at working together to better focus their energies toward the College's instructional goals. The intervention to be discussed in the next chapter was intended to do that, and in the process, catalyze the group's ability to evolve into a collaborative and learning team that continually reinvents its service portfolio to support the dynamic instructional mission of the College.

As a coda to this chapter and a prelude to the next one, it is important to note at this point that the three theoretical perspectives discussed in this chapter do not operate in isolation, but rather as a unit; through their connectedness, they informed the shape of the study. At their core, all three perspectives hold axiomatic that it is in the social forum where knowledge and meaning are made manifest through the interactions of individuals. As a research matter, the use of group discussions as the source of data, the researcher as participant, and the project's pragmatic nature to foster group-level development aligned with this axiom. Additionally, this axiom led to designing intervention activities that brought members of the group together, and that afforded them conversational space in which to create knowledge and meaning around topics relevant to their practice as instructional technologists. The communities of practice perspective likewise holds that the construction of meaning and knowledge happens as the result of social processes, but in this case, it is the regularity of those interactions within an egalitarian ethos that is by mutual engagement which enables the development and of a learning community and sustains it over time. The first of these aspects, the regularity of interactions, led to the cyclical design of the intervention, while the activities of storytelling and perspective sharing were there to promote mutual engagement and self-authorship of the group. Finally, the sensemaking perspective contends that novel and ambiguous situations

relevant to the context are made meaningful to a group of people via social processes so that subsequent action by the group is possible. This perspective claims that when a group participates in sensemaking activities, members of that group will extract features from their environment, and engage with one another to synthesize those reifications in a way that leads to a reasonable explanation of what is happening in the moment, making subsequent action possible. Sensemaking activities, when viewed through the lens of the communities practice perspective, have the property of activating all three modes of belonging simultaneously. As it was the intent of this project not to simply create a social group, but rather a collaborative, forward-looking and productive team, embedding sensemaking opportunities within the intervention had a two-fold purpose here: to develop an applicable and increasingly sophisticated interpretive capacity within the group, and to promote the group's development as a community of practice.

Chapter 3

METHOD

Introduction

As discussed at the beginning of chapter two, this study was situated within a social constructionism perspective. This perspective maintains that humans are relational beings, and because of that, knowledge and meaning are co-constructed in the social arena. A property of this perspective is that it emphasizes the group over the individual as the unit of analysis; as a result, all of the data collection and analysis proceeded from this theoretical perspective. At a higher paradigmatic level, this study is also situated within an interpretivist theoretical tradition. This theoretical paradigm assumes, to the extent possible, a neutral stance with respect to understanding the object of the research, rather than a critical theory approach, which would endeavor to critique the power structures or other social aspects at play. In attempting to understand what is going on within a particular social context, this interpretivist approach is "look[ing] for culturally derived and historically situated interpretations of the social life-world" (Crotty, 1998, p. 67), and in the case of the present research, how a team developed in various ways over time. The research questions that drove this study reflect this interpretivist perspective in that they were accessing "rhetorical markers and signifiers related to meanings, understandings, experiences, and participants' perceptions…" (Koro-Ljungberg, Yendol-Hoppey, Smith, & Hayes, 2009, p. 694) in order to uncover and understand meaning-making in the group. Also as a matter of neutrality in the research, it is worth pointing out that this endeavor did not ultimately seek radical change, as might happen in a project involving something like social justice, but instead simply improvement in the team over time as part of our common practice as information technology professionals. This goal

places this research within the realm of descriptive interpretivism (Rossman & Rallis, 2017).

Research Design

This was a qualitative action research study, and as such, the qualitative inquiry component was intended to gather data at each group discussion, so that I could examine and describe changes in the group before, during and after the intervention. While there may have been the possibility—in some limited way—to collect quantitative data as well, it was the research questions that really drove the choice to use qualitative methods. At the heart of the research portion of this study was the proposition that knowledge and meaning were going to be constructed by the participants in the conversational space between them throughout the study, and thus accessing that conversational space as they were happening drove the selection of a qualitative approach in order to answer the research questions. The action research component of this research not only used prior cycles of research to inform the purpose of this study, but it also allowed for my own reflections to influence tactical aspects of the intervention as it unfolded. The principal form of data that were collected throughout this endeavor involved transcribed recordings of group discussions. In some cases, visual artifacts that came as a result of group discussions were captured as supporting evidence to the transcribed data. Where appropriate, I also kept field notes to support other forms of data that were collected.

Returning to the research questions for this study, they are:

RQ 1: How does the Instructional Technology group in OASIS change over the course of this project relative to a community of practice?

RQ 2: How does the Instructional Technology group's capacity to interpret the College's instructional environments change over the course of this project?

Setting and Participants

The setting for this research was in the College of Arts and Sciences at UNC-Chapel Hill. This is where my organization, OASIS, is situated as the central technology support group for the College; OASIS offers a variety of technology support to the College's 1000 faculty who are distributed across 72 academic and administrative units. In fiscal year 2018, our internal records indicated that the College generated 86% of UNC's undergraduate credit hours and 61% of UNC's total credit hours. Owing to these statistics alone, the College's commitment to instruction at UNC was already enormous, but with a change in leadership in 2016 came a renewed commitment to undergraduate education that was embodied, at least in part, in the redesign of UNC's general education curriculum. The general education curriculum is considered to be the core experience of every UNC graduate, and the redesign aspired to prepare UNC graduates "who are poised for productive, dynamic careers; who are responsible citizens and community members engaged with considering and promoting the common good and social justice; and who are lifelong learners, approaching the world with curiosity and open minds" ("IDEAs in Action", 2017). In some ways, the spirit of this new curriculum was not vastly different from the previous one, but the way it set out to operationalize the curriculum's aspirational elements was quite different from past curricula. In particular, it revised the set of curricular requirements to be a set of so-called portable and focused capacities that UNC graduates should have; these capacities were intended to enable UNC undergraduates to prepare for any post-graduation futures they could imagine. As a major undertaking for the College, this redesign began in 2016 and was still in progress at the time that this study began.

In light of the College's continual interest in undergraduate education, and with the College's new general education curriculum being codified at the time, the potential for OASIS' Instructional Technology group to support the College's mission had perhaps never been greater than it was at the time of this research project. It is for these reasons and the centrality of the general education curriculum in the instructional life of the College that the intervention focused on having the group negotiate a common understanding of the core principles embodied in the new curriculum, and then using those understandings, observe and interpret as a group different instructional settings to see what kinds of teaching might or might not support the aims of the new curriculum. In the end, it was the goal that this knowledge might inform how the group organized itself in terms of services it might offer to our faculty, but it also was intended to increase their acuity to the dynamics of classroom environments. To carry this out, there were two types of venues involved in this research setting: (a) classrooms where participants observed in-session classes offered by selected faculty, and (b) for subsequent observational debriefings with the researcher, meeting venues where the researcher and participants discussed observations, developed themes, and identified any issues and/or new opportunities germane to either the group's professional interests or the direction of the research project.

Participants. The formal makeup of the Instructional Technology group at the start of this study consisted of six individuals whose jobs nominally entailed providing technology support to faculty in support of their instructional aims. It was in part because of the confluence of the College's renewed commitment to undergraduate education, the group's general orientation toward applying technology in support of instructional goals, and the group's newness in the organization that I chose this particular group for the

study versus any of the other functional areas in the organization. Additionally, until this study began, what actually defined the group in terms of its functional boundaries and its core identity was in flux and being negotiated very slowly within the group as well as within the rest of the organization itself. This slowness was largely because team members tended to work in isolation, only with the rare occasion in which two or three might collaborate with each other or with someone outside of the group on some short-term project. Also contributing to this was the haphazard way in which group members took on projects. In many cases, they took on a wide variety projects so as to see what worked and what did not in terms of alignment with group members' own personal and professional strengths, their ambitions, and alignment with a general understanding of the College's overarching instructional mission. Separate from those occasional collaborative opportunities, the group had weekly meetings in which each member (as well as some from outside the group) reported to the others what work was in progress.

When I proposed this study, I planned that all six members would participate, however when securing their consent to participate in this project, one member declined to do so, and thus only five members of the formal group participated. The group member who declined to participate in the intervention was not sequestered from the group, and in fact, he still interacted with the other members, as well as regularly came to group meetings that were outside of this project, proper. Besides formal group members, there were two additional staff members who, while they formally reported to another functional area of the organization, had been participating in the Instructional Technology group's meetings and in aspects of the group's work for some months; because of their regular involvement in the group's dealings, they were interested in participating in this project. As mentioned earlier, the organizational of OASIS ethos supported this kind of

cross-functional fluidity and participation, and for all intents and purposes, they were regular members of the group. Thus in total, this study had eight participants, including myself. How the one member's non-participation as well as the addition of two from a different functional area affected the study will be taken up in the discussion chapter of this paper.

Sampling for this study was therefore purposeful. Participants had "particular features or characteristics which enable[d] detailed exploration and understanding of the central themes…" (Ritchie, Lewis, & Elam, 2003, p. 78). The particular characteristics that these participants had included being a) formal members of the Instructional Technology group or having regularly participated in the group's activities, b) in a faculty technology support capacity for more than a year, c) in an instructional technology support capacity in the College in some way, and d) familiar to some extent with the instructional mission of the College.

The first participant, Jonah (a pseudonym), joined OASIS between one and two years before this project began. Prior to joining the organization, he worked in another unit at UNC, and since joining OASIS, he has been formally reporting to another part of the organization. Although his reporting relationship is elsewhere, he regularly participates in the dealings of the Instructional Technology group. He possesses a deep commitment to higher education and an affinity to the academic mission of the College, which probably led in some measure to his interest and participation in the Instructional Technology group's ongoing work and discussions.

The second participant, Chris (also a pseudonym), has been an OASIS employee for more than ten years. The bulk of his professional identity within OASIS had been largely outside of instructional technology before being drawn to the Instructional

Technology group more than a year before this study began. He is a graduate of UNC in a field quite removed from technology, and he joined OASIS shortly after graduating from college. At the time of this study, his knowledge of instructional technology had become quite developed, and because he has held different roles during his tenure in OASIS, he also has a good foundational knowledge of available technology solutions that could be applied to support instructional objectives, as well as a keen sense for knowing how potential solutions can scale and be sustainable.

The third participant, Winston, joined OASIS approximately three years before the start of this study. Unlike some of the others in the group, he was hired as an instructional technologist. He has an advanced degree and sees himself as always being a part of higher education in some fashion. Since his arrival, he has spent considerable time experimenting with different approaches to supporting faculty in their instruction, and owing to his considerable experience, he brings great insight to the group's discussions. He also relates very well to the faculty we support, and because of that ability, he is able to quickly understand and internalize their pedagogical objectives when offering them counsel. On those occasions that he and Jonah work together, the combination of skills they bring to bear on a project almost always ensures its success.

The fourth participant's pseudonym is Vincent. Of all the participants, he has been with OASIS doing instructional technology work the longest. Like some of the others, he has an advanced degree and has taught at the collegiate level. He has a keen ability to evaluate the practicality of technologies that could be applied to any given instructional situation, and a very high level of project management acumen.

The fifth participant joined OASIS at approximately the same time as Winston, but he previously worked elsewhere at UNC for several years prior. His pseudonym is

Maurice, and he is an expert in developing online materials. Of all the participants, the amount of his direct experience in instructional design using technology is perhaps the most limited; at the same time, he is highly reflective and analytical, and when in conversation with other group members, he has the ability to provide great insight on the strengths and weaknesses in different instructional situations. He also knows many of our instructors personally, and because of this knowledge, he has an ability to evaluate how well an instructional strategy might work with any given instructor's personal style.

The sixth participant in the group is Tristan. He frequently collaborates with peers across campus to support faculty in their teaching practice, and because of his network of connections to other instructional technologists, he provides a valuable conduit between the activities of the Instructional Technology group in OASIS and other similar groups. His collaborative work with others often benefits everyone involved, and it also helps inform the group about situations in which there could be opportunities for collaboration. He has a background in teaching and joined OASIS about five years before this study began.

The final participant is Parker. He came to OASIS about four to five years before this project began from another unit at UNC. He derives a lot of satisfaction from the direct support of faculty, and his work in the Instructional Technology group shows a clear calling for himself in supporting the instructional mission of the College. His knowledge of pedagogy comes largely from experience instead of formal training, and when evaluating instructional situations, he tends to prioritize students' educational experiences, using that perspective as a litmus test of "what works".

Role of the Researcher

In this study, I served in two main roles as the researcher. First, I served as facilitator for some of the activities. In the facilitator role, I worked with identified faculty members to secure their support in this project, which involved informing them of the project's purpose and acquiring their permission for OASIS staffers to attend some of their classes. As part of the facilitator role, I occasionally encouraged discussion by simple prompts that allowed participants to elaborate on their perspectives, expand on their storytelling, etc. By the end of the intervention, we had met many times and discussed a wide variety of topics, and because I possessed detailed knowledge of those activities from having coded the transcripts from prior meetings and listened to the corresponding recordings of those meetings several times, I facilitated the wrap-up discussion to help participants productively look back across our experiences together. Second, I was in the role of researcher-participant, attending class observation sessions along with the group, and constructing knowledge and meaning with the other participants in our debriefings. These different roles carry different implications in terms of researcher positionality. When coordinating with instructors and making arrangements for the group, my positionality was that of an insider working with outsiders; when in the researcher-participant role, my positionality shifted to being that of an insider working with other insiders (Herr & Anderson, 2015), tempered somewhat by the fact that I was the leader of the organization and an *ex officio* member of the group.

Although I stated that this study is situated within the interpretivist paradigm, I as the researcher was nevertheless not detached from the context; thus articulating some of the subjectivities that I was aware of and brought to this project are important to state

here. Subjectivities are those particular qualities of the researcher that affect the entire research endeavor, from selection of the topic to interpretation of results (Denzin & Lincoln, 2003; Flick, 2009). The first of these is that I am the director of this organization and a member of the College's leadership team. In the years that follow the new curriculum's implementation, I believe that this group is going to have many opportunities to influence its success, particularly where the application of technology is concerned; my subjectivity as director therefore led me to be interested in the growth and success of this group, look for markers of success and encourage them, and to devote some of my energies as well as the group's toward that end. Also, the fact that I am in a leadership role means that I perhaps see group boundaries at least somewhat differently than the rest of the group does, especially where communities of practices is concerned. I tend to view this group as circumscribed by the traits of these individuals and their common practice, but it could be the case that different members of the group would draw those boundaries differently and characterize them as more fluid.

Closely related to the first subjectivity is that of a doctoral student and researcher, who is using a group in my own organization as the focal point of my study. This is something that I disclosed to the group well before the project started, and since then it occasionally became a topic of conversation in our group meetings as well as in casual conversation. Despite the disclosure, this subjectivity still occasionally presented me with ethical challenges, since I have both a personal interest in the outcome of the research project and a professional obligation to the group and the organization. Making this tension more acute was my instinct as someone who had been well-steeped in an objectivist tradition to keep the 'subjects' isolated from any part the research agenda, so as to avoid simply proving what I set out to prove. This all manifested itself most often

when faced with decisions that brought into tension my roles as researcher and as director of the organization, usually during our debriefings. In those moments, I found myself in the strange space of being asked for direction by members of the group, but having to weigh whether my voice, qua director, might undermine their efforts to become self-organizing like other OASIS groups, not to mention my research agenda. Every situation of this sort was different, and I did my best in the moment to strike the right balance between these different roles; despite these efforts, the convergence of these subjectivities at different times and in different ways almost certainly had a shaping effect on our conversations.

Third, as I had a background myself in instructional technology and an interest in seeing this group self-organize within some general parameters, I was intellectually drawn to the topics that this group takes on. As a result, I attended their periodic meetings as an *ex-officio* member of the group. Although the group's manager leads these meetings, I nevertheless try to participate as if I am simply one of the group's members so as not to usurp his authority as team lead. However, qua director of the organization with positional authority, it is likely that there will always be an artificiality about my participation as just another group member, but as I had been doing this for nearly a year before this project, I believe the rapport I developed with the group showed that I was able to approach this research in a nearly emic capacity. Still, this positional authority almost certainly affected the interactions that I had with my participants during the group meetings; this aspect will be taken up in chapter five.

The fourth subjectivity relates to my own value system about learning and its relationship to the higher education workplace. I view my organization, and others like it, as existing within a centuries old institution that espouses the principles of continual

improvement and renewal. To me, this is expressed through a growth mindset that aims to build on past accomplishments rather than cling to and forever celebrate them. Thus, in my view, the higher education environment affords us the ability to grow beyond what we think is possible, certainly beyond the sphere of one's own domain knowledge, and that opportunity is a privilege that should not be squandered. Linked to this, and perhaps because of my positionality, is that I prioritize learning those things beyond my domain expertise, and I encourage others in my organization to do the same. This is not a universal view, by any means: many at my university and some in my own organization view the workplace as separate and distinct from any potential to affect their personal growth other than what it yields in terms of livelihood. All this said, I acknowledge that work needs to happen; but I believe the best work happens when workers have the widest possible view of how their contributions relate to the whole, and in the higher education environment, that whole is very broad indeed.

Finally, and most importantly, I hold the perspective that cultivating and participating in an active learning environment is perhaps one the most virtuous things a person can do, wherever that environment might be. Moreover, I hold the belief that where one finds an effective and healthy team or organization, so too will one find a robust and ongoing learning ethos. Thus, as leader of the organization, I put the creation and promotion of an active and ongoing learning environment at the top of my list of unwritten priorities. And, having taught in the past myself and gained a lot of satisfaction from doing it, I see my role as leader almost indistinguishable from that of learning facilitator. This particular subjectivity encapsulates much of my personal and professional value system, influences much of my own decision-making, and is perhaps the gravitational center about which every aspect of this project revolved.

Intervention

  Design. At its most fundamental level, the intervention was intended to practice and promote the group's ongoing meaning-making around what is supposed to be its core function, which is supporting the instructional mission of the College. Put in the language of communities of practice, the intervention was to foster ongoing mutual engagement that was to lead to the development of a shared repertoire and a joint enterprise that could be adaptable. In doing so, the intervention was performing a so-called alignment function, so that "participants [would] become connected through the coordination of their energies, actions, and practices. Through alignment, we become part of something big because we do what it takes to play our part" (Wenger, 1998, p. 179). At a high level, the design consisted of providing the group with an initial opportunity to discover and discuss aspects of the new curriculum; then, using that shared knowledge, regularly observe instructional settings in the College and, with an eye toward their collective understanding of the goals of the new curriculum, repeatedly discuss what they observed. Finally, there was a concluding meeting in which participants reflected on learnings from the experience as well as on the intervention experience itself. As a distinct learning endeavor, a useful way to think about the design might be to use the familiar language of Bloom's taxonomy to describe it: the initial activities engaged participants at the taxonomic levels of knowledge and comprehension, the observation activities at the application level, and the discussions at the analysis and synthesis levels (Anderson & Sosniak, 1994). And, as a way to catalyze the group as a community of practice, the design aimed to stimulate regular engagement on a mutual topic, and in the process create knowledge in the group that could inform their practice (Burke, Salas, & Diaz, 2008).

The activities with the group began in the late spring of 2018 and concluded just before the start of the fall semester of 2018. The intervention design involved of three major components: (a) an initial workshop for the group in which they collectively learned about the College's new general education curriculum and another workshop devoted to learning how to use the electronic observation tool, (b) a series of in-class observations and debriefing sessions in which pairs of group members visited class sessions and then discussed the instructional methods they saw in use, comparing those methods against the objectives (as the group understood them) of the new curriculum, and (c) a final wrap-up discussion in which the group recalled and reflected on the intervention experience itself, any salient learnings from any part of the intervention, and considered ways to put their collective knowledge, both of the environment in which they work and of each other, to use.

The initial workshop happened in late April of 2018, and as planned, a professional facilitator was used mainly to give structure and direction to the discussion, but also to give me greater ability to participate in the discussions. The workshop lasted between three and four hours, and was divided into three main segments: a) getting the facilitator the participants acquainted and describing the entire project, b) having conversation with a member of the curriculum redesign steering committee, c) having discussions about the central features of the new curriculum and enumerating next steps.

As part of the initial introductions, the facilitator weaved-in prompts from a heuristic on group learning readiness, attributed to Sessa and London (2008). The intent here was to have discussion around a substantive topic that could allow for smooth transition from personal introductions into discussion about the centerpiece topic, which was about the salient features of the new general education curriculum. The prompts that

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the facilitator used in this part of the discussion are listed in Appendix B.

From the group's perspective, the central purpose of this workshop was to draw out and negotiate themes in the proposed curriculum that seemed important to the group. In coming up with themes of the curriculum, the point was not to "get it right" but rather to afford participants the opportunity to construct knowledge among each other; then, to plan for using that shared knowledge in the next phase of the intervention, which was the in-class observations. In short, the workshop was intended to foster knowledge construction within the group in light of some future action that the group would do. It should be noted that by the time of the workshop, College-wide discussions about the new curriculum had been going on for more than a year and were not yet codified, but rather still in development at the time of the workshop. Still, its overall shape was in place, which gave the group enough substance in order to have meaningful discussions.

The materials used for the workshop involved documents produced by the Curriculum 2019 Coordinating Committee (see Appendix A for examples). In case the conversation needed some impetus beyond what the invited steering committee member could provide, I had planned to use recordings of College-wide town hall meetings that members of this group had recorded, but in the end, I decided to forego that part. Given their familiarity with those recordings already and the fact that the discussion that we had with the guest from the curriculum redesign steering committee covered much of the same content, it seemed both unnecessary and, I felt, might have actually slowed conversational momentum. Another major source of information for the group to discuss in the workshop came from one of the curriculum steering committee members. As some of the group members already had familiarity with aspects of the new curriculum, I

invited a steering committee member to talk about broad aspects of the new curriculum as a way to level-out the group's understanding of the curriculum and provide coherence to the discussion. He spent about 45 minutes with us in conversation about the intent and goals of the new curriculum, the impetus for it, unpacking some of its language, what aspects of it were likely and unlikely to happen, and exchanging ideas about ways that the group could engage in it.

After the first two hours, the facilitator transitioned into summing-up the discussion. Beginning with a brainstorming activity, he invited all participants to call-out what they thought were the major themes that we had discussed earlier and/or ones that had not yet been articulated. He then led the group to converge on four or five themes that seemed to stand out in some way. In the last half hour, we reviewed a list of potential faculty members whose classes we wanted to observe, and we sketched out a potential schedule for the in-class observations and debriefings, taking into account group members' vacations and other factors. Finally, the facilitator asked the group for feedback on the workshop itself, such as what worked well, etc. In the days after the workshop, I then contacted the faculty members whose classes we wished to observe and secured their permission for pairs of us to be present in their class meetings.

About three weeks later, we held a short training session on how to use the electronic classroom observation tool. This session was led by one of the group members, Tristan, who had some familiarity with the observation tool because of his ongoing involvement in another instructional technology organization on campus that used this instrument. As in the workshop, the intention here was to construct knowledge, in this case about the functionality of the GORP tool, with the expectation of using it in

conjunction with the themes that the group developed in the workshop to conduct future in-class observations.

In the training session, we gathered in a classroom that had a large screen from which Tristan demonstrated the software's operation, and as everyone had a laptop, they practiced using the tool and shared insights with the rest of the group. After the initial demonstration and practice, we watched short videos of classes in session, and while that was going on, each participant recorded their observations using the GORP tool. During that time and afterwards, we had loosely structured discussions about how the tool operated, improvements that could be made to the tool, and about what themes we had identified previously from the workshop that seemed to be at play in the teaching video we watched.

In the week following the training session, pairs of participants, including myself, attended in-class observations over the course of several weeks. I had planned for each pair to observe a different class and instructor, so that we would be able to sample a wider swath of classes; however, for logistical reasons, there was some overlap of visits to the same class (on different occasions) by different pairs of observers. During these class meetings, participants used the observation tool to record what happened in the class, and afterwards, they discussed their observations. When everyone had the opportunity to observe once, the entire group came together, and each pair shared their findings in the context of the question "what features of this class were aligned and misaligned with the themes we identified as important in the workshop?" This process iterated two more times with a different set of classes and a different pairing of members each time. This iterative process was intended to provide several opportunities for group discussions to take place, with the goal of making mutual engagement around a common

topic habitual.

The next component of the intervention happened in mid-August and involved the group coming together in a wrap-up meeting to discuss and reflect on our major findings from the observations, discuss how well the intervention activities went, and to think about ways of applying our learnings to support teaching in the new curriculum. We began this meeting by discussing the intervention, its merits and shortcomings, including the use of the observational tool. After that we spent time rearticulating the themes we developed in the initial workshop, and then we tried to think of moments in classes we observed where the instructional setting did or did not align with the themes. Finally, we began a discussion about projects that the group could take on in support of the College's instructional mission. While the purpose of this activity was to reinforce learnings from our observations and to think about applications of our collective knowledge, it was also to provide yet another opportunity for the group to learn and negotiate meaning collectively around a significant focal point in a structured and habitual way.

When this project began, I had only an idea as to the shape of the final wrap-up meeting. This was not problematic, and in fact, it was in the spirit of action research as well as qualitative inquiry that I gradually developed the structure of the wrap-up meeting based all of the previous meetings. Also, I had originally planned to bring in the same facilitator from the workshop, but ultimately, I decided that our rapport as a group had developed to the point that having him would not add anything substantive to this final meeting. Another reason for this change was, through our debriefings, I could see that not only had the group become able to manage discussions themselves, I had become skilled enough that I could hold the roles of facilitator (where necessary), participant and researcher.

Table 1

Timeline and Procedures in the Study

Time frame	Actions	Procedures
Late April/ Early May	Held workshop; selected classes; recorded initial group state	Participants and researcher devoted time in workshop to discuss the overall process, and study the existing and new curriculum; identified themes that we used to anchor our in-class observations. Participants and researcher identified classes to attend; researcher secured permission for participants to attend; researcher. Researcher documented the group's current orientation as a community of practice as well as its learning readiness.
Mid-May	Held training session on class observation tool	One of the group members trained the whole group on how to use the observation instrument.
Mid-May to early-August	Conducted a cycle of in-class observations and debriefing sessions	Participants attended classes in pairs, using the observation tool to record class activity every 3 minutes; after every pair did an observation, the researcher and all participants convened to discuss findings; researcher recorded evidence related to participants' learning and development as a community of practice, as well as markers of sensemaking.
Mid-August	Held wrap-up discussions	Researcher and participants

reviewed entire summer's activities, identifying potential opportunities to provide new kinds of support to our clients; reviewed intervention, identifying strengths and issues in the process; researcher recorded meeting to document any changes in the group's development as a community of practice.

Research studies supporting the intervention

As was mentioned in chapter two, the intervention relied in part on the theoretical perspective of sensemaking. The connection with this particular perspective is relevant because although this group is charged with supporting faculty in their teaching and their day-to-day work is in service of that, it is also rare that any of the group members actually witness the teaching that happens *in situ*, particularly with an eye toward the pedagogy in use at the time. Even in those cases in which one or more team members might have worked closely with a faculty member on a teaching strategy involving technology, they seldom see the end result in action. The intervention therefore had the intention of putting team members in direct contact with teaching environments, so that they would experience these environments anew, using a particular set of interpretive lenses that they developed in the workshop. Additionally, the observation tool we used was unfamiliar to most participants from the outset. I anticipated that learning the observation tool as well as the in-class observations would likely present participants with moments of novelty, unfamiliarity and ambiguity, which would need collective negotiation of meaning in the way that the sensemaking model describes (Jordan et al., 2009).

The overall shape of this intervention was inspired by two research studies, one having to do with developing communities of practice and one on group learning in general. The first was a study by Akkerman, Petter, and de Laat (2008) in which they examined facilitating emergence in several communities of practice. Emergence in this sense refers to a transitional period in which the community of practice starts to become self-sustaining. In the developmental stages of a community of practice, this transitional period corresponds to the so-called mature stage as described by Wenger, McDermott, and Snyder (2002), making their communities developmentally comparable to the one in the present study. In Akkerman, Petter, and de Laat's study, they observed fifteen communities of practice that were instantiated around different themes. Like the group in the present research, the communities' start-up activities were initially structured by a facilitator in order to establish three essential components of a community of practice, viz., creating meaningful, shared, and coordinative activities (Wenger, 1998). The present intervention was based on their results, which showed that successful, self-sustaining groups involve members in the development of the meaningful activity, that members have a pre-existing rapport to develop the shared activity, and that the coordinative activity is ultimately shared between the group and project partners.

The second study that supported the present intervention is one by McDougall and Beattie (1995). These authors established two learning groups, and in an action research-inspired way, they used the outcomes of the first group to inform the structure and activities of the second one. From these two groups, they found that aspects which contribute to the success of learning groups include: learners' thorough preparation from the outset as to the purpose of the group and process of learning; stressing participants' responsibility for their learning as well as their peers' learning; meeting regularly as a

group to discuss relevant topics; and providing facilitative support through someone who assists learning and maintains an awareness of potential problems and can take steps to address them. It is noteworthy that in this study, both of these groups were not pre-existing and therefore at a different developmental stage from the group in the present study; instead, the groups were established for the purpose of the research, using specific selection criteria that had a bearing on the groups' (particularly the second) success. Even though these were uncontrollable factors in the present research, it was nevertheless the process that these authors used in the second group that inspired a substantial part of the intervention in the present study.

Research Methods

As is the nature of action research, the intervention and the research are tightly commingled and in some ways are inseparable. In this case, the intervention was deliberately focused on the group and its development, thus every time in the intervention in which the group was assembled to interact, data were collected to answer the research questions. And, because the intervention and the research were so tightly coupled, what follows is a recap of the major features of the intervention discussed earlier, but the emphasis here is on the research components that took place at each segment of the intervention.

The research began with the first group activity, which was the workshop. At the beginning of the workshop, I started the audio recorder and placed it in the middle of the table around which we sat. The recorder could have been placed in a more discrete location, but its presence on the table served as a reminder to participants that their conversation was being recorded. Partly as a matter of practicality, I chose to invite an outside facilitator to shape the flow of the conversation in the workshop. As a relatively

new qualitative researcher myself, I felt that I lacked the capacity to simultaneously and successfully facilitate the discussion, keep notes and participate in the discussion. In addition to this, I thought that having a skilled outside facilitator would help participants more fully explain their perspectives; the idea being that more has to be made explicit in conversation when in the presence of an outsider who is trying to understand what is being discussed. In this first phase of the intervention, it was important that, as the researcher, I restated what the goals for the day were, the nature of my research project and its relation to this group's activities, and to remind everyone that the session was being recorded, but that their anonymity would be preserved. During the workshop, the facilitator used the whiteboard as an aid to the conversation, and at the end of the event, I took a picture of this to keep as part of the research record. As a research endeavor that was aimed at describing changes in the group over time, this workshop was intended to capture the group's interactions as a starting point in the intervention.

The second intervention event was the training on the electronic observation tool, which was led by one of the group members, and it was scheduled to last for no more than two hours. The research aim for this segment was to capture how the group managed unfamiliar situations. As I did in the workshop, I started the recorder at the beginning of the event and placed it in a conspicuous location. As the room was arranged in a traditional classroom style with rows of seats facing toward the instructor's area, I simply placed the recorder on the instructor's desk. As for format, although Tristan and I had some early and preliminary discussions about what the format of this might be, I followed previous research on communities of practice and, in the interest of communicating trust and promoting widespread ownership in this group's activities, I left almost all of the format planning and decision-making up to him. In the training event

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itself, I kept my level of authority in discussions as close to that of the other participants as possible. Other than announcing the start and conclusion of the event, Tristan facilitated the entire session, while I tried to place myself as another participant, asking questions, articulating insights about the tool, and occasionally reflecting others' statements and/or questions. There were no relevant visual artifacts that resulted from this event.

As for the series of in-class observation debriefings, the research purpose was to collect data on the group's discussions around mutual experiences. Each of these debriefings was scheduled to last no more than two hours. Two of the debriefings were held in the same classroom we met for the workshop and the training event; the third was held in another space in a different building, purely for scheduling reasons. Like the workshop, the arrangement of the tables in these spaces was like a conference room setting, where we could gather around a large table and face each other. As in other meetings, I started the recorder and placed it in the middle of that table space. The format for these debriefings was loosely-structured in that each pair of participants were simply asked to report on their experiences with the tool and then on what they observed in the class. The specific questions I used to prompt discussions can be found in Appendix C. If it did not happen spontaneously, I occasionally prompted participants to make comparisons between the reports of different pairs in the group, so as to promote interactive discussion and maximize participation. In addition, I brought back into the discussion topics from previous meetings and/or questions that arose from coding the transcripts of earlier meetings. For all of the debriefings, I was in the dual role of facilitator and participant; for the first meeting, the balance between these two was slightly toward being facilitator, so that I could provide some example of what these

meetings might look like. Other than that, the loose structure and the group's own ability to talk about their experiences (with occasional digressions) allowed me to keep my role as mostly that of a participant. Along these lines, I had originally planned to use a whiteboard or flipcharts as an aid to our conversations, but I quickly realized that our discussions were already very participatory and active, and were I to have started using this aid, I felt it would have likely disturbed the organic quality to the conversation and probably shifted my role away from participant.

After the second segment of the intervention had concluded, the next event was a wrap-up activity that was intended to have participants reflect on the entire experience of the intervention. The research objective for this activity was to capture what might be characterized as the group's "final state" at the end of the intervention. The activities centered on having the group recount some of the significant observations from the second part of the intervention, discuss those moments in relation to the themes of the general education curriculum, explore how our learnings from the intervention might inform the kinds of activities the group could do together in service of the College's instructional mission, and finally, provide feedback and/or insights on the intervention activity itself. These aspects made the wrap-up characteristically different from most of the previous meetings, with the exception of the workshop. In relation to the workshop, which had an inaugural character, this meeting had a closure character, giving the whole intervention a kind of symmetrical shape. Owing to these qualities, I decided that a facilitator of some kind would help the group see across the whole experience and converge the discussion toward points of synthesis. Moreover, that I had the content of

previous meetings fresh in my mind from prior coding, I decided that I was in the best position to facilitate this event.

In the facilitator role, and as would be the practice of any facilitator, I decided to prime the discussion in advance by sending out a preparatory email to the group, talking about what the goals were to be for this meeting (see email in Appendix E). In addition, I felt this was important because I had been noticing through my coding efforts, that discussion about making connections between observations and the themes we had originally developed had been diminishing. At the same time, since the group is supposed to resemble a community of practice and discuss things that are pertinent to their work, this was not necessarily a problem in and of itself; still, I wanted to keep open the possibility of further discussion on the connections between the teaching we observed and the themes we developed by reactivating our collective awareness of that prior work.

For scheduling reasons, this event took place in an entirely different space from the other meetings. The room configuration was very similar to the spaces we used in the debriefings in that we were arranged in a conference room style: a large table around which sat and could see each other. As with other meetings, I started the recorder and placed it in the middle of the table. In this meeting, my primary role was that of meeting facilitator, followed by participant where possible or appropriate. To facilitate discussion, I used flipcharts to further reify participants' own contributions as they happened. The prompts I used in the meeting itself are in Appendix E.

Data Collection Instruments

Workshop, Training, Debriefings and Wrap-up. The vast majority of data being collected to answer the research questions came from recordings made during our

group events. Recordings of these activities were intended to capture group

conversations and were transcribed for subsequent coding and analysis. Occasionally,

there were visual artifacts that came as a result of discussions, and any of those were kept

as part of the research record.

Field notes. Throughout the study, I kept a journal to help document significant

moments, emerging themes and reflections that I then used to evaluate the progress of the

intervention and make decisions about potential adjustments to it. I also noted aspects of

group discussions and other interactions that seemed to speak to the theoretical

underpinnings of the research, or otherwise chronicle the changes that were taking place

in the group. The field notes were not confined to the events of the intervention: I also

kept notes on things that I happened to be party to between intervention activities, such as

casual conversation and emails that I saw as related to this project. In these cases, my

notes contained nothing about the substance of the interaction, but instead simply

recorded the date, observations on the nature of the interaction, and any reflections I had.

In addition to their use in addressing research questions, I relied on these notes as a

source of information to help shape discussion during our group meetings.

Professional facilitator. The main purpose of engaging the services of a

professional facilitator was to allow me as the researcher to participate more fully in the

group discussions than would otherwise be possible if also facilitating the discussion. At

the same time, this facilitator had unique knowledge of and perspective on the group's

interactions in the initial workshop, and that knowledge was helpful in triangulating data

from other sources. To that end, I conducted a semi-structured interview with the

facilitator to capture his unique perspectives.

In-class observation instrument. Participants had an electronic observation tool that they used to record general events of the class(es) they attended. At 3-minute intervals, participants recorded what they observed was going on in the class at the time according to a set of pre-defined activities. These were simple observations of what the instructor(s) was(were) doing, what the students were doing, if technologies were in use, and any other observations. The tool also provided participants with the ability to record events they noticed in their own words during the class that might have stood out in some way to them. It is worth noting that there were three reasons for using this tool. The first was that it helped participants attend to the pedagogy taking place in the classes the visited, and second, it assisted them in our debriefings to recall details of the class(es) they attended. Third, this is a tool that one of our peer organizations had planned to use in a specific way, and in the spirit of collegiality, the group was testing it for that organization. See Appendix D for a screenshot of the observation instrument.

Data Collection and Research Question Alignment

Research Question 1. To answer this research question, I relied on the entire body of data that captured moments of social interaction between participants: transcripts of group meetings, field notes, visual artifacts, and the facilitator's feedback. In support of this research question, I used these data to look for the core attributes of a community of practice, namely the emergence and development of a shared repertoire, joint enterprise and their ongoing mutual engagement. Further, these data were critical in capturing participants' modes of belonging during social interactions, viz., imagination, alignment and engagement.

Research Question 2. This research question is closely connected with the sensemaking model described in chapter two. Like research question one, data to address

this research question came from transcriptions of the group workshop, the training, debriefings and the wrap-up session at the end of the study. Unlike the nature of communities of practice that might, in a manner of speaking, surround a group's social space, sensemaking happens in moments of ambiguity, uncertainty and/or change, and is connected with future action, such as was the case in the workshop and the training session. While the entire body of data was potentially applicable to this question, given that sensemaking has this episodic quality, only certain moments in the data were actually applicable to this research question.

Data Analysis

As mentioned earlier, this study operated within the interpretivist theoretical paradigm. Because of this, the goal of the project was to understand and describe how the group evolved in relation to a self-sustaining community in which its members routinely engage with each other to make meaning, and to develop a group purpose that responds to emergent opportunities in the College's instructional activities. As a research endeavor also situated within the theoretical framework of social constructionism, the research was thus about accessing knowledge co-created via the social interactions of the group over the course of the intervention.

For the research questions, I worked inductively, analyzing the data using a contemporary grounded theory approach often associated with Charmaz (2014) referred to as constructivist grounded theory. Although there are other viable methods, grounded theory has the advantage of maximizing the data's potential uses and opens up the interpretive space, versus approaches that might tend to constrain data interpretation by imposing pre-determined interpretive frameworks on the data. At the same time, constructivist grounded theory is not dogmatic when compared to the original version

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from the 1960s in terms of coming to one's data completely free of all preconceptions or orientations. In fact, the research questions were indeed situated within specific theoretical perspectives, and as such, they provided focal points so that the conceptual models that surfaced related the data to the theoretical models of communities of practice and sensemaking, all under the aegis of the social constructionism paradigm. Using a grounded theory approach within these layered theoretical perspectives allowed me to identify micro-level conceptual models that discussed how this group was changing over time.

Owing to the temporal spacing between intervention events, I was able to do the first phase of coding of each transcript before the next group meeting happened. See figure 1 below. This phase of coding allowed me to engage with the data in a way that allowed me to get a sense of what was happening implicitly within each group meeting, to derive the overall character of each group meeting, and to identify moments in the discourse that seemed particularly well connected to the research questions. In this phase, I used the gerunds heuristic, open and in vivo codes (Charmaz, 2014; Saldaña, 2016) to represent distinct meaning-making units. The gerunds heuristic was a way of characterizing actions happening implicitly in the moment, such as "stepping through the procedure of using GORP" and "critiquing the interplay between physical environment and learning." Open codes were words and short phrases of my own that represented the essence of the data, while in vivo codes did the same thing but using the participants' own words. As this project was situated in a social constructionism perspective, I was interested in distinct meaning-making units at the group level, and so if a single participant said something that did not seem to be taken up by the group, that utterance tended to have little bearing on the code that I generated in that context. The codes that I

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generated in this phase were thus a sum of individual utterances that seemed to take hold and reach a critical mass as a conversational unit among the participants. Although everything germane to the research was coded, not all segments of the data were equally useful to both research questions. Research question one focused on development of the group as a community of practice, and as a result, those segments of data that were about group identity development and negotiating group purpose were emphasized. In contrast, research question two was about describing changes in the way that the group approaches and interprets unfamiliar situations. In this instance, segments of the data having to do with in-class observations were emphasized.
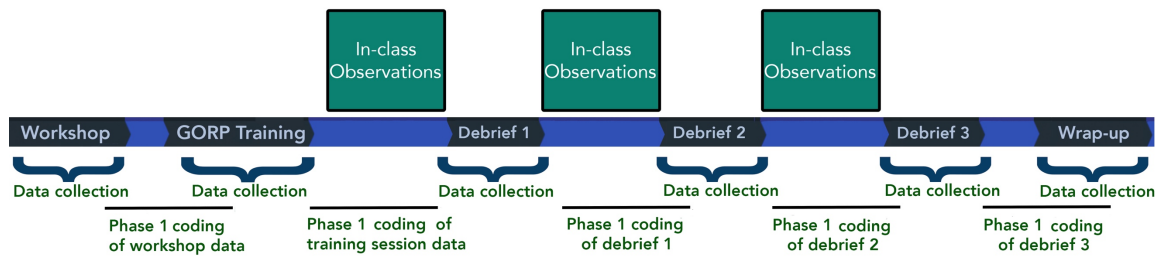
Figure 1. Data Collection and First-phase Analysis.

As a second-phase process, I generated axial codes as the strategy to condense first-phase codes that shared commonalities. Axial codes represented higher-level concepts around which all first-phase codes were centered. To do this I compared the initial codes with each other to find commonalities, and as axial codes emerged, I tested those new codes against the data to see if they faithfully represented the data from which they ostensibly came; if not, I reflected on whether the axial code that I had chosen was an ill-fit or if one or more first-phase codes should be part of another axial code or become their own axial code altogether. It was also at this stage that I began making significant use of my field notes. As these notes were taken during or shortly after group meetings, they provided a useful temporal reference point for me to observe and explore

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any shifts in the kinds of things I noticed between group meetings and the point when I was developing axial codes.

When generating axial codes, that process was done in the context of and in relation to the research question at hand: as research question one was largely about group identity and ways of belonging, axial codes that resulted from first-phase open and in vivo codes were strongly about content and what that content meant to the group; research question two had to do with a capacity to interpret unfamiliar or unusual situations, and thus axial codes under this aegis tended to emphasize the process or approach to ambiguity over content. There were also moments in which the same data segments were pertinent to both research questions, such as when the group was engaged in some interpretive exercise while at the same time making statements about their identity as a group. Typically, this involved participants taking a particular problem they noticed in a class and extrapolating it as representative of something the group had within its skillset to address. Once I had what seemed to be a stable set of axial codes for each research question, I followed a similar process of taking those axial codes and condensing them further into broad categories known as selective codes. These selective codes formed the core components of the conceptual models that emerged. The table below illustrates these different coding layers.

Table 2

Hierarchical Representation of Coding Phases

First-phase coding	Second-phase coding	Selective coding
Fixed seating		
Layout of the room got in the way		
Flat classroom	Environmental features	Capacity to critique
Students had laptops		
Dim lighting		
Students' belongings make it difficult to "circle the wagons"		

Significant technology in room		
Small classes are more personal		
Large lecture class		
Rooms can be too comfortable		
Instructor made sure everyone spoke	Inclusivity-active learning	
Most students had checked out		
Working the room		
Racial/Social justice		
Students led the discussion		
Not everyone wants to be included		
Inclusivity is about eye contact		
Learning disabilities		
Students were deep in conversation		
Working problems on board		
Calling students by name		
"Inclusivities"		
Inclusivity does not apply to science courses		
Good use of games	Pedagogical strategies	
Instructor makes use of analytics in class		
Started class with a poll		
Scaffolding		
Flipped configuration		
Pushing students out of comfort zone		
A super-dangerous exercise		
Instructor used her own mistakes as a learning opportunity		
Good teaching is about being structured		
Tossed the mic to give the floor		
Monty Hall style		
Instructor worked with small groups at a time		

Although a lot of effort went into it, coding was, in and of itself, only a part of the analytical process. To be sure, generating codes was necessary to condense the data, but

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I found it to be the use of the constant comparison strategy alongside memo writing that actually transformed the data into meaningful information. The constant comparison strategy not only helped to ensure that axial and selective codes remained faithful representations of the data, making such comparisons at the different strata of coding work helped me to begin seeing broad connections that were useful in seeing potential models. In working my way through the coding process, I wrote analytic memos in order to "step back" and question the thinking that led me to a particular code, but also as a way of capturing insights that came from engaging with the data as a kind of human analytical tool. I found my analytic memos to be particularly potent in places where I found myself very conflicted about some aspect of an emerging model, as was the case in research question two. Here, the research question was very connected to problem-solving, and as I struggled to make an initial model work with the data, I realized after some reflection and memo writing, that parts of my own background as a problem-solver were inhibiting me from letting the data tell the story. In short, the constant comparison strategy and writing of memos were important tools in the pursuit of models that addressed the research questions.

As a means of validating conceptual models and ensuring quality of the findings, I tested some of the models and findings in conversation with a few colleagues, and later on, with the participants. I chose particular colleagues at first because I thought they had enough domain knowledge of the concept I was examining to give me a "sanity check" (as it is often characterized in my field) of my findings at the time as a way to test their generalizability and plausibility. After that, I consulted with participants in what is known as member checking. This is the process of taking "emerging findings back to the participants for them to elaborate, correct, extend, or argue about" (Rossman & Rallis,

2017, p.55), so that my interpretations are substantiated against the participants' own perspectives. Also along the lines of ensuring quality, it is noteworthy that I was unusually fortunate to have a participant who, just as a matter of course, takes notes in every meeting simply as a way of focusing his attention. He was very generous to give me these notes as I was nearing the end of my analytical work, and I weighed whether they might have value in the coding process. Were this research not situated within social constructionism and I had conducted individual interviews, I would have used them extensively; however, in this context, I decided that they had the potential to over-emphasize one individual's voice, and thus I opted to use them as a way to further triangulate some of the analytic work leading up to the conceptual models.

Chapter 4

DATA ANALYSIS AND FINDINGS

Introduction

As is the case with action research, this project had a two-fold purpose. From a practical standpoint, this project was to implement an intervention that was intended to encourage the group to become more collaborative, forward-thinking and unified in terms of how it provides support to instructors under the umbrella of the College's instructional mission. In doing so, the intervention was intended to provide broad parameters within which the group could accomplish the aim of being more unified, and at the same time, provide a loose structure in which the group could self-author the forms that their support could take. As a matter of scholarship, it was to collect data from the group during the intervention, and to use those data to document how the group changed during that intervention period. The intervention activities and data collection took place over the summer of 2018. To begin the intervention, the group met for an initial three to four hour workshop. The purpose of this meeting was to discuss what they viewed as the major aspects of the curriculum redesign, and to familiarize everyone with the activities and goals for the rest of the intervention. About three weeks later, the group convened for a training session on how to use the in-class observation tool, and to determine a tentative schedule for the upcoming in-class observations. Then, over the course of several weeks, pairs of participants attended classes and recorded their observations using the in-class observation tool, called GORP; after each pair had the opportunity to observe at least one class, we reconvened as a group to discuss points of interest from the class observations, as well as anything else that the group felt was germane. After doing the in-class observations and debriefings three times, we reconvened as a group to reflect back on the

entire experience, recalling salient moments from class observations or from past group discussions.

At every group meeting, data were collected via audio recording, as well as my own field notes. In addition to these data, visual artifacts were produced in the workshop and the wrap-up meetings. All of the debriefings were very loosely structured, so as to allow the conversation to take its own course as would be expected in a community of practice. The only consistent feature across the debriefings was that each pair of observers took turns recounting their in-class observation experiences. Typically, telling these stories spontaneously produced subtopics that then became what might be characterized as the springboards for discussions on a wide range of topics that the group felt was important to discuss. In other words, apart from the routine of reporting out each time, the group itself governed the topics it would take up. The workshop and the wrap-up sessions were facilitated, and thus highly structured by comparison; although here too, conversation was allowed to take its own trajectory within points of thematic focus. The training session on the observation tool was also structured to some degree insofar as the participant who led the training had developed an overall shape for the meeting; otherwise, discussion within that broad framework took its own course.

Generally speaking, there were three kinds of conversation that took place in group meetings. The first consisted of discourse in which the whole group engaged to resolve issues of various kinds and ambiguous situations. Although there were moments of these kinds of interactions throughout the project, the occasion this was the main form of conversation happened during the training on the online observation tool. In this case, the group was trying to collectively determine the capabilities and limits of the observation tool, and they had to reconcile differing perspectives and test hypotheses.

The second kind of conversation focused on topics related to or directly about the practice of being an instructional technologist in a university setting. The length of these conversations varied throughout the project, and they were typically in conjunction with debriefings about in-class observation experiences. Again, some aspect about an in-class experience would trigger extended discussions about topics related to their practice. The third type of conversation was on general topics that, while they happened to be recorded, were not often pertinent to the research questions. Examples of this type of conversation included general jocularity and banter, plans about lunch, etc. Each of these exchanges was evaluated as possible data in response to the research questions.

Since both research questions are about discussing changes within the group, what follows is generally cast in chronological terms to the greatest extent possible. This is because it was my aim to describe the evolution of the group's changes over time, and not simply its beginning and ending states. This also provides a richer account of what happened during the intervention and hence a better thick description (Brinkmann & Kvale, 2015; Rossman & Rallis, 2017). Lastly, and because of the social constructionism perspective, this thick description is at the group level of analysis. That is, individuals may well have already held the perspectives and beliefs that ultimately emerged in the group, but what the following describes are those things that, by virtue of their continuity across speakers, seemed to have taken hold in the group.

To review, the research questions that framed this study were:

RQ 1: How does the Instructional Technology group in OASIS change over the course of this project relative to a community of practice?

RQ 2: How does the Instructional Technology group's capacity to interpret the College's instructional environments change over the course of this project?

This rest of this chapter presents the findings of the study and is arranged according to the order of the research questions. As a general statement, the findings for research question one concern the markers of the group's identity and their evolution toward resembling a community of practice; the findings for research question two involve the process that the group used in constructing knowledge as well as the qualitative changes in the group's capacity to interpret instructional environments. An abridged version of the findings is in the table below.

Table 3

Summary of Findings

Research Question	Finding
1	The group's identity changed in discernable ways that ultimately connected it more directly to the instructional environment.
	The group exhibited three states of interaction, one of which ultimately led to the development of long-range plans.
2	The group used a multi-component iterative process for interpreting unfamiliar situations.
	The group developed a language and a rudimentary structure for interpreting instructional environments that was marked by a qualitative change in how participants described and analyzed those environments.

Research Question: Communities of Practice

In discussing how this group changed relative to a community of practice, it is useful to cast those changes using the language of the communities of practice

perspective. Communities of practice spend collective energy on discussing how things can and do get done. Before this can happen, communities need to come to an understanding of what constitutes the attributes of their practice and, within that practice, how that group fits within the overall practice (Wenger, 1998). Over the course of this project, the group used recent experiences to engage in extended discussions about the nature of what they do, who their clientele were, how the group fits within the broad educational context, and what resources the group has to carry out its purpose; when analyzed, all this discourse can be seen as contributing the group's development toward a functional team that resembles a community of practice. Thus, in discussing how the group changed over the course of the project, I will be relying on the nomenclature of communities of practice from chapter two as the framework for the discussion that follows.

Group Identity. Identity in this context is about a group's members knowing what unifies them as an entity, what they are in relation to other groups and what they are capable of doing together. Regular and ongoing engagement of a group's members helps to cultivate an identity and defines the group's functional boundaries (Starr, 2010; Wenger, 1998). What constitutes a group's identity can include such things as specialized language, the work that a group does, a group's internal rapport, its internal documents, procedures, and the ways in which members think of their group in relation to others.

Finding: As the intervention proceeded, participants socially constructed a basic collective identity that, through subsequent meetings, ultimately connected the group to the broad instructional ecosystem of the College.

Previous cycles of my own research before this project indicated that the group had few, if any, artifacts that collectively represented the group as a distinct entity, other than a name and a set of people ostensibly connected to that group name. This state of affairs seemed to still be the case at the start of the intervention. In the workshop, the facilitator asked participants about the group's sense of purpose and what kinds of work falls within its remit. In trying to address this question, most were able to describe what they as individuals did, but nobody was able to point to something tangible and say, "this is an example of something that we as a group do or is something we're responsible for." Winston, who was perhaps the clearest on the topic at the time, talked about the group searching a long time for its purpose, but that it eventually developed a rudimentary sense of what was within the group's purview:

> I think that's part of what made that forming and storming part so difficult for us. There was a point where we didn't know what our purview was, or we had different backgrounds and different ways of… I don't know that we can always say we know exactly why a thing is within our purview, but I think we have a culture of understanding that a thing is now [within our purview].

Perhaps more striking was the moment when the facilitator asked participants to describe their group to an outsider and how Parker draws no clear boundaries around the instructional technology group:

> Facilitator: So I take it that your-- you describe this-- tell me, describe this group to me. How would you describe this group to someone else?
>
> Parker: The most laid-back elite IT team on the campus.
>
> Facilitator: Laid-back elite IT team on campus.

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Parker: If you don't believe me, come tomorrow, we're having a cookout and I'll be helping clients while feeding them lunch.

Facilitator: [laughs] Nice. I'm coming. I need lunch tomorrow. [laughs]

What Parker is describing is an organizational event that OASIS holds every month as an outreach function to its clients and the College community. That participants were assembled for a group-specific function that had been discussed for some weeks prior should have made it clear that the facilitator was interested in the group of people assembled in that venue. Furthermore, Parker formally reports to another functional part of the organization, but has been involved in the instructional technology group's activities for several months; his role as a legitimate peripheral participant should have made it easy for him to distinguish between the instructional technology group and the broader organization, yet he says nothing about the characteristics instructional technology group, but instead he talks about the organization and references the kind of work he does in the other functional area.

To the extent that participants drew boundaries around this group as a distinct entity at all, they initially described the group as an amalgamation of people with various skillsets, backgrounds and institutional memory, which taken together, simply represented a cross-section of the larger organization. Viewed through the prism of a community of practice, this is not especially problematic for a young group; in fact, statements along these lines help group members take stock in what each person brings to the table in terms of their capabilities. This, in turn, builds knowledge in the group about individual skills and capacities, as well as what the group as a distinct unit has in terms of resources.

In each of the subsequent group meetings, I found that the participants returned to this question of identity unprompted and as a latent feature of discussions on a wide range of other topics. There were rare occasions along the way in which participants explicitly offered their perspectives that spoke directly to a potential group identity, such as in one of the debriefings when Vincent was agreeing with Tristan by saying, "Yeah, I think there's a clear space where we can appoint ourselves the stewards of best practices." Otherwise, what surfaced with respect to their evolving identity came as a result of coding and analysis of each meeting.

The group's initial identity that surfaced from the data started out as a simple one that placed participants in relation to, but at a social distance from, the very people whom they viewed as their clientele at the time, namely faculty and graduate students who have teaching responsibilities. In other words, the group started out by defining itself not in terms of who they are or what they do, but rather by a certain kind of relationship that they have with members of another practice. What also surfaced early on was an elaborate taxonomy of their clientele that they felt came simply as a result of myriad institutional forces having to do with being a university instructor—forces that both constrain and afford opportunity differently to the different strata of instructors. A defining feature of their relationship with instructors was a view of the group's own legitimacy vis-à-vis their clientele. As the intervention unfolded, the participants used this view of their legitimacy as a feature of their ongoing discussions usually in conjunction with recounting in-class observation experiences. In some ways, the background topic of the group's legitimacy throughout the intervention was akin to a weight on a mechanical scale with very little to balance it out. By the end of the intervention, the group had developed a small set of qualities that brought some balance

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to their collective identity. While these changes did not ultimately—at least as of the end of this project—allow the group to definitively put a stake in the ground and say "here is what we do," the group's work in developing this identity over time did have the effect of allowing the group to differentiate itself from the rest of the organization, and it gave the group a way of prioritizing its members' energies. What follows is a more detailed description of how the model changed during the intervention.

The first aspect of the model was what I came to call "the legitimacy problem." This problem proved to be the core of the group's ongoing discussions around its identity and is what allowed participants to construct attributes of the group's primordial identity. The legitimacy problem involved what group members articulated as their "place" in the institutional hierarchy relative to their clientele (their positionality), the group's level of "access", and self-assessments of the group's credibility across the institution. The legitimacy problem, in a manner of speaking, reflected participants' perceived lack of agency to work with instructors to meaningfully improve instruction, not because the group lacked skill and/or creativity, but because the group had yet to earn sufficient credibility to be taken seriously by their clientele. In addition, it was a problem insofar as it seemed to represent a significant and unchangeable barrier between the group, immobilizing the group from confidently engaging with very people with whom they were supposed to support.

Early discourse quickly revealed that participants clearly saw their positionality as lower than instructors, and in fact, this remained the case throughout the intervention. While positionality can mean a variety of things, in this context it refers to participants' own perceived status level vis-à-vis their clientele as well as the institutional structures that formally define it. At one point early in the intervention, Parker summarized

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participants' discussion around the group's positional difference with instructors in very stark terms by saying on behalf of everyone there, "you're the help." What he was essentially symbolizing for the group was a status that relegates their expertise as something to be summoned when needed, but not to be actively engaged in shaping the instructional environment in any way. This positional difference was also evident when we began discussing our in-class observations. Here, the group was unsure of the extent to which our presence in classes would be welcomed, and that we might in fact be crossing a boundary that was not clearly ours to cross. As a means of ameliorating this positional difference with instructors whose classes we would visit, the group repeatedly looked to harness my own positionality, or as Jonah put it, "leverage the hierarchy to get into classes," and try to put me in the role of boundary broker. At this point in the intervention, the group's perception about their relative status to instructors seemed to be an unchangeable and universal "truth" that had the property of reinforcing the perceived barrier between the group and their clientele.

It is noteworthy that while the group perceived their status as always lower in relation to their clientele, there were also gradations of "lower-ness" depending on the type of faculty member they were referencing. The degree of "lower-ness" was an influential component of participants' descriptions of what was possible for them to accomplish, what was within their sphere of control to do, as well as what was even worth the effort to try. As a general statement about this, the lower participants saw themselves in relation to a given instructor type, the less credible they seemed to feel, and with that, the more they felt like functionaries instead of knowledgeable consultants. In effect, this was a construction of the group on how to prioritize the group's energies; this

shared understanding was the first visible accomplishment of the group, not as a set of as set of colleagues who happen to be together, but rather as a nascent community.

"Access" referred to the group's knowledge of and access to institutional information that participants saw as having a bearing on their dealings as instructional technologists. Institutional in this sense referred to all levels of the university apparatus beyond the organizational level of OASIS, from the College all the way to the university system level. Information in this context was not really about publicly available statements about institutional goals, but rather about insider information about decision-making processes and emerging institutional priorities. Participants saw this information as pertinent in that it provided them with a way to connect their work activities to the broader institutional context, and because it was at a high levels and authoritative, it was also seen as a kind of mandate that could enable them to overcome the perceived barrier between the group and its clientele. The group viewed the lack of access to such knowledge as simply a feature of being a staff member, and with that, another universal and unchangeable "truth" of their work context. At the same time, it was also seen as being a significant blind spot that could otherwise inform their thinking about mobilizing and aligning their energies to support institutional goals, and under that cover, provide a way to legitimize the group's work.

The group's credibility was about participants' statements of how other peer groups operate, using them as examples of best practices from which the group could learn. For the most part, these involved sharing success stories from other groups outside of OASIS, but whose work centered on instructional development. Additionally, in the early stages of the intervention, the group seemed to rely heavily on OASIS' overall reputation as a primary source for its credibility, and while participants did not levy direct

criticisms against their own group, they pointed to the other functional areas in OASIS as further examples and strategies of how the group could earn a reputation of its own. Of all the aspects of the legitimacy problem, this was the smallest component.

In the context of the group's discussions about positionality came the development of an elaborate taxonomy of their clientele. Participants did this through storytelling of actual experiences they had with various instructors at UNC and elsewhere, plus hypothetical ones that were based in experience. Through their storytelling, participants were effectively comparing notes as it were, and by using their previous experiential material as individuals they were able to develop the taxonomy and discover what participants had in common. There were two axial codes that made up the dimensions of this concept: approachability and hierarchical strata of instructors. Approachability was a concept that primarily focused on the perceived balance that group members needed to strike when interacting with their clientele, from being deferential and almost exiguous on the one hand, to being aggressive and bold on the other. Hierarchical strata focused on attributes such as instructor rank, so-called inculcation period, age, academic discipline and likelihood for long-term tenure. Among all of the factors that placed an instructor in a particular taxonomic category, it was inculcation period that emerged as the primary controlling element. The group's perspective on this was that the longer an instructor is employed at UNC, the more acculturated they become in internal social, institutional and departmental structures that define status for themselves and others, and that influence the extent to which they might be invested in their own teaching practice. As for the relationship between hierarchical strata and approachability, the group described an inverse one between these two axial codes in the sense that more acculturated instructors also tended to be less approachable. In the

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group's view, this is because new instructors and to some extent graduate students, come to UNC without much teaching experience, and as a result, they are in need of as many resources as possible to help them develop classes quickly. As part of their newness, instructors at this end of the hierarchical strata tend to lack institutional knowledge that could assist them in knowing which support structures, such as the instructional technology group, are credible and which are not. The group believed that this set of conditions affords them the space in which they can prove themselves and be less concerned about being highly deferential and diminutive. At the other extreme were instructors who had been with UNC the longest. According to the group, these people were most likely to have developed a repertoire of complete classes upon which they could readily call and which they were reluctant to change. More importantly, participants viewed this group of instructors as extremely prideful of their success at UNC, and because "they wear that badge prominently" as Tristan characterized it, the group would need to worry a great deal about being highly deferential and exiguous compared to these instructors' less acculturated colleagues. It is noteworthy that, while the group described the relationship between approachability and hierarchical strata as inverse, there were exceptions. These exceptions were owing to the group's belief that approachability also had a trajectory associated with it that came as group members repeatedly interacted with their clientele. That is, the group described how trust and rapport can be gained or lost with repeated engagements with clientele at both ends of the hierarchical strata.

The kind of taxonomy that the group developed may not be especially surprising to those who work in higher education. Nevertheless, its emergence in the group's discussions served a valuable purpose for the participants who previously either had

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worked largely independently or, as in the cases of Tristan and Parker, participated in the group's dealings voluntarily while formally reporting to another part of the organization. That is, it gave participants an opportunity to discover in a very organic way what they have in common as a group. And, more importantly, when considered in the context of their discussions about their positionality, these discussions provided them with a forum in which to reflect upon and assess the group's own degrees of credibility and spheres of influence with different types of instructors.

It was evident even before this project began that the participants valued instruction in the College, and that each one had his own personal devotion to improving it in whatever way he felt that he could. Moreover, the participants believed that they had good insight, and if given the chance, could make significant contributions toward improving the instructional environment in the College. At the same time and in view of what participants collectively saw as an institutional value system that prioritizes various activities over teaching, and a clientele who is aligned with that value system, their commitment was somewhat out of step with the strong set of institutional values and perhaps even devalued as well. On top of this, they held a view of their clientele as being generally disinterested in their expertise or at least skeptical of it. Their sense of responsibility and devotion to an undervalued endeavor coupled with a perceived lower status to a relatively unapproachable clientele setup a tension that the group attempted to work throughout the course of our discussions.

With the legitimacy problem as a feature of the group's ongoing discussions, one of the first attributes of their emerging identity had to do with a set of resources that participants felt they had that could be used to deal with the legitimacy problem. First among these was participants seeing themselves as neutral actors in the political

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landscape at UNC. The political landscape here refers to the formal structures and the informal networks of relationships that can affect an instructor's job trajectory at UNC. The group's perceived neutrality was an identity trait that emerged early on and persisted throughout the intervention. In most cases, participants did not actually hold neutral views about the political environment, but rather they saw themselves as acting in neutral ways in that environment, primarily because they lacked agency to change the state of affairs and/or they saw various political situations as being "radioactive" and best avoided.

Four axial dimensions comprise the neutral actors category: perceived institutional values, participants as bystanders, honest brokers and proxies. These dimensions overlapped to some extent, but each also had its own properties. Perceived institutional values represented what the group saw as the overarching forces that significantly shape the political landscape in their work environment. To the group, the institutional value system related to their identity in that it was an important contextual element of the environment in which they operated, and this value system also represented a persistent "truth" about the environment and simply "the way things are." The primary driver of the value system was a faculty promotion process that seemed to be largely mysterious and, in some cases, even arbitrary. From the participants' perspective, this seemed to account for most of the political jockeying they saw, but because it was not directly applicable to them regularly, they were content leaving it mysterious and viewing it as an environmental feature of which they should be cognizant. Connected to this and what the group saw as more problematic was the seeming contradiction between an institutional culture that, on the one hand holds up its instructional apparatus as exemplary, but on the other, tangibly devalues teaching,

especially innovative teaching. Participants recognized that the promotion process reflects and reinforces this devaluation, but what they pointed to as emblematic of this state of affairs was an upside-down situation in which those who have the least amount of faculty status and are the most vulnerable in terms of career longevity, teach the lion's share of classes and also seem to get paid the least. In this case, the group was thinking of the full range of instructors, from graduate students to distinguished professors.

Participants as bystanders represented the group's perceived proximity to the political dynamics that operate within the university, yet by virtue of participants' status as staff members, they had some insulation from it and could assume a spectator's role. Conceptually, this captured what the group perceived as its spheres of influence and what the limit of the group's place was. One participant characterized this existence as being "adjacent", which is to say touching but not actually interacting. Adjacency meant different things depending on the nature of the political matter at hand. In one sense it reflected a permeable interface that participants could cross and be engaged in the situation, should they wish to take the risk; in another sense, it referred to boundaries that they simply could not cross because of their status as staff members. One of the interesting aspects of this was how the group viewed me in my role as organizational leader as being a protective layer to them from the political fray, and further, that it was my unique responsibility to cross these boundaries on their behalf.

The third axial category, honest brokers, overlapped with the group as bystanders category in the sense that it also reflected a detachment from political matters, but it was also different in the sense that it came from actual experiences instead of a kind of abstracted existence. This axial code captured participants' views that faculty with whom they had worked saw members of the group as helpful and resourceful people, and

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moreover, doing that work without any particular agenda except to fix problems and advance the undervalued instructional enterprise. Honest brokers was also a quality that was in part derived from the organization insofar as participants felt that OASIS had earned a reputation as an apolitical organization and an effective interface with many campus entities.

Related to some degree with the dimension of honest brokers was the dimension of proxies. Proxies were various external resources that the group saw as somehow available them as indirect, legitimate (at least in what the group thought was the view of their clientele), and low-risk ways of working with their clientele. In most instances and across most instructor types in the group's taxonomy, proxies were about employing incentives of some kind, letting a technological solution "sell itself", and using an influential faculty peer to be the broker and/or spokesperson for a promising idea that the group might have. Early in the intervention, proxies seemed to be viewed by the group as a good way to deal with the legitimacy problem, perhaps having even carrying more legitimacy than the group itself; because of that quality, proxies could act on the group's behalf, allowing participants to avoid the challenge of having to promote an idea of their own to their clientele simply on its merits. Moreover, proxies had the virtue of protecting the source of their idea, and because they tended to act as a buffer between the group and their clientele, they also protected the group's neutrality. In those instances where the group could enlist the help of an influential faculty member to promote an idea of theirs, proxies became related to being honest brokers in a transitive way.

In the context of the group's emerging identity, being neutral actors was viewed as a quality that served as a valuable resource to participants in that they could harness it when managing relationships with their clientele. Through their awareness of and

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sensitivity to the political landscape that faculty have to navigate constantly, they could

relate to them; but at the same time their adjacency and lack of influence meant that they

were able to bring to the relationship "a level of objectivity" as Maurice characterized it,

that could be used to bridge the positionality differential between themselves and the

various types of instructors. Participants also saw their neutrality as being something that

was widely known at the university, and because of that, it could benefit faculty as well.

That is, by being in company with the technology community at UNC and seen as neutral

actors by that community, the group believed they had unique access to resources that

could benefit their clientele; and where new resources might be needed, the group could

"give voice" as Tristan described it, as strong and trusted advocates on behalf of their

faculty clientele. In their discussions, participants offered no specific examples of how or

when this group asset had ever come into play, which left it as an abstract, perhaps even

theoretical, resource.

As the group's identity model evolved, participants used their in-class observation

experiences and other previous interactions with instructors as conversational material to

expand upon it. In doing so, they developed knowledge in the group that contributed to a

new identity feature, called "capacity to critique". This selective code was made up of

the axial codes pedagogical strategy, environmental features and inclusivity-active

learning. Pedagogical strategy referred to participants' assessments of what they saw in

the classroom as intentional instructional techniques, gaps in or alternatives to those

techniques, their analysis of those instructional moments and comparisons to other

strategies seen in different classes. Environmental features were observations about the

physical aspects of the room, such as classroom layout, furniture, room capacity,

technology, temperature, etc., and appraisals about how these ambient features can come

together to affect the instructional environment. Inclusivity-active learning refers mostly to the group's negotiation about how inclusivity is defined, but also moments that participants thought were observable instances of it in classes that they visited. As a reminder, inclusivity was a topic that emerged in the workshop as a "lens" for participants to use in their in-class observations. In their work to develop a useful and agreeable definition of inclusivity, the ways in which it can be expressed in the classroom, and how different expressions of it can affect the instructional environment, they often discussed it as being synonymous with active learning, rather than a distinct concept. For both inclusivity and active learning, the group never settled on a singular definition of either concept, and indeed, inclusivity and active learning were oftentimes comingled to the point of being almost indistinguishable. That being the case, the ambiguity surrounding a singular definition of either concept allowed the group space to continue negotiating meaning around instructional dynamics, and in the process, develop some of the common language that the group could use in discussing any instructional environment.

As a matter of identity development, the extended discourse involving the axial categories of pedagogical strategy, environmental features and inclusivity-active learning helped build collective expertise in being able to critique instructional environments. Moreover, this expertise evolved as debriefings went on: whereas at the start of the intervention, participants' critiques tended to focus on what the instructor did do or should have done, by the end of the intervention, the group's critiques tended to be more holistic. That is, critiques spoke to such things as the interplay of the physical space and inclusivity, the "culture" of a class as related to the instructor's teaching expertise, how technology can impede or enhance instruction, how different instructional modalities and

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strategies affect the instructional environment, and how the instructional environment extends beyond the classroom. By the end of the intervention this capacity to critique instructional environments had actually come to be viewed by the group as a new resource that was their own, and which they could parlay in some fashion in their future work.

Alongside their capacity to critique was the separate axial code of bricoleurs. I left this as an axial code, rather than as a dimension of another selective code, because it seemed to stand better alone as a distinct identity trait than as a dimension of another selective code. In view of the fact that participants worked in an IT organization, it was perhaps unexpected that they rarely spoke of themselves as technologists throughout the intervention. In the group's perspective, technologists were thought of as professionals whose identity tends to be about seeing problems as opportunities to apply technology, sometimes even when a technology solution is an ill-fit. To be sure, participants often spoke about potential technology applications in conjunction with something they had observed during their in-class visits, but at no time did they see instructional environments as golden opportunities to push some set of technological solutions. Rather, the group seemed to view technology as being part or not part of the instructional environment, depending on the circumstances, and in a similar way that they viewed themselves as the handmaidens of instructors, technology was their handmaiden, or something to be called upon when needed and/or useful, but it was not particularly connected to their identity. As the group recounted and critiqued different instructional settings via their in-class observations, they began developing a collective knowledge about when technology enables and when it inhibits. Taken in conjunction with the capacity to critique, what emerged was a view of themselves as well-informed bricoleurs

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who could understand both the "problem space" and the "solution space" of most instructional environments, and given a particular problem, they could assemble a range of possible solutions, some of which might not involve technology, or even remove it entirely. The following excerpt from the end of the intervention illustrates some of the group's perspective on this:

> Parker: I guess, I've been reflecting on our conversations and everything. It sort-of goes back to what you were saying about… this bigger picture, and I feel like a lot of our conversations have not prioritized technology really at all, despite the fact that we are all technologists. But we spend more about how do we better this instructional environment which students, stakeholders, and the faculty are trying to make it good. And I think that's a pretty good distinction.
>
> Winston: It depends, within the group I was situated in, they were. But I was in an environment where teaching and learning were priority numbers one, two, and three and four kind of thing.
>
> Maurice: That's one the things I like about the way this group functions. We are not trying to push a particular product, usually is adapting the products that might be available.
>
> Tristan: With a good understanding of what they are trying to accomplish and be forward looking.
>
> Vincent: There are a lot of groups on campus that talk about teaching and learning, but one of the advantages we have is, not only is the College of Arts and Sciences properly large, but we are having similar conversations and we are all reasonably educated in the field, but we can also demystify the technology. So, the other groups are talking about technology as a monolith that is either an

obstacle or cure-all. But we have a more nuanced perspective of it in the

background. Maybe we can make it work but we don't need to spend the time

talking about technology, instead spending the time talking about other things

because the technology piece fits in easier for us.

As an important aside, what can also be seen embedded in this excerpt is the nature of

how the group itself is being described, which is very different from the way participants

did in the workshop. Parker, who at the beginning offered no distinguishing

characteristics of the group, by the end, he has a very different perspective that is

consistent with other participants.

There was a significant, and completely unexpected, transition point in the

evolution of the group's identity model that came about two-thirds of the way through the

intervention. From the beginning, the topic of students and their expectations was a

subtle, but recurring one, in the group's discussions. These moments were relatively

small in the context of larger topics and happened oftentimes in very low-level ways,

such as when a participant might describe what it was like when he was a student, or

what a student someone observed must have been thinking at some moment in a class;

however, as a standalone topic it was not until the second debriefing that it became one.

This would have gone unnoticed except that through analysis of the data across our

meetings up to this point, I found the persistence of this topic to be gradually building

some kind of value system within the group that prioritized the needs and desires of

students in the instructional environment. This led to the selective category, "the student

mandate". The axial categories that comprise this were consumerism of higher education

and the student's perspective. Consumerism of higher education involved students as

paying customers, what they should be getting as an end-product of their academic

career, the responsibility of higher education to society, critiques of the entire educational system and where UNC falls within that critique. The student's perspective involved discourse about the level of connectedness between students and instructors in different classes, how engaged students seemed to be in different class settings, what students generally deserve, different learning styles, how the use of active learning strategies has the potential to disenfranchise different types of students, and the potential value in making the learning environment less accessible.

When the topic of students ultimately became a clear focal point in the group's conversations, discussions about the nature of the instructional environment changed dramatically. More will be said about this in relation to research question two, but it is useful to describe the change here as well. In the early part of the intervention, participants tended to focus their attention on the instructor and what s/he did well or poorly, and the students tended to be viewed as observers; after this transition happened and students became a significant focal point of discussion, the group began seeing the instructional environment as a complex dynamic between instructor, students and aspects of the physical space. At the center of this was the idea of learning and teaching approaches and how those things are constantly in consonance or dissonance with each other in the instructional environment. Along with conversations about students' approaches to learning and how their individual backgrounds affect those approaches, participants started seeing the instructional environment as bigger than the physical boundaries of the classroom. With this transition, the group shifted from seeing students as mostly passive, unidentifiable and interchangeable observers who simply attended classes, to seeing them anew as deserving the best experience possible, and as having the potential to be influential players in a dynamic instructional ecosystem. One of the most

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encapsulated examples of this is in the following excerpt that came from near the end of the intervention activities. In this, the group considered how the institution has an opportunity to engage students in a symbiotic way such that it benefits both students' learning and the College's instructional mission. The interface for this mutual activity is in the selection and use of an e-portfolio system, which is a major component of the College's general education redesign initiative.

> Vincent: There are two parts of the same equation… that before we can systemically say we, as an institution, value effective education and effective teaching pedagogy we have to know the details of how we value it and how we evaluate it.
>
> Andy: We don't have common definition for effective— I guess--
>
> Vincent: Not at all.
>
> Parker: Right?
>
> Maurice: Actually opposing of it.
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> Winston: In some aspects, I think that this e-portfolio might be an answer to that. Depending on how it's structured.
>
> Andy: Interesting.
>
> Winston: For example, I think if we give the students a voice in selecting this e-portfolio system and give them a vehicle where they can say "here's what I learned in this class, here's what I think I got out of this class". That may be a mechanism or part of a mechanism to evaluate pedagogy across a wide spectrum of criteria.

Maurice: Are you saying, why don't we let the students tell us as an institution what effective looks like? Is part of what you're saying that in putting some shape to this notion of effectiveness, we essentially let the students participate in that shaping via this e-portfolio perhaps?

Winston: I think they have to have a voice in it somewhere. We don't want this to become a popularity contest [in the selection of the actual e-portfolio platform], but I think about how some other systems have done it… and I'm looking at like LinkedIn, right? LinkedIn came out with a few specified skillsets that you could say I have, and very quickly that was eclipsed with other people's similar claims. But, when their peer group said "yes, you did learn that," when people agree with you and say "Yeah I think you learned that in that class too," there's that sense of buying in. Their voice is big into that.

Parker: It validates.

Winston: I think this e-portfolio is an opportunity because the… the e-portfolio for me is there's one or two metrics that it's going to generate. I mean it's going to be a huge boon to how we understand what's going on with students. Before they come here, while they're here and after they leave. I can't see how that's not going to happen because the data is just so enticing.

Vincent: Yeah, it is.

Chris: And, if we structured it where the students have a part to play in that. That may be a contributing factor to its value from a pedagogical evaluation point of view.

Parker: That's a really great point.

As a matter of identity formation, this transition point accompanied a change in the group's sense of purpose. Over the course of our debriefings, participants had shared many stories of classes they had visited and had made a number of personal assessments about the quality of the learning environment. Through their storytelling in the debriefings, participants were starting to see the instructional environment, and its effects on learning, from the students' perspective. As they did this, it opened the door for them to relive their own prior experiences as students, and with that, to see parts of themselves in what they were observing in the moment and later on, when recounting those observations. Seeing parts of themselves in the students' experiences, alongside their views about what students deserve as "paying customers" seemed to engender in the group a sense of advocacy for students. This advocacy coincided with a shift the group's sense of purpose in that their work was starting to be seen not as a matter of managing complex relationships, navigating a difficult institutional environment and fixing mundane technical problems, but rather as contributing to the improvement of students' learning experiences. This is perhaps a subtle shift in perspective, but by taking the students' experience as the focal point, it labeled for the group who the real stakeholders were and it changed the "why" of the group's purpose from being instructor-centric to student-centric. As a result, this provided the group with a new way to relate to instructors: that the group is not in place to solve the instructor's technical issues, but to help him/her create the best possible learning environment for the students. Being advocates for students' learning gave the group a new mandate that seemed to shore-up their confidence to work with instructors. In short, the group transitioned from being mostly about relationship management in a relationship arrangement that kept the group

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at arms' length, i.e., "being the help" to being advocates for good pedagogy and part of the instructional ecosystem.

It is useful at this point to recall that there was a tension setup because of an incompatibility between participants' commitment to supporting instruction, an environment that prioritizes other activities over instruction, and instructors who generally align themselves with that priority system. In fact, it was not evident that there was a tension at all until this point when the group constructed the student mandate as part of its identity. Indeed, when this became visible as a distinct aspect of the group's identity, the group had widened its perspective and it made the positionality problem and the headwinds that they felt accompanied the institutional value system less important. While the tension no doubt was still present, it became a background feature of the group's discourse, and allowed the group to talk about different ways to work together in service of bettering the learning environment for students.

Casting the group's identity development in terms of a conceptual model, it is useful to think of it metaphorically as that of a mechanical balance. When the group started out, their identity was chiefly defined by the management of complex relationships that were largely embodied in the legitimacy problem. This legitimacy problem tiled the balance to one side, but as the group engaged with one another during the intervention activities, participants gradually discovered one another's perspectives and abilities. As they uncovered what each member brought to the table in terms of skills, perspectives, backgrounds, etc., the group gradually developed a set of resources that, taken as representative of the group, helped offset the legitimacy problem and gradually bring things into balance as far as their identity was concerned. Running alongside this change was the gradually growing significance of students in the group's

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discourse. When this ultimately became a focal point for the group, it had the property of making the group's identity less about managing a relationship balance and more about having a purpose that strongly resonated within the group. With things more in balance by the end of the intervention, participants were able to extrapolate their identity in tangible ways that enhance the learning environment of the College.

In discussing group identity, it is just as important to talk about what the group took on as it is to talk about what it left behind. As the group negotiated its boundaries and identity, some of the discussions centered on the observational tool, called GORP, that was used for in-class observations. That I deliberately introduced this tool into the group as part of the intervention made it artificial as an object that represents the group and its identity in some way; however, by virtue of the process of the group went through in critiquing the GORP tool, they also evaluated it as something that either did or did not belong as a representational artifact of the group. When we conducted the training on how to use GORP, the group's discussion entailed mostly how GORP operates, and to a lesser extent, its value as tool for the group. However, by the first debriefing, the conversational balance between these two areas shifted quickly toward assessing its value to the group. After this meeting, it was not until the wrap-up session that GORP was ever mentioned again, and in that context, it was only as something that could be potentially useful to someone else. In other words, even though the GORP tool had been set aside, it showed that the group was beginning to develop enough of a sense of identity to see that particular tool as something neither representative of the group nor especially meaningful to its discourse, even though it was supposed to be a centerpiece of our class observation activities.

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Although this study is situated within the social constructionism perspective, there is some data from my fieldnotes that is at the individual level of analysis, but which also speaks to the group's identity development. There was one participant who, at the start of the project, seemed to see himself as a full member of the group, despite actually reporting elsewhere in the organization. In the early part of the intervention activities, his use of language was consistent with the rest of the group, in that he used turns of phrase and labels that had been part of the group's ongoing discourse. Toward the end of the intervention, he seemed to have more trouble engaging in our discussions, and he began using language that was more typical of the group to which he formally reports. Moreover, he was an early advocate of other groups in OASIS doing in-class observations as a way to connect with our clientele so as to increase relevance. By the end of the project, he had virtually abandoned this position by saying that the value of class visits would be of little value to other groups in the organization. Put simply, the group had developed an identity that was gradually becoming dissonant with his own sense of professional identity, and that an outward sign of the group's identity was doing in-class visits and critiques as a service to instructors.

States of interaction and the production of long-range plans. The formation and reinforcement of a group identity is a valuable accomplishment because it helps a group locate itself in a so-called constellation of practices, and it also bounds the group's efforts in a way that non-members can identify the group as distinct and know what the group is about. Internally, a group identity helps its members know what their roles are, what is within the group's reach to accomplish, and establishes the basis for accountability of its members (Wenger, 1998). Related to this internal dimension, one of the hopeful outcomes for this research endeavor beyond identity formation was that the

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group might take their identity, project it into the future in the context of improving the College's instructional environment and, in doing so, devise tangible ways that they could contribute toward improving that environment. According to the communities of practice perspective, what drives this activity is the group's modes of belonging, and thus I turned my analytical attention toward asking what do the data say about modes of belonging. As these modes were often implicit and embedded within broader conversations, I relied heavily on codes that came from using the gerunds heuristic in my effort to surface these moments. As a reminder, the gerunds heuristic is when the analyst codes a segment of the data to capture an implied action that is taking place at any given moment; in doing this, the analyst takes somewhat of an outsider's perspective and poses the question to each segment of data, "What is going on here?"

Modes of belonging are distinct types of participation in which group members regularly connect with one another, construct meaning and a shared history (engagement), envision themselves in different ways (imagination), and plan to concentrate their collective energy under the aegis of their practice (alignment). In a mature community of practice, these modes of belonging are happening in a rhythm that the community determines, and they propel a community toward mutual engagement, its joint enterprise and its shared repertoire (Wenger, 1998). In this case, the group was early on in an intended trajectory toward resembling a community of practice, and thus none of these modes were expressed fully; nevertheless, as an important dimension of a community of practice, this section focuses on the extent to which the group used these different modes and the states of interaction that resulted from those activities.

Finding: As the intervention activities unfolded, the group exhibited three states of interaction: internal currency production, boundary definition and boundary expansion.

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Internal currency production was present throughout the intervention, boundary definition happened early in the intervention and episodically thereafter, and finally, boundary expansion surfaced toward the end of the intervention.

Engagement was about participants regularly interacting with one another to construct knowledge about each other, how each participant contributes to the group's identity, and cultivating a climate of mutuality. Thus, engagement in these data involved statements having to do with relationship development, and inventorying group skills and domain expertise. Relationship development was about discovering how participants connected with each other in the context of their work and interests. In some ways, this was an inevitable expression of membership in that the intervention repeatedly brought participants together to have discussions about their shared experiences; on the other hand, were the participants uninterested in this project and content to resuming their individual work lives, they would likely be less inclined to have devoted much energy toward forging interconnectedness. What also seemed to help relationship development was an ethos of openness and safety:

Winston: I don't know how other people feel, but I think one of the things I appreciate most about this group and its membership is that, especially coming from the leadership and the group is that I always feel safe to say anything… I mean you know me anything that you say, there's going to be a part of my brain that says, well, what if that's not true? And I have safe opportunity to push back against that. And then-- and yeah, yeah. And then let's have a little bit more discussion about it and then say, "Okay, I do feel really secure about this stance, your position or direction."

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Jonah: In terms of this particular group, what's nice is-- and I'm also relatively new to it, but it's pretty non-hierarchical. I mean I know Andy's in charge but I don't, in this space, feel like his voice has more of a weight in the discussion than others. It's pretty fly.

Andy: Does that open up space then to say…?

Jonah: Yeah. I mean I'll say whatever without fear of repercussion because it's not hierarchical. It's-- nice to not have that level of hierarchy unless it's needed for external reasons like we need to get into a class, so let's leverage the hierarchy but within it's like…not present. And, the formality, and this goes beyond just this space, the formality isn't there in the same way it is in other places I've been which is one of the things I like about this group.

Tristan: Yeah.

Winston: Like, how many groups… I mean how many groups regularly have two levels of management at all of their weekly meetings? And I think there are some groups that would dread that--

Parker: Right.

Winston: And it is the thing I most like about this group that… Yeah. And there is something going into it. I feel like we're going to be more productive going out of it because there's like a direct chain and we get direct feedback. Like immediate feedback and like there's… it shows a level of buy in. That's all of these things that help paint this picture of… this is a really safe space.

It also bears saying that relationship development was also seldom a standalone part of any discussion, but typically a subtle and entwined activity with other expressions of membership. This became more so as the intervention progressed. Toward start of the

project, relationship building was very visible and explicit in the data, such as in times when participants would make themselves vulnerable to the rest of the group by disclosing something sensitive, would invite affirmation from the other by talking about a particular passion of theirs, or in those times when it was evident that they were protecting themselves by withholding a perspective on some topic that could make them vulnerable. Toward the end of the project, relationship development moments became subtler, as in those times when participants helped each other in conversation, or when a participant might have seemed disengaged in the discussion, and another participant would help that person rejoin by relating some aspect of the conversation to something they knew the other participant was interested in.   At times, it was difficult to tell from the data whether some of these occasions, particularly those where someone was withholding an opinion, happened artificially because our meetings were being recorded. As a result, this is where my role as participant-observer was key, and also where fieldnotes were an important source of data alongside gerunds codes in surfacing these moments that might otherwise not be readily apparent.

As another aspect of engagement, inventorying was represented by a collection of moments when participants revealed a skill of some kind (which included so-called soft skills) and/or domain knowledge to the rest of the group, and that knowledge reemerged in some form at a later point in the group's discussions. In nearly every instance, these were gratuitous offerings on the part of a member in the context of a larger discussion topic. In the following excerpt, Chris is recounting an in-class observation and opens up the conversational space for others to expose special knowledge they have, some of which returned in later discussions:

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Chris: The other thing that I found interesting was, we had two illustrations on the board trying to show them what this was, like how Stokes' theorem applies to the surface area, and essentially, what it ended up being was like we have got x and y axes and then somewhere either positive or negative on that axes, you have a surface area, and then maybe folded, but she had no real good examples of that and I thought that is where technology could have come into play in the class.

Andy: It is hard to draw, right?

Chris: Yeah. I mean,...

Parker: Are we really good artist or?

Chris: Yeah, I mean I had the benefit of a computer so I'm like what is she drawing? I mean it just look like squiggly lines. So I looked it up, and I was like, "Oh, that's what she's drawing."

Jonah: And actually the Mac has what is it called, Grapher or something like that, so you could put in an equation in two variables and it will render it 3D.

Chris: Oh? I didn't know that.

Parker: I mean that comes into wrapping 3D shapes is something that texture artist skill, and texture artists do it in a totally different point of view. No math. And yet, what they are doing is basically the exact same thing. That is two different levels or degree. They are different obviously. I mean, artists don't have to calculate down to x, y, z but the same concept applies. So I think there is definitely an opportunity to try and embrace some of the physicalization of those complex mathematical views to engage people who think differently.

Vincent: It is interesting. I wonder if you could 3D print some of these things, you know?

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Parker: It prints out as a paper pattern and you fold it like origami and then it

bends into these complex new shapes.

Tristan: AR/VR can do it too. That probably doesn't scale as well as being able to

print out yet.

These were usually fleeting moments, but when they took hold in the group as things that

were referenced later, they gradually became part of an accumulated body of knowledge

about different participants' strengths and how they contribute to the group's overall

inventory of resources.

Imagination was made up of a large collection of statements that spoke to the

group's detaching in the moment from the "here and now" in order to look either

backward or forward and explore their past or envision different futures. Probably owing

in part to the design of the intervention and how it featured the regular exchange of in-

class observation experiences and the perspectives connected to them, the group spent

considerable time using the mode of imagination. Recounting and referencing shared

past experiences had the property of tracing the group's path to the present, which also

provided conversational material for the group to entertain different scenarios that they

might encounter sometime in the future. As an aspect of this axial code, there were also

statements about taking on perspectives of others in a kind of role playing who were not a

part of the group, e.g., faculty, students, and other groups, as a way of interpreting

different experiences.   Imagination also manifest itself in seeing possible futures for the

group in the context of the evolving general education curriculum redesign. This also

had the effect of detaching the group from the "here and now", in this case, to project its

identity forward in time. Finally, expressions of personal value systems might well have

fallen within the axial category of engagement insofar as they were connected to

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relationship development; however, for this group, they seemed more apropos in the axial category of imagination because they had a timeless quality and were often used in recounting experiences and/or generating hypotheticals.

The third mode of belonging is alignment which, in the group's discourse, was the least represented of the three modes, but its presence also signaled significant moments in the intervention activities. This axial category consisted of statements that seemed to project the group's identity into the future, and with that projection also came statements about practical applications of it in the context of the College's instructional mission. In other words, as an expression of membership, this was about the group planning to accomplish something that was seen as a part of its identity. For something to be within this code, it was not a requirement that the group's plans to do or accomplish something actually came to fruition or that they were even very actionable, but rather that they just be articulated as within the realm of the possible as determined by the group. Being within the realm of the possible, on the other hand, was a requirement of this dimension because it reflected and was a reification of the group's capacities, identity and boundaries.

In the group, alignment came in two forms: near-term tasks (A_t) and extended projects or initiatives (A_p). Examples of A_t are discussions about coordinated activities such as plans for doing in-class observations and learning how to use the GORP tool. These kinds of coordinated activities were reasonably well-defined, repeatable and easily accomplished between group meetings. It is worth noting here that there were moments of A_t happening within topics at every group meeting, particularly in those times when participants were engaged in problem-solving and were thus about aligning their energies toward resolution of the immediate problem or ambiguity. While those episodes are

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indeed germane, they will be discussed only briefly in this section on communities of practice development as a special case of alignment, and taken up more fully in the context of the second research question. For this discussion, A_t refers to negotiating procedures having to do with coordinated tasks that were to take place outside of the group meeting venue. A_p refers to plans for coordinated activities that extend temporally past the intervention. A_p was thus about negotiations for future activities that connect the group's energies to "big picture" aims, such as College-wide or institutional goals, and, in terms of planning and implementation, have a long horizon. In the context of the group's discussions, these might be thought of as rough sketches of how the group could apply itself in significant and highly visible ways.

During the intervention activities, these different axial categories did not appear isolation, but rather in conjunction with one another, particularly in the case of engagement and imagination. Of the ways in which the group exhibited these modes in conjunction with one another, engagement and imagination were found to be tightly coupled in that one was rarely found far from the other. This would typically happen when someone was recounting a class visitation experience, and the conversation that followed involved the "sloshing back and forth" of engagement and imagination. The following excerpt, which starts at the end of Tristan's retelling of an in-class observation he did, is perhaps the densest example of these types of episodes:

Tristan: I've seen him do Orgo 1 in a flipped configuration…

Jonah: I need a little bit of context. What does flipped mean?

Andy: And I'll - I don't have a textbook definition, but essentially the idea is that you as the student sort-of study all of the material ahead of time in class, and then

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the class is devoted towards working problems that are in support of that content that you...

Jonah: So do they record lectures and watch them ahead of time?

Andy: Sometimes they may, you know, assign readings or I don't know, there's probably any number of things that they could do, but it's - you basically come front loaded with the information and then you apply it in class.

Vincent: Yeah, but the difficulty of the flip is the attentiveness of the listener isn't guaranteed. So whereas the traditional lecture, people are in the room, you have all the dynamics of being in the room, there's a certain amount of assurance…

Winston: And then so I just kind of silently wondered what… what this illustrates is the notion of students being comfortable with different learning styles based on their experiences. And one of the things I would like to see happen in classes is a more clear understanding of what learning style—I hate to use the term learning style too—but what sort of learning modalities, methods am I employing and putting more of a focus on teaching students to learn first, more so than, you know, and let them learn the material lecture rather than give them all the material.

Parker: It's an interesting notion… so now I'm pushing it back on you [the student] to learn the way I teach.

Winston: I think one of the things that often is how it is applicable to the student is learning science research. Motivating students to engage in the material, and to do that you even have to know where the students are coming from.

Andy: Right, and maybe that's one of the reasons why this particular student didn't feel comfortable with, you know, maybe different teaching methodologies

is because, I mean, it was pretty cookie cutter one way, and she was inculcated in that way for 12 years and then she comes to a university like this where she now she's exposed to all these different kinds of ways.

Maurice: And it becomes inclusivity issue.

Vincent: Exactly. Yup-- yup.

Parker: I keep hearing you guys talk about students' interest or motivation, but from my experience, and it took me years to learn to read, and I was always behind the curve, and it took 30 years to get diagnosed with what they called a reading disability. No acronym, no Latin, just that. It was never a matter of a lack of desire to learn, the motivation's there. I'm a prisoner until you pass me, now get out. Or here, I'm paying you good money for a service I expect an end product. Some of that teaching style or modalities is what would make sense? How do I get you to speak the language I need to hear and where to get the material?

Vincent: So that's a good point, it's definitely an inclusivity aspect.

What can be seen in this example is the interplay between imagination—in the form of generating material from outside the group's time and space—and engagement, where the material was then used to make meaning, produce group language, expose participants' individual knowledge and cultivate interpersonal relationships. The segments that reference things such as "flipped configuration" and "learning modalities" are terms and concepts familiar to those in instructional design communities, and here these ideas are imported into the group's discourse, made active in the group's meaning-making, and return repeatedly later in the intervention. In this way, what was produced was some internal social currency that could potentially be exchanged in later

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discussions. Since this coupling was so frequent and had this distinct qualitative outcome, I used the selective code, internal currency production, to represent the result of the engagement and imagination coupling.

In contrast to engagement and imagination, alignment appeared as a transient mode of belonging in the group's activities, but like the other ones, it was never as a standalone mode of belonging. Whereas engagement and alignment were closely coupled and present throughout, there were meetings in which alignment in either form was a minor player in discussions or, as in the second debriefing, altogether absent. When alignment was present in group meetings, it was always connected to engagement and imagination in one of two ways. The first way involved A_t as the product of simultaneous engagement and imagination, which was largely about taking future activities that were discussed in the abstract, and developing procedures for doing them. I labeled this connection under the selective code of boundary definition, because it characterized a tangible production of the group's identity which had the property of "putting a stake in the ground" for the group about something it will do under the aegis of its joint enterprise; having this quality also made it a boundary object in that it represented some element of the group's identity. Boundary definition tended to happen toward the beginning of the intervention when the group already had a coordinated activity, such as doing in-class observations. In this particular instance, once the group had constructed a working understanding of the nature of the activity, A_t took the abstract activity and made it concrete by creating procedures around it. Similarly, when the group was developing the instructor taxonomy discussed earlier, A_t emerged as the product of the engagement-imagination pair a way to formulate procedures and boundary practices

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for managing complex relationships. At no time in the intervention did A_p emerge as the simultaneous product of engagement and imagination.

The second way that alignment interacted with the other modes was with imagination as mediator. I labeled this particular interaction of axial codes, boundary expansion, as it seemed to capture as yet unexplored, but still viable territory for the group. As mentioned earlier, where A_t was concerned, this happened in situations where there was some level of ambiguity from the start about the activity and/or possible outcomes. In the workshop as well as in training session on the GORP tool, there was ambiguity both about the operation of the tool itself, how it would fit into in-class observations and what value it might have in recounting class visits later on. In this case, imagination as a mediating mode of belonging allowed participants to, based on their past experiences and likely hypotheticals, express what was possible, and thereby constrain the ambiguity in order to make plans (A_t) for how everything could fit together. As the ambiguity lessened and plans became increasingly reified, the engagement mode of belonging tended to interact directly with A_t. Again, this was a special case, and viewing it through the perspective of communities of practice offers limited insight, and so this will be taken up in greater detail in research question two.

When A_p first emerged, it was the result of the engagement mode being mediated through the imagination mode, or boundary expansion. This started happening in the third debriefing; that it took nearly the whole intervention for long-term alignment activities to happen is probably not surprising, as by this point, the group had several opportunities for sharing experiences, constructing group-specific knowledge, developing new interpersonal relationships, and had started defining the group's joint enterprise in terms of prioritizing students' learning experiences. However, that it happened without

any prompting on my part showed promise that the group was starting to self-organize, which was a hopeful outcome of the intervention. It was here in the intervention that participants, started taking stock in what they had accomplished in terms of their identity, and started considering two possible ways that they, as a group, could put their collective energy to use in making what they thought could be significant and visible differences in the learning experience of students. At the time of the writing of these findings, the group has been working on the one which is a major component of the College's general education redesign.

Summary

This research question was about community development, and from the communities of practice perspective, the group showed a trajectory toward resembling such a community. At the start of this project, the group had yet to define itself in terms of what they were capable of accomplishing together, and for all intents and purposes, the group was merely an assemblage of people, each of whom was acting independently to support instruction in the College. Then the participants, some of whom voluntarily take part in the group's dealings, came together and through their mutual engagement over the course of several weeks, shared stories and perspectives about their common experiences observing classes, and developed the beginnings of a common language specific to their practice. They used this material along with their own personal backgrounds to negotiate meaning and constructed the beginnings of a distinct identity for the group. In the process of doing so, participants started to construct knowledge about their clientele, one another's strengths and abilities, the instructional environment, how to relate to one another, and developed knowledge in the group about the kinds of work that they could do in service of students' learning. Additionally, their view of who their stakeholders

were widened, and with that change came a revised joint enterprise of supporting student learning; this had the effect of situating the group as a contributing entity to a broad instructional ecosystem, rather than a technical resource that was summoned when needed. The other major characteristic of a community of practice is that it has modes of belonging, which describe how the community operates in meaning-making, envisioning the group in different ways and planning for future action. Throughout the project, the group exhibited different modes of belonging combinations that came to be labeled internal currency production, boundary definition and boundary expansion, reflective of the different kinds of outcomes of each. Internal currency production had the outcome of providing the group with social knowledge that established continuity of their interactions across each of their meetings; boundary definition produced tangible expressions of their identity and represented things the group does; and boundary expansion represented preliminary plans for what the group saw as viable and impactful ways the group could express its identity.

Research Question: Interpreting Instructional Environments

Finding: The group used an iterative approach to making unfamiliar situations manageable and more familiar.

The centerpiece activity of the intervention involved participants going out in pairs to observe classes, using the GORP tool to record various aspects of those classes, and reporting back to the group on what they observed. For almost all participants, this was a completely new experience, and it is this feature that connected the intervention to the sensemaking theoretical perspective discussed in chapter two. To review, sensemaking is about how people in groups deal with ambiguity and novelty in situations by negotiating rational, plausible accounts of what is going on with an expectation of

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some kind of future action. Although participants were in fact recounting past experiences, they were nevertheless, via their storytelling, bringing those novel past experiences into the present. Through their storytelling, observers offered their experiences and perspectives to the group so that, as a whole, the group could make them meaningful and entertain ways of possible future action. As the theoretical perspective holds, groups that practice sensemaking activities construct knowledge within the group that should lead to capacities for dealing with ambiguity and change in the future.

It is useful to begin by discussing the process that the group used in developing meaning around novel experiences. Early in the intervention, the group devoted time in a training session to learn how to operate the GORP tool and reach an understanding about how it would be used for their subsequent in-class observation activities. The tool was new to all but one participant, Tristan, who organized and led the workshop. It turned out, although he was ostensibly familiar with it, that he in fact lacked detailed technical knowledge of the tool's functionality, and at times he was learning many of the tool's aspects right along with everyone else. This made for an ideal sensemaking occasion in that no one was really in a position to be the sense-giver in this unclear situation; instead the group had to collectively construct and negotiate meaning around an unfamiliar tool that also was tied to an as yet to be defined future activity, namely doing in-class observations. What was also special about this training session is that it involved people who work with technology regularly, and as making sense of a technical tool was already part of participants' "bread and butter" as professionals, this training session proved to be a good benchmark of how the group might naturally deal with ambiguity using a very familiar repertoire of language, strategies and structures.

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What emerged from the analysis was a model about how the group approached an unfamiliar situation and worked together to reduce the ambiguity around it. For the purpose of this model, I used the term ambiguity to mean a state in which the group had a set of possible interpretations of something that was not coherent in the group. In other words, when facing an unfamiliar situation, a group of people might bring to the table any number of disparate interpretations of the situation, but until those interpretations are exposed in discussion and negotiated—not necessarily reconciled—in some fashion, ambiguity will tend to be higher than when there is a coherence of interpretations. For the group that is the focal point of this research, before the training they had only heard about the GORP tool and that it was somehow connected to doing in-class observations. As they had not yet actually seen the tool or done any observations, the interpretive possibilities were considerable. Thus, the work that the group did in the training session was to constrain the set of interpretations to the most viable ones so that they could arrive at a coherent interpretation of what they were going to do. In some ways, this activity was akin to problem-solving, and indeed problem-solving had a role to play, but I selected the label ambiguity management because it captured the way in which the group used problem-solving, as well as other activities, as a means of arriving at a set of reasonable interpretations.

The model that emerged was an iterative process that might be thought of as a manufacturing process that takes raw materials and via different modes of operation, combines them to produce a new set of things that are useful and meaningful to the group. As the group iterated on this process, it led to what might be thought of as movement through what I came to call ambiguity space. This space can be viewed as simply a continuum of ambiguity that ranges from high to low levels, and it was via the

iterative process that the group made its way through this continuum. Motion through this continuum was not always linear and toward a lower state of ambiguity: sometimes the group took a direction that would make matters worse in terms of the level of ambiguity, and they would then have to try another path. Selective codes in this model were: meta-cognitive negotiations, repairs and reinforcements, and workable material. There was one standalone axial code in this model called crucible. See figure 2, below.
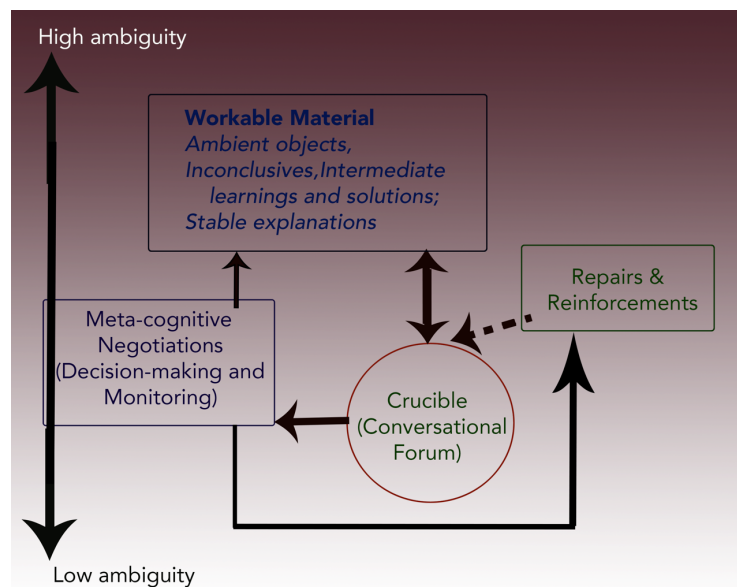
Figure 2. Conceptual model of meaning-making in novel situations.

The major driver in this process was meta-cognitive negotiations. This code centered on how the group negotiated its trajectory through the ambiguity space, and it involved the two axial dimensions of monitoring and regulating, and decision-making. In my initial analyses, monitoring and regulating were separate axial codes, and future work in this area might show them to be distinct, but because they were so closely related to each other in these data, I ultimately combined them into a single axial dimension. The monitoring half involved statements that signaled the group's level of togetherness as they engaged with one another on the issue at hand, which could be seen in moments of

relative agreement, disagreement, understanding and misunderstanding within the group. As a very basic example, Tristan in his role as facilitator in the training session would often prompt these indicators by making summary statements at certain points in the demonstration or by saying, "Does that make sense?" Of course, individuals also signaled on their own whether they were tracking what the group was saying, which was often the case in the debriefings where facilitation was mostly left up to the group. These moments of negotiation had a regulatory effect on the group's momentum through the ambiguity space in that they would slow-down or speed-up the group's forward motion, and in some cases where a participant might successfully argue for another perspective or offer a new insight, accelerate the group's progress through the ambiguity space. As an interesting artifact from these data, there were moments when participants occasionally inserted jokes into the topic at hand, which did not seem to alter the conversational direction, but instead tended to slow down the group's conversational momentum.

Decision-making was the dimension of meta-cognitive negotiations that involved determining how well the group's energy was being used at a given time, how it might be used in the near future and whether it was time to start or stop meaning-making entirely. These moments were largely implied and exposed via process coding, but there were also moments of explicit decision-making that affected the group's conversational trajectory. Negotiations of this sort centered on assessing whether too much or too little time was being devoted to a working hypothesis or a potential solution, and whether a working hypothesis or potential solution had tested enough to be set aside as "done". Also involved in this dimension were decisions about which paths seemed promising for the group to follow next in their effort to reduce ambiguity and which paths were dead-ends.

In some cases, participants called-out something that they felt could be promising, and in some cases, participants would simply ask for direction from the group. Finally, it was in this dimension that the group determined what and how well potential explanations and/or solutions fit the knowledge that participants had constructed about the ambiguity at hand, and if not, whether some corrections were necessary or if they should be set aside as not useful. In decision-making, this is where the group decided whether a participant's hunch about some aspect of the situation, their argument for a potential change in direction or a new perspective fit somehow and/or was worth the group's energy to explore.

Workable material captured those objects that were either present or made present in the context. This code was made up of four axial dimensions: 1) ambient objects, 2) inconclusives, 3) intermediate learnings and solutions, and 4) stable explanations. Ambient objects concerned affordances present—or made present—in the context about which the group talked. These were artifacts that existed separately from the group, which had yet to become part of the group's regular discourse, and were brought into the conversational forum (which I labelled the crucible). Such artifacts included participants' references to visible objects like the GORP tool on each participant's laptop, the video of a class in session, and intangible things like participants' in-class observations, recollections of personal experiences and the like. As for the next two dimensions, these were reifications of the group's work in the crucible. Intermediate learnings, conclusions and solutions reflected points of discussion, hypotheses, ideas, suggestions, conclusions, assertions or explanations that had reached some kind of closure, and they were reactivated at some later point in time to be used in conjunction with some other kind of workable material. These artifacts were products of the group's interactions and had

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become, at least to some degree, part of the group's regular discourse. On their own, these artifacts did not tend to reduce ambiguity to any significant degree, but can be best characterized as small discoveries or insights, for example, how the GORP tool worked poorly on certain browsers, how different types of classroom behavior could be represented in the tool by clicking on a particular combination of tiles, etc. Stable explanations were learnings that had the property of reducing ambiguity, and like the previous artifact, were part of the group's regular discourse. These were broad statements that drew from various kinds of workable material and tended to be viewed as stable and explanatory enough to reduce ambiguity. Stable explanations also were statements of patterns that reduced ambiguity by explaining or solving some significant piece of the overall puzzle. Inconclusives were also conversational artifacts of the group, but in this case, they were "open issues" within the ambiguity space that were set aside for a time and eventually brought back into the crucible for further work. Inconclusives could be ultimately discarded, forgotten, kept open as unresolved, or resolved as either a stable explanation or an intermediate learning, solution and conclusion. Of note, some inconclusives that the group produced never actually reached a resolution but were still kept active.

Crucible was the axial label I used to represent the conceptual social forum in which participants engaged with one another to develop useful constructs that helped them make their way through the ambiguity space. It had no dimensional quality of another selective code, and thus I kept it as its own axial code. As a code, it was unusual in the sense that it represented an implied working state of the group. In other groups, this state might not have been made explicit as a component of the model, but this state stood out to me because it was unusual when compared with the group's typical

interactions. I might not have thought of this term, except that one of the participants used it early on in the intervention in reference to something, and because it had such a compelling descriptive quality in this context, I kept it as a label. In an actual crucible, materials are placed together and combined in a way that produces something with new properties, and this metaphor seemed to capture the nature of this conversational and cognitive space, its experimental quality and the group's focused attention on something related to the ambiguity at hand. In the training session, this is where participants discovered what they knew and did not know about the GORP tool, experimented with it and explored ways of using the tool in an actual classroom setting. In terms of the other components of the model, this is where the group devoted its energy to combine different types of workable materials and used meta-cognitive negotiations to determine if the results reduced ambiguity.

Within the crucible, not all combinations of workable material led to useful outcomes in the sense that they helped the group reduce ambiguity. As a way to make a combination of artifacts "fit", repairs and reinforcements emerged as a distinct type of work accomplished. The label itself refers to the two dimensions of this code. Repairs was the axial dimension that reflected statements which attempted to reconcile perceived incompatibilities between workable materials and/or their product with the group's evolving understanding of the problem space. For example, the group initially found a definition for the tile "Facilitating Discussion" on the GORP interface, but when the group later practiced using the GORP tool while watching a video of a class in session, participants began wrestling with the definition as they encountered multiple possible expressions of "facilitating discussion" in an actual classroom setting that also could overlap in meaning with other tiles. In this case, participants repaired the intermediate

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learnings and solutions object (the definition of "facilitating discussion") by accepting

certain specific expressions of what it could look like, and using that set of accepted

expressions to differentiate that tile on GORP interface from others. It was not always

the case that repairs had to be made to workable material; in some cases, the group's own

understanding of the ambiguity at hand had to be corrected in order to make the fit better

between the workable material.

Although inconclusives were open issues, their openness could have been simply

the result of lacking support in the group at the time, and thus in some cases

inconclusives did not always need repair, but rather collective agreement that the open

issue was actually good enough to be "promoted" to an intermediate learnings and

solutions artifact or a stable explanation. Reinforcements did this function and were

about statements that seemed to shore-up the usefulness or significance of some workable

material from earlier in the group's discussion. In this case, the group did not attempt to

make any repairs to the artifact, but rather reactivated it as something still useful and

immediately applicable. An example of a reinforcement is when Vincent and Parker

early in the training session noticed the behavior of the timeline in the GORP tool, and

made the claim to the group that clicking the "save observation" button had no effect on

the timeline. This was an inconclusive that was set aside for some time while the group

watched a video of a class in session and operated the GORP tool. When the group was

discussing how they operated the tool during the video, Maurice and Chris also noticed

the same thing that Vincent and Parker had earlier, reactivated this inconclusive, and

reinforced it. When they did this, it became a mini-learning and thus a part of the group's

set of intermediate learnings and solutions:

Winston: Are we supposed to be waiting for it [the GORP timer] to reset?

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Maurice: If you look at the timeline it's noticing within the intervals. It absolutely

is. So it's continuously tracked.

Andy: Did it show if you hit it twice, if you hit it all on the time interval?

Chris: Yes, it shows within the time interval changed that gets certainly gets

reselected you can see that gap.

Vincent: And so I think that's the reason…

Maurice: But if you deselect it [the button] in the middle of it [the three-minute

window], it stops in the middle of it [the timeline]. So that's continuously

recording.

Finding: The group initially relied primarily on surface-level features to interpret instructional environments; by the end of the debriefings, participants had started synthesizing their experiences and were beginning to develop a deeper interpretive structure.

It was intentional on my part to provide as little structure to the debriefings as possible so that participants could work-out their own way of describing and interpreting what they saw as salient moments in classes that they had visited. In fact, the only structure I provided was at the beginning of the first debriefing when I asked each pair to take turns telling the others what stood out about the class they visited, and apart from that, to simply have "good conversations" around what they heard from each other.

In each of the debriefings, workable material involved ambient objects in the form of storytelling, but participants also occasionally included their own personal experiences that they used as points of reference to make evaluative statements about a particular aspect of a class visit that stood out. At first, the GORP tool was another ambient object used in the group's crucible, but as discussed earlier, it was abandoned after the first

debriefing. As this was an unfamiliar exercise and the group had to develop a structure for itself, there was, at least at the start, some ambiguity around what was worth sharing and taking up for discussion. Not too surprisingly therefore, when our debriefings started participants tended to use the most visible and neutral features of a class as their ambient objects; in most cases those features involved fact-like statements about what the instructor did and how the students responded. There were also times when participants pointed out physical features of the classroom they visited, such as furniture arrangements, size of venue, etc.

> Jonah: But, and so she relied on who was saying one person answering and the same group was tending to answer and there were a few stragglers who didn't get to answer and in general sense, until they did the activities. But, if you had something where everyone had to answer every question, those people, those are the ones who we are trying to reach with these technologies, it makes everyone answer and so, even in a small class that was missing a little bit.
>
> Chris: I did notice there were a couple of students that the first half of the class were quiet, did not participate and that by the end of the class she had drawn them out to the point where they were now participating.
>
> Maurice: Oh, wow. That's cool.
>
> Chris: And, there were like, a couple of times where she expressly said, "I want a new voice. I want to hear somebody who hasn't," you know, that she was quite good at that.

At this early point in the intervention, participants tended to focus on evaluating the instructor of a class as the primary means of interpreting instructional environments. In a cause-and-effect way, participants tended to observe students' behaviors and then

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look to causes of those behaviors from something the instructor was doing at the time. As part of participants' early attempts to interpret the quality of a given instructional moment they often attached their observations to how they personally felt about an instructor's charisma and his/her ability to keep their attention. On their own, these kinds of surface-level, instructor-focused observations told a relatable narrative, but they did little in terms of going beyond that to interpret the instructional environments participants visited. Still, when put into the group's crucible and mixed with other such recollections, an initial set of intermediate learnings and solutions began emerging. These new workable materials concerned things like the "entertainment level" of a class, and judgmental statements about what an instructor should or should not have done. However elemental and fact-like their recollections might have been, and however subjective and judgmental their impressions were at this stage, they nevertheless gave the group some initial group-specific material as a starting point in constructing a way of their own to talk about and interpret class visits.

In the next two debriefings, participants shared more experiences and their impressions of in-class visits, but also they started referencing workable material from previous meetings. Although I did not plan for this, what also happened as the intervention continued is that in some cases, different pairs of participants went to the same class at different times; this provided opportunities for different pairs to compare experiences of the same instructional environment. By repeating this activity, the group was able to use workable material that they had generated from prior debriefings, as well as generate new material from new class observation experiences. In some cases, there were times when different pairs of participants attended the same class but at different times, and when they engaged in comparing notes, this activity generated workable

material other than ambient objects. With the gradual accumulation of their own workable material the nature of their debriefings seemed to move from telling basic narratives to identifying patterns and making interpretive statements about instructional environments.

Generally speaking, the changes in the group's interpretive capacity between the first and the third debriefings were relatively modest. There were, however, observable ways in which the group had begun developing some kind of interpretive capacity that were different from the start of this project. The first is that as the group repeatedly did observations and debriefings, participants used intermediate learnings and solutions objects from previous debriefings in their crucible, combining and synthesizing them into broader learnings or stable explanations. In other words, as these debriefings happened, the group started constructing knowledge from their experiences and interactions with each other that was in service of their joint enterprise. In the excerpt below, participants are using previous workable material to develop a general learning, or stable explanation, about the relationship between the physical classroom space and the learning environment. As it is not immediately clear from this excerpt, Chris is referring to a class he and Jonah visited early in the intervention, and he is referencing the perspective that was offered at the time that certain things will derail a class, irrespective of how skilled the instructor might be.

> Parker: I was surprised at how much the classroom space impacted the classroom experience. I didn't expect to go in this, focusing on the environment at all. I think I would just be watching the instructor and seeing how they're doing stuff; but depending on the classroom environment what they we're able to do changed. Then we saw that one room over in Journalism. That certainly impacted the way I

thought of it: from then on, classroom space became something I considered as opposed to not considering.

Vincent: We did have some discussion around that. I think when we we're talking about that Psychology class and the fixed sitting in that one. There was a conversation that we had about Greenlaw 101 and how empty chairs can actually affect in the usability of the space. I can't remember whose class that was.

Maurice: That was Sheryl. 101 Chemistry.

Andy: Oh that's right, Chemistry 101.

Jonah: Can I raise the counterpoint to that?

Andy: Sure.

Jonah: Which is that there was a class that I took, I mean I was a student in that classroom with Ed Wilson. Space offers opportunities but it's not an obstacle. If you don't have the best space I think a good teacher can still make it work.

Chris: This is going to sound horrible, and so I'm glad I'm being recorded. We can't aim for the best teacher or even a good teacher. We have to aim for the lowest common denominator. If there's any obstacle, it's going to stop it.

Winston: Were you saying that the space makes the teacher or the teacher makes the space? Because you can put a bad teacher in a best space and he can still muck that up.

Maurice: That's true.

Tristan: Or you can under-utilize it. Even with— so Sheryl is one of the more trained people as an instructor in our most advanced large classroom and it was still underutilized there. If you take that and then you think that the continuum of people not as trained as she is and more spaces— we have a lot of work to do.

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The second way in which the group changed was in a qualitative difference both in the types of things that were brought back by pairs of observers to be shared with the rest of the group, and the depth of conversation that happened in relation to those stories. As discussed earlier, participants initially tended to report back on the surface-level features of classes they visited, and with that, their discussions tended to be similarly aimed at the surface level. As the group did more debriefings, they started developing a repertoire of ways to talk about their in-class visits, and instead of simply recalling information, they began analyzing instructional environments more deeply. The following excerpt came from the third debriefing and is representative of how participants changed their interpretive approach. Like the other pairs of participants in this debriefing session, this pair is taking the students' perspective, yet at the same time, holding space to analyze and understand the pedagogy they saw happening at the time.

> Tristan: I like how - I mean, he knows what he is doing. You could understand the scaffolding. Because I went in there with no sort of knowledge and after I saw the first question, which I knew nothing about, I was like, "Oh, I know how to answer the second one now." And then based of that, I was like, "I know how to answer the third now" because of the way it was, even though it was like they were progressively more complex and yet you are able to use something from the first thing to slowly kind of fill that knowledge. Like he understands his presentation well. He uses time really well.
>
> Vincent: Yeah.
>
> Maurice: He used, nice sort of, you know, basic graphics but they communicated enough information. And a person going in with no knowledge would quickly be able to figure out what was going on. And some of that is just the way he

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introduced the class. Like, he spent a really good - he was, "Here's what this class is about." With that you frame the whole thing, and "now I'm going to step through it in a very logical manner."

Tristan: Yeah, that's right. I think he did have learning objectives for the class right from the outset.

The third way in which participants started building a capacity to interpret instructional environments had to do with the transition point mentioned earlier when the group started seeing themselves in the students' experiences; with that change in perspective came the view that students were connected to the instructional environment in intimate and active ways. Prior to this, with most of participants' attention being focused on the instructor and how the students responded, students were seen as disconnected, passive and powerless observers. The adoption of the students' perspective helped the group widen its view of what constituted the instructional environment in a way that was seen as greater than the sum of its constituent parts. That is, rather than viewing the instructional environment as simply three things, namely, instructor, students and classroom, all of which simply coexist for a period of time, the group began seeing instructional environments as dynamic and complex spaces in which these elements interact continually, and which often extend beyond the classroom, proper.

The fourth area of change had to do with the interpretive lens that the group had agreed to use for their in-class observations, inclusivity. In terms of their approach to ambiguity, this proved to be by far the most persistent of the inconclusives. In most cases, inconclusives lasted within a single debriefing, either being resolved or being dropped altogether, such as in an unreconciled difference that two pairs of observers had of the same class. This was not the case for inclusivity: it was a concept was continually

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picked up by the group in conversation, worked with in their crucible in each group meeting, but it was always set aside in an unresolved state. In addition to the difficulty that the group in coming up with a useful definition of inclusivity, as a practical way to interpret instructional environments, it was also illusive to the group how to record occasions of inclusivity in the GORP tool or how to talk about it in debriefings, and so participants left it as an open topic for that reason as well. Nevertheless, in each debriefing participants attempted to define it, using their observations from in-class visits alongside their own impressions of how they thought about inclusivity. All this effort led to an even less precise definition, which was "working the room" and seemed to be satisfactory enough to deal with the practical aspect of what inclusivity might look like.

Even though the catchphrase "working the room" appeared to suffice as a working definition for inclusivity, the group continued to come back to the concept throughout the rest of the project. While imprecise, what this catchphrase seemed to do was hold the topic open for the group to explore interpersonal trust and respect over the course of the intervention. This started in the workshop at the time the concept first emerged and the group was attempting to develop a preliminary definition of it. After some discussion, participants set it aside because it turned out to be a non-neutral topic, in that it started touching on social-political issues that most participants were not yet comfortable negotiating with each other at the time. Still, as the intervention continued, the group repeatedly approached the topic of inclusivity in indirect ways. The group continued to reference "working the room" as the outward-facing touchstone of the concept, but they also brought in topics related to it such as learning styles, student motivation, and education as a private good. These related areas seemed to provide some space for participants to disclose their own personal stories in a way that safely and

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judiciously revealed their own individual perspectives on the social and political dimensions of inclusivity. For all that work, at the very end of the intervention, the group had really made little progress on defining inclusivity as a recognizable and observable thing, and it thus it remained an open issue:

Andy: Given the experiences of going to these classrooms and seeing pedagogy in various ways, what is our definition these days of "inclusivity?"

Parker: It exists.

Maurice: Somehow it exists.

Chris: Whatever it is.

Andy: As I thought back on some of our conversation it also seemed like active learning was somehow related to that but is it? I mean this "inclusivity" mean that everyone gets involved in the class?

Vincent: It can be an element of it or as element of it perhaps but I think again it means different things to different people.

Chris: Giving the opportunity for all students to participate in the class.

Andy: So, it's giving the opportunity, not the actual—

Vincent: Because some people just aren't going to take it. If you are teaching and you're trying to do an active learning thing— because I used think-pair-share a lot and in my first class that I was trying to do that, I had a kid with Asperger's and that simply wasn't going to fly for him. We tried to make it fly and it just went weird. It's a matter of just providing opportunity for people to do stuff but also adjusting as things work or don't work.

Andy: Yeah and I mean it sounds like there are times when active learning can impede inclusivity. I mean does that—

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Tristan: Well, Physics would work with ways to try to group people according to certain criteria like based on performance for example and putting high achieving with low achieving so that there would be more cross pollination there for both. But there's two sides to every time you do that and so if you do extroverts and introverts and try to mix them or introverts together, it's hard.

Jonah: Another aspect of inclusivity is striving to establish an individual connection between teacher and learner. That you aren't addressing a faceless mass of people but you are addressing some of the individuals and you are trying to connect with each individual learner in some way shape or form.

Tristan: It's not all but I think that's part of it.

Jonah: It's like a little semantic problem with the word. I mean when you say "inclusivity," it makes it sound like it's a singular thing and not point it out. It should be "inclusivities" I think, because there are many different targets.

Apart from illustrating that the group had not operationalized the concept very precisely by the end of the project, this excerpt also seems to show that the group is not attempting to reduce ambiguity around the concept, but rather that they are actually trying to maintain—perhaps even increase—it. Even at the time of writing these findings some months later, the group had still yet to converge on a practical and stable definition of inclusivity, and it remained an open issue. As a non-neutral topic, the group's persistence in keeping it open may prove to develop a truly important capacity as a group, namely, interpersonal trust and communication.

Summary

The centerpiece activity of this project was intended to provide participants with many opportunities to collectively construct knowledge. At the start of the project,

participants needed to select and define a conceptual observational lens to use when

visiting classes as a way to orient their observations, and they ultimately picked the

concept of inclusivity. Then participants needed to come together again and learn how to

use an electronic classroom observational tool called GORP, and while discovering its

technical operation, determine working definitions of each of the tiles on the interface.

Over the course of several weeks, they then went out in pairs to observe classes, and after

each pair had visited at least one class, they came back together to share and interpret

what they had observed. At the end of the intervention, the group spent time looking

back on the whole experience, reflecting on what they had learned about their work

context, and evaluating the experience of observing classes.

This was an altogether unfamiliar set of activities for most participants, but

certainly, the group as a unit had never done anything like this before. On top of that, I

deliberately provided as little structure as possible in our group meetings so that the

group itself could develop its own structure and language for meaning-making. With

many layers of unfamiliarity to the intervention, participants needed to engage with one

another repeatedly in conversation, not only to share and interpret experiences, but to

develop a language and a structure for collective meaning-making in unfamiliar

situations. What emerged from the analysis was an iterative model of how the group

approached and managed such ambiguity. At its center was a social forum, called the

crucible, in which participants offered experiences, perspectives and ideas to one another

that were related to the ambiguity at hand. In the crucible, they combined these

materials, to produce learnings and explanations specific to the group that helped them

manage the ambiguity. They also combined new learnings with other previous learnings

to create larger structures, called stable explanations, that tended reduce ambiguity for the

group. What governed and assessed the group's progress, as well as determined what material was promising enough to bring into the crucible, was an often implied, but sometimes explicit, component called meta-cognitive negotiations. One of the special outcomes of the model was something called inconclusives. Inconclusives were artifacts of the group's work that were set aside and, in most cases, returned to the crucible for additional work. The group used this model in the training session and in each debriefing as their way of constructing group-specific knowledge and language, and in the process, began developing an important capacity to use when interpreting instructional environments. The second finding in this research question had to do with a qualitative change in how the group interpreted instructional environments. At the beginning, the group saw these environments in surface-level ways and used a correspondingly rudimentary interpretive structure to understand them; by the end of the intervention, the group began using its socially-constructed knowledge to see instructional environments more holistically, and with that, began analyzing them in more penetrating ways.

Chapter 5

DISCUSSION AND IMPLICATIONS

Some years ago, I realized that the organization I was leading was a special one.
That is, we had recovered from a very tumultuous period and since that recovery took
hold, we have been enjoying a relatively healthy organizational state ever since. We took
steps to repair many internal trust issues, restore our reputation on campus, and with
those changes, we have become a forward-looking organization. Part of looking forward
was about us embracing how technology support needs in the College had been changing,
and in response, positioning ourselves to support those emerging needs accordingly. This
is what gave rise to the Instructional Technology group, the first new functional area that
had come into being since I had taken over as organizational leader several years before.
Then, in 2016 with a change in the College's leadership, it started to become clear that
the Instructional Technology group had a great opportunity ahead to make potentially
significant contributions to the College's instructional mission.

As noted earlier, when this project began the group's efforts were not well
coordinated and collaboration among its members was a rare thing. This was problematic
because each project tended to be "custom built" by an individual for a single instructor;
this is difficult to sustain, because each person's work tended to be *sui generis,* and
knowledge of that work was not shared with others in the group. Perhaps even more
deleterious was that any accomplishments that came out of this group were largely
invisible to the rest of OASIS. This then weighed on the health of the organization
because the group, while united under a name, had no tangible identity to which others in
the organization could point and understand how this group called "instructional
technology" was contributing to the College's mission in valuable ways. Thus, the

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problem for me, my problem of practice, was to figure out a way to bring coherence to the group's efforts, but at the same time, do it in such a way that aligned with the organizational ethos that we had enjoyed for several years by that point.

When I first identified my problem of practice, I had never even so much as heard of the concept of communities of practice. About a year later, when I first read Wenger's seminal text on this topic from 1998, I was struck by how clearly and crisply it articulated what made my organization so special. Nearly everything that Wenger talked about in that text sounded like he was referring to the way my organization operated. This was a pivotal moment for me in that I had previously been relying largely on my own intuition, ethics, prior knowledge and openness to everyone's perspectives to get the organization past the tumultuous time and into the state we are in today. Via Wenger's text, it became clear to me that I did not have to rely on intuition, etc., but could apply the scholarship in this area to devise an intervention that would encourage the group to come together in a way that reflected the larger organization's character, which was something that looked like a community of practice. As I explored the scholarship in this area, I quickly encountered other, similar, perspectives such as professional learning communities and the like; but none was so detailed or as apropos as communities of practice.

Research Question One

The first research question had to do with the group's development toward resembling a community of practice. In the most basic sense, a traditional community of practice is a group of individuals that forms organically around some common interest, and its members have regular interactions with one another in service of that shared interest. These regular interactions foster learning and group identity development, and because these groups invite a diversity of perspectives in an egalitarian forum,

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communities of practice have been seen as a good way for organizations to promote

innovation. Some also contend that communities of practice are voluntary, with its

members being able to opt-in or opt-out of participation as they see fit (Blankenship &

Ruona, 2007). Although some of the instructional technology team's participants are

indeed volunteers, and the circumstances that brought this group together in the first

place were because of the positional fluidity within my organization, the team as it

existed at the beginning of this project was nevertheless a formal organizational entity

and performs work within a functional area. Thus, in the context of this research project,

I used the communities of practice perspective, not as a rigorous standard, but rather as a

model for team development within my organization.

This is a good opportunity to demonstrate how the intervention aligned with the

guidelines that Wenger, McDermott, and Snyder (2002) offer as a heuristic for cultivating

a community of practice. The table below shows each of these concepts and how they

were expressed in the intervention activities. While I certainly had a role in all of these

areas, those ones for which I exercised specific agency via the intervention's design are

shaded in the table; otherwise, expressions of these elements for the most part came

organically from the group.

Table 4

Principles Related to Developing a Community of Practice

Principle	Short definition	Expression
Encourage a growth mentality	Provide opportunities for the group to reflect on its purpose and author itself.	By recounting their shared experiences with in-class visits, the group developed a collective identity that they extrapolated beyond the temporal bounds of the intervention.
Invite perspectives from outside the group	Bring information and ideas into the group from the outside.	In addition to bringing together the core group of participants all of whom have different

		backgrounds, two of them report to another functional area and brought in perspectives from that area; Also, at the workshop, we invited a member of the steering committee for the general education redesign to join us and our conversation with him influenced the group's subsequent discussions.
Make participation flexible and optional	Members can participate in varying degrees, from core members to peripheral participants.	The engagement of most participants varied between active and peripheral throughout; three of them fully participated as a core within the group.
Allocate private space for the group, but make the group's activities known to others	Allow the group space in which to interact with each other, but make their activities known in the organization.	I supported the group's work by coordinating spaces in which the group worked, provided accommodations to workloads so that group members could participate, and we made the group's work visible in departmental meetings.
Make participation valuable to the group's members	The group devotes its energy on things that matter to its members.	The group structured the ongoing conversations, and regularly brought topics to the discussion that were of common interest and relevant to the group's purpose.
Combine the routine and familiar with the novel and unexpected	The group has familiar ways of operating, but also has novel and interesting shared experiences.	The intervention was a novel departure from the group's typical operation; however, participants were able to use novel experiences to build on existing relationships and see their knowledge of instructional technology in new ways.
Design a regularity to the group's interactions	Habituate the coming together of group members to interact over meaningful topics.	The intervention was designed to be repetitive, so that the group could establish a pattern of interacting with one another.

Looking more closely at how the communities of practice perspective operated in this context, it is useful to divide the discussion along two strata of analysis, namely, the operational and the structural. To begin with the operational stratum, this refers to the

ways in which members regularly engaged with one another around shared experiences. The intervention was structured to provide space for just this purpose: it allowed participants repeated opportunities to come together, share stories about experiences they had in common, compare those experiences, discover one another's perspectives, reflect on their collective experiences and formulate ideas for what the group might be able to accomplish. Other than facilitating the group's access to in-class visits and asking that they have good conversations, the participants themselves determined what was important to discuss and what the direction the conversations took. As they did this, participants created collective knowledge within the group about such things as each other's abilities, backgrounds and perspectives, shared understandings of a major College initiative, and a broader view of the environment in which they operate than they had at the start of the project.   Toward the end of the intervention, they used this knowledge to entertain ideas about accomplishing things together in service of the College's instructional goals. As an operational feature, these kinds of discussions at the end of the intervention were characteristically different from those that typically happened in the group before the intervention. Whereas before the intervention began, group meetings involved each person reporting out to the others what he was working on at the time, by the end, the group was discussing issues and projects that were of mutual interest, and extrapolating their emerging identity in tangible ways beyond the intervention activities.

It is important at this point to note that this operational level change was dependent on an activity that the group found valuable. Although there was interest from the start in doing in-class observations, what made this activity more meaningful for them was that this effort was situated under the auspices of a major College initiative, namely, the College's general education redesign, now called "IDEAs in Action." On its own,

this initiative might not have been so meaningful to the group, except that participants took time at the beginning of this project to collectively interpret what the redesign effort meant to them in their work context. This allowed participants to see how they could be connected to broad institutional goals, and it contributed in significant ways to an enterprise about which they personally care.

As was illustrated in the findings, the repeated activities of the group at the operational level seemed to have a cumulative effect at the structural stratum. In the communities of practice perspective, the structural level refers to a group's mutual engagement, shared repertoire and joint enterprise. The group's mutual engagement was catalyzed in the cyclical structure of the intervention. That is, each meeting provided participants access to one another in a forum where they could offer perspectives, access the group's knowledge, make meaning around what they had observed in classes that they visited, and explore topics that were related to their emerging group identity. Although most individuals' active participation might have varied from meeting to meeting, mutuality could be seen in that every participant had full access to contribute and shape the group's discussions, its emerging history and identity.

In the communities of practice perspective, the joint enterprise is the domain of interest that connects a group's members. At the beginning of the intervention, the group had little more than a name which symbolized its purpose and domain of work. As the intervention activities unfolded and the group began taking on the perspective of students, the group combined this with knowledge that participants had developed in the group about what they could accomplish together; as a result, a joint enterprise started to emerge, namely improving the instructional environment with students' learning needs as a focal point. This became recognizable when the group began talking about tangible

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ways that they could improve the instructional environment in the College. One of these involved a proposal to reconfigure the CCI program (the initiative that led to OASIS' formation 20 years prior) so that it would be more closely connected to improving instruction than it is today. Rather than simply being an occasion for a faculty member to receive a new computer every four years, the Instructional Technology group would be a part of the deployment process: in conjunction with receiving a new computer, someone from the group would attend one of the instructor's classes to observe, and afterwards, share those observations and/or make recommendations from as close to the students' perspective as possible. A second recognizable expression of the joint enterprise involved evaluating e-portfolio systems, which is connected directly to the general education redesign effort. In this case, the group's evaluation of e-portfolio systems pays particular attention to how they benefit students as a tool for reflection and planning, rather than a tool for institutional reporting or assessment needs.

The final structural element was the emergence of a shared repertoire. In short, the shared repertoire is the set of resources that members recognize and use when interacting with each other, which are closely tied to their domain of work, and hence the community. These resources are used in meaning making and other negotiations, and they include such things as specialized language, stories of shared experiences, procedural artifacts and routines (Wenger, 1998). Certainly, the most visible evidence of a shared repertoire was the development of a shared procedure for operating the GORP tool, which in itself provided a kind of structure for conducting in-class observations. Beyond that, each meeting provided new opportunities for members of the group to share stories about their in-class experiences with each other, and with each meeting, they developed a routine and a language for describing those experiences. As part of that, the

group appropriated language from participants' own past experiences, and used that common language as a resource in subsequent meetings.

Research Question Two

The second research question was about how the group's capacity to interpret instructional environments changed. What emerged in the findings was a qualitative change in the kinds of things that were noticed and reported back to the rest of the group. Toward the beginning of the intervention, discussions tended to focus on surface-level features of classes and also tended to ascribe full responsibility for the success or failure of a class to the instructor of a class. At this point in the intervention, the group also tended to see students largely passive observers who tended to be disconnected from the instructional environment. By the end of the intervention, the group's perspective had changed somewhat in that participants were starting to discuss instructional environments as a set of interconnected elements, including students, in an overall dynamic system. Moreover, the group's perspective had widened to see this system as extending beyond the physical and temporal classroom space.

While the group's capacity to interpret instructional environments came to be more sophisticated by the end of the intervention than it was at the beginning, it was still a rudimentary capacity. That the group never came to a stable definition for concepts like inclusivity and active learning is representative of this. Nevertheless, what they accomplished during the intervention is arguably a starting point in that they have some basic language and a common interpretive framework that the group can use to discuss challenges and opportunities they see in instructional settings in the future. And, as three of the participants already had well developed knowledge of pedagogical practice before the start of this project, their expertise will likely build on the group's foundational work

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in the future, thereby continuing to develop the group's internal language and interpretive capacity.

The other finding in this research question had to do with the way in which the group approached and constructed meaning around novel situations. In comparing the conceptual model that surfaced from this research to the sensemaking model articulated by Weick and others, there are some clear similarities. The most direct and one-to-one correspondence was between sensemaking's "ongoing" property and the group's cyclical approach to interpreting novel situations. In both models, there is an implication that in trying to interpret novel situations, it may require several attempts in order to arrive at useful and stable interpretations. Another correspondence can be seen between the combination of sensemaking's "enactment" and "social" properties and what I came to label as the "crucible". In the intervention activities, the social element was not only a given but a requirement: individuals almost certainly had their own musings about the intervention outside of our meetings, but none of those musings could become a part of the group's knowledge without sharing those with the others, either inside or outside of our meetings. Given this social requirement, enactment was simply the manifest negotiation of meaning that happened in group conversation, and it was where various kinds of conversational material pertinent to the situation at hand were handled by those present to become part of the interpretive process. In the context of this project, the analysis of the data did not suggest that these two properties were separable.

After these three principles, the models start to diverge more. The "retrospective" property of sensemaking, which is a referencing of past lived experiences, falls within the "workable material" of this group's approach one type of ambient object. Similarly, sensemaking's "extracted cues" as things that are noticed and brought into the group's

conversational foreground were part of the set of ambient objects. Where retrospective is

concerned, members of the group did indeed reference past experiences in their

interpretive work, but these references did not seem to stand out in this study as

contributing to the meaning making process in a particularly special way that was

different from other types of ambient objects. In some ways, this was surprising, given

that some members of the group could speak from experience more authoritatively about

pedagogical matters than others; but I speculate that it was because of a mutually

supportive and respectful tone overall in our debriefings that the more experienced

participants were less inclined to assert this expertise, and instead withhold that so as to

encourage the others to learn on their own terms. Also, it is worth noting that much of

the initial work that led to the development of the sensemaking perspective was through

observing how people manage ambiguity in crisis situations, where past personal

experience can make a big difference in how a group responds. That work was later

extrapolated as a way to understand and plan organizational change. In this case, the

group was presented with novel situations and indeed there was an organizational change

at play, but the intervention activities were not framed as high stakes or risky. Were the

group facing a more dramatic change, retrospectives might have emerged as a stronger

and distinct element in participants' interpretive efforts.

As a further divergence from the sensemaking perspective, "meta-cognitive

negotiations" and "repairs and reinforcements" were two rather atomic level features of

this group's model that are perhaps only implied in the sensemaking perspective. Where

these features intersect with sensemaking is in the property of plausibility, which is the

idea that people will seek explanations that fit the situation at hand well enough—versus

their accuracy—to better align the unfamiliar with the group's expectations. It may again

be because the group in this study was not in a crisis situation or in a scenario in which immediate action was necessary that participants were able to spend considerable time weighing various options openly, making meta-cognitive negotiations and repairs and reinforcements so prominent in their model. While the group indeed tended to prefer plausibility over accuracy—expressed most often by giving someone the "benefit of the doubt"—it was the presence of their meta-cognitive negotiations that made their testing of fit possible. Moreover, meta-cognitive negotiations also seemed to keep track of things that did not fit, but still held promise as useful later on, namely the "inconclusives". Finally, in some cases, their meta-cognitive negotiations engaged so-called repairs and reinforcements, which turned It may simply be outside of the sensemaking perspective's scope, but none of the explicit deliberation and decision-making found in this group's model is emphasized in sensemaking.

In rough terms, the final sensemaking property of "identity" speaks to how individuals present different versions of themselves based on the contexts that they are in. In this research, it was the group, not the individual, that constituted the unit of analysis and for that reason, individual identities were not part of the model. That said, if one espouses the idea that people can and do project different "selves" in different contexts, then almost certainly the participants in this study projected "selves" in this context that were different from those they project in other contexts; it simply was not captured by the analytical lens of this project. As I know all these participants from a variety of contexts, I can say that I did observe this to be the case.

Opting-out

As was discussed in chapter three, one of the members of the group, whom I will refer to as Marcel, declined to participate in this research endeavor. With the group's

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permission, I initially tried to provide Marcel with access to recordings of our conversations, but when it became clear that I could not protect the data in the way that I promised I would, I had to withdraw that option. While he did not have access to our recordings or participate in the group's activities related to this project, he was also not sequestered from the group. In fact, he still participated in our interstitial meetings, and he regularly interacted with the rest of the group just in the course of normal work activities. When in regular group meetings, the group essentially returned to its pre-intervention meeting format, with each person reporting out to the rest of the group what he was currently working on. However, what was in stark contrast to pre-intervention meetings was the group's level of engagement with and interest in Marcel's work. Not always, but rather regularly, various group members would probe him for more information and speculate about potential broader uses of his work. This was not done in a confrontational way, but rather in what I viewed as a genuinely collegial and supportive way, much like our intervention meetings. Because of privacy, statutory and ethical reasons, I cannot disclose the details of the changes I observed in Marcel during this time; however, what I can say is that the group's manager and I noticed that Marcel came out with a statement to our departmental distribution list that seemed to show a bleed-over effect from the group's activities, almost as if Marcel had actually participated in the intervention.

Implications

Strictly speaking, this intervention, while inspired by existing research was tailored for a particular group. In the strictest sense, this research therefore has direct implications within a relatively narrow range of contexts. Specifically, this work is most applicable to leaders who are interested in self-organized team formation within broad

parameters in organizations that have the latitude to allow this to happen. To be sure, from the viewpoint of certain types of organizations, this intervention carries with it some inefficiencies, risk and potential initial productivity costs. Depending on the risk tolerance of an organization, this intervention might simply not be feasible. And, in organizations where job functions are rigidly defined and stable, this research may also have limited value. Even in organizations where this approach might be very apropos, it can be argued that it would be more efficient for the organizational leader to simply specify, as I could have, what a team's job functions are and what the scope of their work is. That notwithstanding, this intervention nevertheless engendered in the team important foundational pieces, and this research illustrated that there are benefits to be had from allowing a team to define their own identity within broad parameters. Moreover, by providing the group with a meaningful discovery activity and some flexibility in their work schedules to participate, members of this team gained a more expansive view of their work context than was present when they started this intervention. Along the way, they learned about what each other "brings to the table" in terms of the group's collective capacities that could be applicable in their context, the bounds of their collective abilities, and developed some degree of ownership in the group's identity. Perhaps most important and foundational is that the intervention opened up space that the participants could explore trust with one another through conversations that touched on sensitive personal beliefs. In the final analysis, these kinds of outcomes are what an organizational leader must weigh against the potential risks, costs and inefficiencies of an approach like this.

In contexts where this intervention is perhaps not suited at all, there are still implications from this research worth noting. First is that a leader can do well to see her or his organization as a community of learners, versus simply a workforce to be

marshalled. If this change in perspective is accompanied with the allowance for its members to experiment, discover and explore beyond the organization's normal operations, it can instill ownership in the organization and promote innovative thinking. By the same token, supporting a community of learners means supporting relationship building in the organization, and that can be an area of growth for some leaders because it can change the character of leadership from one of sense-giver, authority figure and organizational focal point to one of facilitator of conversation, learning and relationships. As facilitator of conversation and learning, the leader is thus recast as influential participant, which involves diffusing leadership into the organization and prioritizing "processes of collaboration, empowerment, dialogue, horizontal decision making, sharing, distribution, networking, continuous learning, and connectivity" (Gergen, 2015, p. 199). In conjunction with seeing an organization as a group of learners, leaders should also recognize that ambiguity is something to be embraced in team building. In this case, the intervention featured an extensive and meaningful activity in which the outcomes and impact were intentionally left unclear. The unprescribed nature of this kept the activity interesting to the group, and that the group was in charge of charting its own path forward and authoring its own learning outcomes kept it relevant. Taken together and in the case of the present research, the result was a creative proposal for a way that the group could begin making a difference in the instructional life of the College; a proposal that had not come forward in the 20 years of the CCI program's history, and which also would not have come forward without participation from outside the group, proper.

For my own organization, the clearest implication is that this intervention could be repeated in OASIS' other functional areas as a way to keep those groups aligned with the College's mission, and to encourage those groups to be forward looking and

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innovative in their own efforts to support that mission. As the instructional technology group discussed in our debriefing, the exercise of visiting classes might not be the best activity for the other groups, but a similarly meaningful centerpiece activity that allows for discovery of the College's life and goals, but appropriate to the different functional areas' joint enterprises could easily accomplish the same thing.

Limitations

As with any research project, there will be limitations. First among these is the degree to which I had access to the group's collective thinking. As it was, I had to rely on artifacts of the group's thinking, which were in the form of transcripts of what was said out loud as well as my own notes. Compounding the problem is that, as was discussed in chapter four, there was almost certainly an effect of having the audio recorder in the room. In some cases, participants made plain that their discourse was altered by the presence of a recorder. In addition to that, despite my efforts to minimize my role as organizational leader in our discussions, my presence nevertheless almost certainly had an effect on how participants phrased certain things, and what they chose to censor and/or emphasize because of my presence. At the same time, social constructionism does not really see this as a problem, but rather a fundamental component of people as relational beings (Koro-Ljungberg & Hayes, 2006). That being said, I knew the participants quite well, and because of that, it never struck me that the conversations were artificial. And, as a group of people constructing knowledge, it seemed to represent our usual interactions.

The second limitation has to do with the participants themselves. Simply because of the group's membership, all of the participants, including myself as participant, happened to be of the same gender, ethnicity and were approximately the same age

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(within about a 15-year range). This make-up of people is not particularly unusual in information technology, but it nevertheless must have had a bearing on the findings and the extent to which the outcomes could be repeated in another group. In fact, were the group more diverse, it would have likely affected how participants thought of themselves in relation to their clientele, the degree to which they could identify with students, the level of interpersonal exchange in each of the intervention's meetings, what they noticed in their class visits, what they chose to share with each other, and undoubtedly a host of other things. Indeed, to the group's credit, when we talked about repeating this intervention and including others from across the organization, the first thing that some of the participants cited as being a way to improve the intervention activities would be to have a more diverse group. Despite the fact that they had trouble negotiating a stable and clear definition for inclusivity, they nevertheless believed that including different ethnicities and genders would change the interpersonal dynamic and would have enriched the debriefings.

Another limitation has to do with the length and timing of the study. As it is, this research represents a segment of time in the life of the group. That is, the group existed before the intervention began and continues to this day, and so the bounded nature of the research simply captures a window in time of the group's activities, and with that, a limit on the extent to which this research can transfer to another similar group. From a practical standpoint, the length seemed about right insofar as the in-class visits and debriefing activities never became so routine as to be monotonous, the group appeared to be on a trajectory toward resembling a community of practice, and they developed some capacity for interpreting instructional environments. At the same time, communities of practice take time to develop, and as Wenger, Snyder, and McDermott (2002) articulate,

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there is a trajectory in that development that is not altogether linear. A true community of practice will have periods of stasis, false starts, rapid maturation, changing membership, etc. Similarly, with respect to their capacity to interpret instructional environments, the outcome of this research represents only a starting point.

My own subjectivities constitute another limitation. Qua organizational leader, I might be more attuned to the elements in the models that emerged than the other participants necessarily were. For example, positionality as a core element of the group's identity model, might have been taken for granted by the other participants, but because my responsibilities at the university require me to traverse many strata of the institutional hierarchy, positionality is something that is often at the forefront of my awareness. Although I used member checking and one of the participant's notes as sources of credibility, another researcher with different subjectivities, but everything else being equal, could have surfaced different models from the data and structural elements of those models, and still established credibility via the same sources. This is not to suggest that the conceptual models I surfaced from the data were unstable or lacked credibility, but rather that they represent the confluence of particular analytical lenses associated with my own subjectivities. As a coda to this particular limitation, I would assert that this is one of the virtues of qualitative research in that it makes subjectivities explicit and embraces them as integral to the research process.

Finally, my dual role of researcher-participant and organizational leader is a limitation. Given my role as organizational leader, I know that my presence throughout the intervention must have had an effect on the group's view of the possible. My role as director allowed me to bring perspectives into the conversation that originated from high levels of the university as well as from the academy in general that would have otherwise

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been inaccessible to the group. This probably broadened participants' view of their work

context, and with that, it probably led to a greater understanding of how and where the

group's work fits—or could fit—in complex institutional structures. Were I not the

researcher-participant and this intervention been organized by anyone else in the group, I

strongly suspect the group's view of the possible would have been more limited. While I

feel my presence as researcher-participant benefitted the group and participants'

conversations, I note this as a limitation that needs to be considered if this intervention

were to be repeated elsewhere.

Reflecting on Leadership and the Development of Community

Early on in the intervention, it became evident that this project was as much about

leadership as it was about the group's development. While the literature on developing

communities of practice talks about how leaders can encourage a community to develop,

it frankly leaves a great deal of the actual experience out. Indeed, what I found is that

cultivating self-organizing groups requires a certain type of leadership and a great deal of

trust. The type of leadership required is one that resists the temptation to assert positional

authority in the group whenever possible, and in its place, fosters a culture of ownership

from within the community and encourages leadership from within the group.   As the

literature in this area discusses, developing a community involves support from

leadership, which often comes in the form of allowing time and space for the group

members to engage with one another regularly around topics that the group finds

important, and providing resources to the group as needed. For many leaders, this moves

the leader into a facilitator role, which also means letting go of control to the greatest

extent possible, so that group conversations can take their own course and lead wherever

they lead. As a component of providing support, the literature also discusses how a

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leader needs to legitimate the group's work within the entire organization and celebrate their accomplishments openly. It became clear to me, at least in my own context, that this is a really important component of providing support because it forestalls the group who is forming from being viewed as some kind of secret society or privileged group. This risk is especially true when the group has direct and regular access to the organizational leader, as was the case in this research. Thus, what I found to be an important corollary to legitimating the group's work is that, whenever possible, the leader should make every effort to attend other groups' meetings, so that their work continues to be viewed as legitimate and valued in the organization. Finally, what I think is nearly absent in the literature on communities of practice, but which is something that I think benefitted my ability to balance organizational health throughout this project is being reflective. Being constantly reflective about what effects the intervention might be having on the whole organization certainly helps as a distinct aspect of action research, but it also helps to ensure that the rest of the organization is not neglected.

The Tension Between Researcher-Participant and Organizational Leader

Although I framed the intersection of these two things as a limitation earlier in this chapter, there are some reflections to share that might prove helpful to others interested in trying either this intervention or action research in general. Being researcher-participant and organizational leader proved to be an unusual space for me to be in during this project. At the beginning of this project, I thought it would be simple enough to compartmentalize these roles, so that they did not influence each other, either at the expense of the research or of the group's development. As one example, there were many times in our discussions when it seemed clear to me, although I was in the researcher-participant role, that the group was seeking my direction, most likely because

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of my status as director. Similarly, there were times in which, because of my role at the university, I could have immediately clarified some point of confusion in the discussion at hand, but I had to weigh in the moment whether offering that knowledge and perspective would 1) effectively take away an opportunity for the group to build its own knowledge, 2) thrust me into the organizational leader role and potentially disrupt community development, and 3) whatever the decision, would it compromise either my responsibility as organizational leader or as researcher-participant. There were also times outside of the intervention activities when someone in the group would introduce a topic for discussion, and the mere introduction of my perspective caused the conversation to follow my trajectory, even though the topic really was not mine. These occasions made me acutely aware—in a way that I was not before—that it was ultimately impossible to separate these different roles neatly, and that what I needed to do instead was increase my own level of self-monitoring of these different roles before deciding what to do. I learned to ask myself in these moments of tension, "If I weren't also doing this as a research project, how might I respond?" As a general statement about my leadership style, I find the most comfortable operating mode for me to be that of a facilitator of learning, and so in posing this question to myself, I erred on the side of the community development needs of the group, versus the research agenda. In the end, I believe this was the right approach because it tended to preserve the group's organic trajectory toward resembling a community of practice. While it may have cost the research agenda more dramatic results, I felt that this approach honored my commitment to them as their organizational leader as well as the commitment, qua researcher, to making sure the research proceeded with complete integrity.

Future Research

I see at least three potential areas of inquiry that could follow this study. First has to do with the role of leadership on how a team develops as well as how it constructs meaning and identity. Where this has a real bearing, particularly in a community of practice, is in how a group develops its sense of competence, i.e., determining what one another "brings to the table" in terms of skills and abilities, and whose voice(s) is/are influential in those negotiations. As was noted earlier, one of the things I tried to be very careful about is limiting my influence as organizational leader in the group's discussions, so as to avoid the group becoming overly dependent on my perspective. Still, leaders have significant voice, and thus understanding more fully how that voice can affect a group's overall sense of competence would be a reasonable line of inquiry following this study.

The second area of inquiry would take a critical and non-neutral approach to understanding the group's development. As this entire project was situated within a social context, there are deeply embedded and held assumptions about what constitutes "normal" in the classroom as well as in the way participants interacted with each other throughout the project. One of the main ideas in the communities of practice perspective is that groups have permeable boundaries so that participation in the group is open to those who find value in its joint enterprise, can relate to its members by way of a shared repertoire, and are allowed to engage in meaningful activities. That permeability is critically dependent on social norms, and thus, surfacing and understanding those embedded assumptions would enrich the scholarship in this area.

A final area of potential future research has to do with studying the effects of this endeavor on the rest of the organization and beyond. Although this study looked at the

changes that took place in the Instructional Technology group specifically, in fact, OASIS' organizational ethos promotes a high degree of connectedness between its functional areas. With such internal connectedness, it is very likely that a change in one part of the organization might prompt changes of some kind in other parts. In the context of the College's highly visible recommitment to its instructional mission, the changes that happened in the Instructional Technology group might well inspire the other functional areas to identify their own new ways of supporting the College's instructional mission.

References

Abolafia, M.Y. (2010). Narrative construction as sensemaking: How a central bank thinks. *Organizational Studies, 31*(3), 349-367. doi:10.1177/0170840609357380

Akkerman, S. F., & Bakker, A. (2011). Boundary crossing and boundary objects. *Review of Educational Research, 81*(2), 132-169. doi: 10.3102/0034654311404435

Akkerman, S.F., Petter, C., & de Laat, M. (2008). Organising communities-of-practice: Facilitating emergence. *Journal of Workplace Learning, 20*(6), 383-399. doi:10.1108/13665620810892067

Aldrich, H.E. (2008). *Organizations and environments*. Stanford, CA: Stanford Business Books.

Aldrich, H.E., & Ruef, M. (2006). *Organizations evolving*. Thousand Oaks, CA: SAGE.

Allen, N., & Meyer, J. (1990). Organizational socialization tactics: A longitudinal analysis of links to newcomers' commitment and role orientation. *The Academy of Management Journal, 33*(4), 847-858. Retrieved from http://www.jstor.org/stable/256294

Anderson, L.W., & Sosniak, L.A. (1994). Excerpts from the "Taxonomy of Educational Objectives, The Classification of Educational Goals, Handbook I: Cognitive Domain". In L. Anderson & L. Sosniak (Eds.), *Bloom's taxonomy: A forty-year retrospective* (pp. 9-27). Chicago: University of Chicago Press.

Bauer, T. N., Bodner, T., Erdogan, B., Truxillo, D. M., & Tucker, J. S. (2007). Newcomer adjustment during organizational socialization: A meta-analytic review of antecedents, outcomes, and methods. *Journal of Applied Psychology, 92*(3), 707-721. doi:10.1037/0021-9010.92.3.707

Becker, S.A., Brown, M., Dahlstrom, A.D., DePaul, K., Diaz, V., & Pomerantz, J. (2018). *NMC Horizon report: 2018 higher education edition.* Retrieved from https://library.educause.edu/~/media/files/library/2018/4/previewhr2018.pdf

Berger, P. L., & Luckmann, T. (1967). *The social construction of reality: A treatise in the sociology of knowledge*. New York: Doubleday.

Billett, S. (2012). Learning at the site of work. In P. Jarvis & M. Watts (Eds.), *The Routledge International Handbook of Learning* (pp. 228-236). New York: Routledge.

Blankenship, S. S., & Ruona, W. E. A. (2007, March). Professional learning communities and communities of practice: A comparison of models, literature review. Paper presented at the Academy of Human Resource Development International Research Conference in The Americas, Indianapolis, IN. Retrieved from http://files.edic.ed.gov/fulltext/ED504776.pdf

Borzillo, S., & Kaminska-Labbé, R. (2011). Step-in or step-out: Supporting innovation through communities of practice. *Journal of Business Strategy, 32*(3), 29-36. doi:http://dx.doi.org/10.1108/02756661111121974

Borzillo, S., Schmitt, A., & Antino, M. (2012). Communities of practice: Keeping the company agile. *Journal of Business Strategy, 33*(6), 22-30. doi:http://dx.doi.org/10.1108/02756661211281480

Brinkmann, S. & Kvale, S. (2015). *InterViews: Learning the craft of qualitative research interviewing* (3rd ed.). Los Angeles, CA: Sage Publications.

Brown, J., Collins, A., & Duguid, P. (1989). Situated Cognition and the Culture of Learning. *Educational Researcher, 18*(1), 32-42. Retrieved from http://www.jstor.org/stable/1176008

Brown, A.D., Colville, I., & Pye, A. (2015). Making sense of sensemaking in organization studies. *Organization Studies, 36*(2), 265–277. doi: 10.1177/0170840614559259

Brown, J., & Duguid, P. (1991). Organizational learning and communities-of-practice: Toward a unified view of working, learning, and innovation. *Organization Science, 2*(1), 40-57. Retrieved from http://www.jstor.org/stable/2634938

Brown, J., & Duguid, P. (2001). Knowledge and organization: A social-practice perspective. *Organization Science, 12*(2), 198-213. Retrieved from http://www.jstor.org/stable/3086055

Brown, A.D., Stacey, P., & Nandhakumar, J. (2008). Making sense of sensemaking narratives. *Human Relations, 61*(8), 1035-1062. doi: 10.1177/0018726708094858

Brooks, D.C. (2015). *ECAR study of faculty and information technology, 2015.* Retrieved from https://library.educause.edu/~/media/files/library/2015/8/ers1510r.pdf

Burke, C.S., Salas, E., & Diaz, D. (2008). The role of team learning in facilitating team adaptation within complex environments: Tools and strategies. In V. Sessa & M. London (Eds.), *Work group learning: Understanding, improving & assessing how groups learn in organizations* (pp. 217-242). New York: Lawrence Erlbaum Associates.

Buysse, V., Sparkman, K.L., & Wesley, P.W. (2003). Communities of practice: Connecting what we know with what we do. *Exceptional Children, 69*(3), 263-277. doi: 10.1177/001440290306900301

Charmaz, K. (2014). *Constructing grounded theory*. London: SAGE.

Chia, R. 2000. Discourse analysis as organizational analysis. *Organization, 7*(3), 513-518. doi: 10.1177/135050840073009

Choi, J., & Hannafin, M. (1995). Situated cognition and learning environments: Roles, structures, and implications for design. *Educational Technology Research and Development, 43*(2), 53-69. Retrieved from: http://www.jstor.org/stable/30220993

Creech, H., Laurie, M., Paas, L., & Parry, J. E. (2012). Performance Improvement and Assessment of Collaboration: Starting points for networks and communities of practice. *International Institute of Sustainable Development Report. Manitoba.* Retrieved from http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.278.4935&rep=rep1&type=pdf

Crotty, M. (1998). *The foundations of social research: Meaning and perspective in the research process.* Thousand Oaks, CA: SAGE.

Denzin, N. K., & Lincoln, Y. S. (2003). *Strategies of qualitative inquiry.* Thousand Oaks, CA: Sage.

Druskat, V., & Wheeler, J. (2003). Managing from the boundary: The effective leadership of self-managing work teams. *The Academy of Management Journal, 46*(4), 435-457. Retrieved from http://www.jstor.org/stable/30040637

Duderstadt, J.J. (2002). *Higher education in the digital age: Technology issues and strategies for American colleges and universities.* Westport, Conn.: Greenwood Press.

Dunford, R., & Jones, D. (2000). Narrative in strategic change. *Human Relations, 53*(9), 1207-1226. Retrieved from https://search.proquest.com/docview/231437475?accountid=14244

Fenton-O'Creevy, M., Dimitriadis, Y., & Scobie, G. (2015). Failure and resilience at boundaries: The emotional process of identity work. In E. Wenger-Trayner, M. Fenton-O'Creevy, S. Hutchinson, C. Kubiak, & B. Wenger-Trayner (Eds.), *Learning in landscapes of practice: Boundaries, identity, and knowledgeability in practice-based learning* (pp. 33-42). New York: Routledge.

Flick, U. (2009). *An introduction to qualitative research.* Los Angeles: Sage.

Fuller, A., Hodkinson, H., Hodkinson, P., & Unwin, L. (2005). Learning as peripheral participation in communities of practice: A reassessment of key concepts in workplace learning. *British Educational Research Journal, 31*(1), 49-68. Retrieved from http://www.jstor.org/stable/1502156

Garfinkel, H. (2003). Socially negotiating knowledge. In K. Gergen & M. Gergen (Eds.), *Social construction: A reader* (pp. 11-14). Thousand Oaks, CA: SAGE.

Gergen, K. J. (2003). Knowledge as socially constructed. In K. Gergen & M. Gergen (Eds.), *Social construction: A reader* (pp. 15-17). Thousand Oaks, CA: SAGE.

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Gergen, K. J. (2015). *An invitation to social construction*. Thousand Oaks, CA: SAGE.

Gibson, C., & Birkinshaw, J. (2004). The antecedents, consequences, and mediating role of organizational ambidexterity. *The Academy of Management Journal, 47*(2), 209-226. Retrieved from http://www.jstor.org/stable/20159573

Greeno, J. G. (1994). Gibson's affordances. *Psychological Review*, *101*(2), 336-342. doi:10.1037/0033-295X.101.2.336

Guskey, T. R. (1985). Staff development and teacher change. *Educational Leadership*, *42*(7), 57-60.

Harvey, S., Peterson, R.S., & Anand, N. (2014). The process of team boundary spanning in multi-organizational contexts. *Small Group Research, 45*(5), 506 – 538. doi: 10.1177/1046496414534474

Herr, K. & Anderson, G.L. (2015). *The action research dissertation: A guide for students and faculty* (2nd ed.). Thousand Oaks, California: SAGE.

IDEAs in action: A General Education Curriculum Proposal. (2017, December 4). Retrieved from http://curriculum2019.web.unc.edu/files/2017/12/ideas-curriculum-proposal-3.0.pdf

Jordan, M. E., Lanham, H. J., Crabtree, B. F., Nutting, P. A., Miller, W. L., Stange, K. C., & McDaniel, R. R. Jr. (2009). The role of conversation in health care interventions: Enabling sensemaking and learning. *Implementation Science, 4*(15), 1-13. doi:10.1186/1748-5908-4-15. Retrieved from https://implementationscience.biomedcentral.com/articles/10.1186/1748-5908-4-15

Kirkman, B. L., Mathieu, J. E., Cordery, J. L., Rosen, B., & Kukenberger, M. (2011). Managing a new collaborative entity in business organizations: Understanding organizational communities of practice effectiveness. *Journal of Applied Psychology, 96*(6), 1234-1245. doi:10.1037/a0024198

Koro-Ljungberg, M., Yendol-Hoppey, D., Smith, J., & Hayes, S. (2009). (E)pistemological awareness, instantiation of methods, and uninformed methodological ambiguity in qualitative research projects. *Educational Researcher, 38*(9), 687-699.

Kubiak, C., Fenton-O'Creevy, M., Appleby, K., Kempster, M., Reed, M., Solvason, C., & Thorpe, M. (2014). Brokering boundary encounters. In E. Wenger-Trayner, M. Fenton-O'Creevy, S. Hutchinson, C. Kubiak, & B. Wenger-Trayner (Eds.), *Learning in landscapes of practice: Boundaries, identity, and knowledgeability in practice-based learning* (pp. 81–95). Abingdon: Routledge.

Lang, A. (2003). Flying without wires: How a political science class used a set of technologies. In D.G. Brown (Ed.), *Developing faculty to use technology: Programs and strategies to enhance learning* (pp. 263-266). Bolton, MA: Anker Publishing.

Lave, J. (1988). *Cognition in practice: Mind, mathematics, and culture in everyday life*. New York, NY: Cambridge University Press.

Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. New York: Cambridge University Press.

Maitlis, S. (2005). The social processes of organizational sensemaking. *The Academy of Management Journal, 48*(1), 21-49. Retrieved from http://www.jstor.org/stable/20159639

McDougall, M., & Beattie, R. S. (1995). Learning from learning groups. *The Journal of Management Development, 14*(8), 35. Retrieved from http://libproxy.lib.unc.edu/login?url=http://search.proquest.com/docview/2163005 38?accountid=14244

Mead, G. H. (1934). *Mind, self & society from the standpoint of a social behaviorist*. Chicago: University of Chicago press.

Mignerey, J. T., Rubin, R. B., & Gorden, W. I. (1995). Organizational entry: An investigation of newcomer communication behavior and uncertainty. *Communication Research, 22*(1), 54. doi: 10.1177/009365095022001003

Miles, M. B., Huberman, A., & Saldaña, J. (2014). *Qualitative data analysis: A methods sourcebook.* Thousand Oaks, Califorinia: SAGE Publications, Inc.

Mills, J. H. (2003). Making sense of organizational change. London: Routledge.

Neves, P., & Eisenberger, R. (2014). Perceived organizational support and risk taking. *Journal of Managerial Psychology, 29*(2), 187-205**.** doi:http://dx.doi.org/10.1108/JMP-07-2011-0021

Nonaka, I. (1994). A dynamic theory of organizational knowledge creation. *Organization Science, 5*(1), 14-37. Retrieved from http://www.jstor.org/stable/2635068

Plaskoff, J. (2011). Intersubjectivity and community-building. In M. Easterby-Smith (Ed.), *Handbook of organizational learning and knowledge management* (pp. 199-223). Chichester, UK: Wiley.

Prinz, J. (2009). Is consciousness embodied? In P. Robbins & M. Aydede (Eds.), *The Cambridge handbook of situated cognition* (pp. 419-436). New York, NY: Cambridge University Press.

Ritchie, J., Lewis, J., & Elam, G. (2003). Designing and selecting samples. In J. Ritchie, & J. Lewis (Eds.), *Qualitative research practice*, (pp.77-108). London: Sage.

Roberts, J. (2006), Limits to Communities of Practice. *Journal of Management Studies, 43*(3), 623-639. doi:10.1111/j.1467-6486.2006.00618.x

Rossman, G.B. & Rallis, S.F. (2017). *An introduction to qualitative research: Learning in the field.* Thousand Oaks, CA: Sage.

Saldaña, J. (2016). *The coding manual for qualitative researchers*. Los Angeles,CA: SAGE.

Sawyer, R. K., & Greeno, J. G. (2009). Situativity and learning. In P. Robbins & M. Aydede (Eds.), *The Cambridge handbook of situated cognition* (pp. 347-367). New York, NY: Cambridge University Press.

Sessa, V.I., & London, M. (2008). Interventions to stimulate group learning in organizations. *Journal of Management Development, 27*(6), 554-573. doi:/10.1108/02621710810877820

Shotter, J. (2003). The social construction of remembering and forgetting. In K. Gergen & M. Gergen (Eds.), *Social construction: A reader* (pp. 132-137). Thousand Oaks, CA: SAGE.

Sinek, S. (2010, May 4). How great leaders inspire action [video file]. Retrieved from https://www.youtube.com/watch?v=qp0HIF3SfI4

Star, S.L. (2010). This is not a boundary object: Reflections on the origin of a concept. *Science, Technology & Human Values, 35*(5), 601-617. doi:10.1177/0162243910377624

Taylor, J. R., & Van Every, E.J. (2000). *The emergent organization: Communication as its site and surface.* Mahwah, NJ: Erlbaum.

Tucker, A. L., Edmondson, A. C., & Spear, S. (2002). When problem solving prevents organizational learning. *Journal of Organizational Change Management, 15*(2), 122-137. doi: 10.1108/09534810210423008

UNC Office of Institutional Research and Assessment. (2017). Fact book 2016-2017. Retrieved from https://oira.unc.edu/files/2018/06/Fact-Book-16-17_20180608.pdf

Veenswijk, M., & Chisalita, C. M. (2007). The importance of power and ideology in communities of practice. *Information Technology & People, 20*(1), 32-52. doi: http://dx.doi.org/10.1108/09593840710730545

Wang, M., Kammeyer-Mueller, J., Liu, Y., & Li, Y. (2015). Context, socialization, and newcomer learning. *Organizational Psychology Review, 5*(1), 3-25. doi:10.1177/2041386614528832

Weick, K.E. (1993). The collapse of sensemaking in organizations: The Mann Gulch disaster. *Administrative Science Quarterly, 38*(4), 628-652. doi:10.2307/2393339

Weick, K. E. (1995). *Sensemaking in organizations*. Thousand Oaks, CA: SAGE.

Weick, K. E. (1988), Enacted sensemaking in crisis situations. *Journal of Management Studies, 25*(4), 305-317. doi:10.1111/j.1467-6486.1988.tb00039.x

Weick, K.E., Sutcliffe, K., & Obstfeld, D. (2005). Organizing and the process of sensemaking. *Organization Science, 16*(4), 409-421. Retrieved from http://www.jstor.org/stable/25145979

Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity*. New York, NY: Cambridge University Press.

Wenger, E., McDermott, R., & Snyder, W. M. (2002). *Cultivating communities of practice: A guide to managing knowledge*. Boston, MA: Harvard Business School Press.

Wetzel, K.A., & Pomerantz, J. (2016). *Organizational models for IT service delivery and the evolving IT organization*. Retrieved from https://library.educause.edu/resources/2016/8/organizational-models-for-it-service-delivery-and-the-evolving-it-organization

Whiteman, G., & Cooper, W. (2011). Ecological sensemaking. *The Academy of Management Journal, 54*(5), 889-911. Retrieved from http://www.jstor.org/stable/41413598

APPENDIX A

IDEAS IN ACTION SAMPLE MATERIALS

IDEAs in Action:
A General Education Curriculum Proposal

Draft for Campus Discussion
December 4, 2017

Undergraduate Education at Carolina: Goals of the Curriculum

Among the highest duties of the University of North Carolina at Chapel Hill is to educate the brightest young minds from North Carolina and beyond, providing access to the world of ideas, discovery, innovation, and inquiry to future leaders, citizens, employers, and entrepreneurs. The goal of preparing students to be productive, engaged, and learned citizens is built into the institutional DNA of the University. To extend this mission into the 21st century, The College of Arts and Sciences seeks to prepare its students to Think, Communicate, Collaborate, and Create in the pursuit of meaningful and productive lives.

Carolina prepares graduates who are poised for productive, dynamic careers; who are responsible citizens and community members engaged with considering and promoting the common good and social justice; and who are lifelong learners, approaching the world with curiosity and open minds. The General Education Curriculum aims at more than the accumulation of knowledge or the sharpening of skills, though broad knowledge and meaningful skills are crucial parts of any university education. We also aim to instill in our students the tendency and ability to bring creativity and careful, reflective, evidence-based inquiry to the problems and issues they encounter as they serve the public as productive employees, entrepreneurs, outstanding citizens, and leaders in a rapidly changing world. This approach is called IDEAs in Action; students will learn to Identify, Discover, Evaluate, and Act (IDEA) through sophisticated study and to use these capacities to approach problems and questions in many facets of adult life.

Fig. 1: Students should be able to identify, explore, decide, and apply ideas and information to challenges arising in work, entrepreneurship, civic life, and private life.

The undergraduate curriculum embodies the intellectual aspirations UNC has for its alumni. The UNC graduate should be able to think critically, conceptualize and define problems, work collaboratively,

The Big Claim

Focused, broad study in the liberal arts is the best way to provide students with mastery of the capacities they need to be outstanding leaders, public servants, and citizens; great workers and entrepreneurs; and lifelong learners.

THE UNIVERSITY
of NORTH CAROLINA
at CHAPEL HILL

Guiding Principles

1. Student-focused: What do students need?

2. Evidence-based: What approaches promote persistence and success for all students?

3. Capacity-driven: What capacities for thought and action do students gain from each experience?

4. Simplified: Current curriculum has many hours under requirement and is complex.

Photo Credit: Viji Sathy

APPENDIX B

SAMPLE OF FACILITATOR'S QUESTIONS

<u>General questions</u>

"So here's the question that's coming on my mind as just a quick go around: What's one thing you remember learning when you were in college? Either something that you learned or how you learned it."

"What else would you want to throw up there into the cloud as potential values, principles, filters for doing these observations?"

"…self-censorship is linked to a group's lack of diversity of thought. What have you thought today, but not said?"

<u>Group Maturity</u>

"How does this group know when a topic is within the remit of this group or not. How does this group know to decide that?"

"So what have you thought but not said so far today?"

<u>Group Boundaries</u>

"How would you describe this group to someone else?"

"I'd like to just kind of step back and think about the discussion we've had so far. Who's influenced you so far? What's influenced you personally? What's influenced you in this discussion? Have you thought if have you thought about anything in a new way or felt about anything differently and if so, what? What influenced that?"

"So, you came in this morning, we've had a discussion for almost two hours now. Has anything so far today had an influence on it?"

<u>Learning Orientation</u>

"Tell me about some times that this group has worked together on some projects? Did you feel like a potential outcome was failure? Or, was failure simply not an option?"

"For some of these group projects, what stood out to you in the way they came together, if they came together?"

APPENDIX C

SAMPLE DEBRIEFING QUESTIONS

Tell the group a little about the class you went to: what was the content being covered, how many students were there, was there any technology in the space, etc.?

What did you observe in the class(es) that you found to be expected and unexpected?

For the unexpected, can you tell me why you didn't expect it or what were the qualities of it that made it unusual? Would you have expected it in another setting?

Given what we talked about being the important features of the new curriculum, what things did you notice in the class that you thought supported the curriculum and what didn't?

What was your experience using the GORP tool? Did it help you to be more attuned to what was going on, did it get in the way, some of both?

What things did the GORP tool do well and what could use some attention?

APPENDIX D

CLASS OBSERVATION INSTRUMENT (GORP TOOL)

TEST101 - - 10:08 AM - - Protocol: CFE Time-based Observation Form

Save Observation

End Observation

Student

Listening	AskQ	AnswQ	Class Disc

Ind Poll	Pr Gp Poll	Pr Gp Work	Ind Work

| | | Waiting | Stud Pres |

Example of Inclusiveness

| | | Test | Other |

Time
10:10:49
Time Remaining
0:11

Notes

Instructor

Presenting class objectives	Lec	AnswQ	Facil Disc

Ask Poll Q 0	Ask Question 0	Relay student questions	FUp Clar

| MG | 1o1 | Adm | Waiting |

| Other | | Example of Inclusiveness | |

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APPENDIX E

EMAIL PREPARING GROUP FOR WRAP-UP MEETING

Hey, guys!

Just wanted to send a couple of things ahead of our wrap-up so we can have a productive conversation tomorrow. Think back on the classes that you visited and what might've stood out to you in some way, especially with respect to the things that we have been talking about in the revised Gen Ed. Think also about if we were to do this again, what (if anything) might we change? Lastly, think back on our debriefs and if there were any special moments and/or discussion points that stood out to you. As you can tell, we're essentially going to be reflecting back on these shared experiences over the summer.

See you tomorrow!

Andy

APPENDIX F

DISCUSSION PROMPTS IN WRAP-UP MEETING

1. Let's talk about the experience of visiting classes. What did you think about that activity? Do you think other areas of OASIS would benefit from doing what we did this summer?

2. What kinds knowledge did we built up during these activities? What did we learn?

3. You might remember from the workshop that we talked about what makes this group different from others at OASIS. What are the kinds of conversations this group has or has been having that other groups don't? What is the content of the kinds of things that we talk about that other groups don't?

4. Dan talked about the portfolio aspect of the new curriculum being part of an ecosystem. What do you think of that as far as it being this ecosystem, in light of what we know about the general education revision and how it's supposed to move away from this checkbox kind of experience to one that is a narrative about a student's experience from beginning to end here?

APPENDIX G

INSTITUTIONAL REVIEW BOARD APPROVALS

EXEMPTION GRANTED

Elisabeth Gee
Division of Educational Leadership and Innovation - Tempe
480/965-4284
Elisabeth.Gee@asu.edu

Dear Elisabeth Gee:

On 3/23/2018 the ASU IRB reviewed the following protocol:

Type of Review:	Initial Study
Title:	The development of a learning team
Investigator:	Elisabeth Gee
IRB ID:	STUDY00008009
Funding:	None
Grant Title:	None
Grant ID:	None
Documents Reviewed:	• HRP-502a - TEMPLATE CONSENT SOCIAL BEHAVIORAL (1).pdf, Category: Consent Form; • question protocol.pdf, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • IRB-Instrument screenshot.pdf, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • HRP-503a-TEMPLATE_PROTOCOL_SocialBehavioralV02-10-15 (3) (1).docx, Category: IRB Protocol; • Recruit Letter.pdf, Category: Recruitment Materials;

The IRB determined that the protocol is considered exempt pursuant to Federal Regulations 45CFR46 (1) Educational settings, (2) Tests, surveys, interviews, or observation on 3/23/2018.

In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

Sincerely,

IRB Administrator

cc: Andrew Lang