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EDUCATOR PROFESSIONAL DEVELOPMENT AS RHETORICAL SITUATION

by

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ABSTRACT

EDUCATOR PROFESSIONAL DEVELOPMENT AS RHETORICAL SITUATION

Bethany Leigh Creswell Wilson
Old Dominion University, 2023
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Dr. Ruth Osorio

Teacher effectiveness is recognized as the most prominent in-school influencer of student learning, and professional development (PD) of in-service educators is seen as vital to improving teachers' effectiveness throughout their careers. Professional development is often studied atheoretically and with a linear view in which PD providers deliver instruction and teachers receive and apply that instruction as it was delivered to them. By casting them as passive, blank-slate receivers and automatic appliers of the PD, this view obscures the complexities of teachers' role in PD. Examining educator PD through the lens of rhetoric, and viewing the PD experience as a rhetorical situation, allows us to tease apart the highly connected ecology of roles and text(s) present within any PD situation. Understanding more about the roles teachers take in PD–as PD provider or receiver, and as rhetorical audience and rhetor–opens up opportunities for engaging educators fully in their own and one another's development.

This collective case study of four educators used interviews and collection and analysis of PD-related Twitter activity in order to discover how the participants embrace, resist, and shift between the roles of PD receiver and provider and the roles of rhetorical audience and rhetor. The resulting study demonstrates that rhetoric acts as a rich lens for bringing to light the ways educators bring their own expertise and experiences to PD activities, make a number of complex choices within those activities for both their own enrichment and the enrichment of others involved, and embrace methods of PD, such as using social media platforms, that give them full access to all roles. The conclusion of this dissertation offers three tools for use by readers: 1) the rhetorical lens constructed in this project and used to view PD as a rhetorical situation; 2) a set of recommendations for educators who wish to seek PD using social media, including both composition methods to try and mindsets for shifting between the rhetorical roles available through social media; and 3) a set of recommendations for those offering PD to educators, with an emphasis on accounting for the complexities of their roles as learners with their own expertise, as audience members with an audience's inherent power, and as potential rhetors when given access to the role.

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CHAPTER I

EDUCATOR PROFESSIONAL DEVELOPMENT AND THE RHETORICAL SITUATION

AT THE INTERSECTION OF TEACHING, LEADING, AND RHETORICAL SCHOLARSHIP

When I began this project, I was a classroom teacher and a department chair, which in my particular school brought some authority over both professional development and evaluation of teachers in the department, and some influence on the direction of the school in terms of instruction or vision for the future. However, I often felt that the level of expertise or valuable perspective I had to offer was misaligned with the influence I had, as compared to that of administrators far removed from the classroom. This engendered in me a passionate belief that school administrators should elevate teacher voices and perspectives, a stance that likely also emerged thanks to my mother's career-long engagement with and leadership roles in her local, state, and national teacher unions. I was also a professional development junkie, always hungry to learn more, to grow and enrich my craft. I was energized by PD that I found to be high quality and was frustrated by poor PD, especially if I felt that I knew more than the deliverer, either about the content or about the realities of the classroom.

As a department chair, I was responsible for supporting and fostering growth in teachers with a variety of perspectives on PD, from avid learners who sought to grow from all PD opportunities to those who were resistant to all forms, open only to particular types, or appreciative of PD only if it affirmed their current method or practice. Overall, this position was uncomfortable for me. I believe strongly in teacher choice, voice, and autonomy. At the same time, I saw strengths, weaknesses, and potential for growth across my department (my own included), and was flummoxed by teachers who were uninterested or unwilling to pursue improvement. Looking back, I can see that when I began the project, I sought more effective ways to get teachers to learn what they 'needed to' (as determined by some outside viewer...presumably me).

In the (extensive) time that has passed since I began this research, I have worked in three more schools and become a school administrator. As a school leader, I see my professional mission as managing and leading the institution in such a way that teachers are able to do their best work for students. I seek to remove barriers, give support, run interference, and create space for teachers to be effective as trusted, respected professionals. I also continue to evaluate teachers and influence their professional development in pursuit of the best possible instruction for students. While I have grown

more comfortable with the ethical complexities of being a leader in a school community, my awareness of—and lingering discomfort with—simultaneously believing in teacher autonomy and having authority over teachers has continued throughout my work on this project.

Finally, as a graduate student in rhetoric and composition, I saw value in knowing more about not only teachers' engagement with professional development in general but also their rhetorical positioning within it and the ways that positioning grows from or reflects their perceptions and objectives in the professional growth opportunities they pursue.

This intersection of professional and scholarly impulses has driven this research project, as I have sought to understand more about the rhetorical roles teachers take in professional development, particularly that which they choose for themselves. This intersection has influenced all parts of the project, from the literature reviews straddling the fields of education and rhetoric, to the combination of methods, to the language I have used in hopes of communicating with professionals and scholars in both fields, to the conclusions and recommendations that I hope can be of value both to rhetoric scholars and to teachers, school leaders, and PD providers.

PROFESSIONAL DEVELOPMENT AND THE RHETORICAL SITUATION

Professional development is key to increased student achievement (Desimone et al.) and school improvement (Borko and Putnam; Darling-Hammond, *Teacher Quality*), and it is valued both by administrators, whose charge is to lead schools and systems to meet high standards, and by teachers (a term I will use interchangeably with "educators" to include any faculty or staff member responsible for student learning and growth), who not only pursue excellence but also seek to demonstrate their status as professionals in a climate that often casts them as anything but (see, for example, Marks).

Selecting or designing professional development activities frequently lies in the hands of district- and school-level administrators, who often choose based on the teachers' perceived weaknesses, on the administration's vision for the future, or on financial investments in resources that teachers must learn to use. At the same time, professional educators have valuable ideas about what leads to good teaching and thus can be used as one of several resources for developing the best professional development for a particular context, need, or situation. For this reason, this study and its outcomes are valuable because both professional development and the general climate of the teaching profession must work toward and not against the ability of individual teachers to get better at what they do.

Increasingly vocal calls for greater teacher quality have brought attention to K-12 educators' professional development, as seen in this representative line from Desimone et al: "Professional

development is considered an essential mechanism for deepening teachers' content knowledge and developing their teaching practices" and "could be a cornerstone of systemic reform efforts" (81). Scholarship on education presents a consensus view that professional development builds teachers' expertise (Bransford and Schwartz 68), that teachers are the number one school-related influence on student learning (Hattie 3), and therefore that improved instruction leads to improved student learning (Thomas R. Guskey, "The Age of Our Accountability"; Darling-Hammond, *Teacher Quality*).

Much of the literature within the field of education, where professional development of in-service K-12 teachers is discussed most extensively, states a need for high-quality professional development and cites flaws in particular approaches (such as short duration and isolation from context). Alejandra M. Varela forthrightly states

> The present educational system, with its emphasis on accountability, puts enormous pressures on teachers, especially those of English and the Language Arts, to teach fluency, comprehension, and critical thinking skills as an integrated whole. However, the in-service that most schools provide turns teachers into passive learners. In this format, teachers become novice learners, lectured on "how to do it right" but never shown how new strategies work in action. (17)

Progress is certainly being made as scholars study professional development methods and list characteristics of good professional development, but the literature reveals that despite a quickly growing body of research, the answers regarding good professional development are still elusive. For instance, Guskey's analysis of 'best practice' lists found them to be "inconsistent and contradictory" ("Analyzing Lists" 4).

Current research on professional development of in-service K-12 teachers often focuses on professional development as a transaction in which teachers receive and act on a message or lesson. This scholarship frequently furthers the assumptions and values currently held in the field of education, some of which are problematic; for instance, it may assess or suggest assessing the effectiveness of teacher professional development by measuring student performance before and after the professional development event (Blank; DuFour and Eaker; Fishman et al.; Thomas R. Guskey, "The Age of Our Accountability"; Loucks-Horsley and Matsumoto). Such a view of professional development furthers positivistic assumptions that are currently pervasive in the national conversation about education but that are also decried as the cause of both education's problems and teachers' deprofessionalization (see, for instance, Diane Ravitch's writings on the topic since 2010, as well as the work of organizations such as FairTest and grassroots movements of families opting out of high-stakes state-mandated testing).

Some studies of particular methods ground themselves in situated learning (e.g., Nelson and Slavit), complexity theory (e.g., Opfer and Pedder), systems thinking (e.g., Hoban) or theories of adult education (e.g., Beavers), but for the most part, research on professional development grounds itself only in assertions of a powerful relationship between teacher quality and student learning, and between professional development and teacher quality. As we continue to seek understanding of how professional development can work as well as possible, a new theoretical stance may be useful.

One way to understand more about how teachers engage with professional development opportunities is to examine the complexities of their roles in PD opportunities, from structured events to organic opportunities. Typically, the design of a professional development event includes a PD provider who sends learning on a one-way path to event attendees. In the most thoughtfully designed of these events, the leader seeks to boost attendees' engagement by designing the event to hold their attention and elicit their active participation through activities intended to enhance their learning. In truth, however, and depending on the expectations of their employers, the teachers may choose whether and to what extent to engage in activities, internalize their content, or apply it to their classrooms.

Examining PD activities as rhetorical situations sheds light on those complexities. Using a framework in which the traditional information-provider is seen as the rhetor seeking to bring about change in the minds of an audience, the teachers seeking development, may help the field better understand the dynamic between the two, especially by recognizing the complex role of audience in a rhetorical situation and the ways the rhetor and audience roles can shift.

Further, social media, specifically Twitter, provides a variety of rhetorical situations through which teachers may pursue PD, with less clearly delineated roles for rhetor and audience. This variety, along with the platform's specific affordances, offers a window into the rhetorical roles teachers fill when they pursue PD outside the structures of typical PD events. Taken together, the rhetorical situations of PD events and use of social media for PD unveil the complexities of teachers' roles in the various forums where they seek professional growth.

Both professional and popular publications about and by teachers in the United States have shown the beleaguered state of the profession and the defensive stance many teachers feel compelled to take in response (see, for instance, Barry; Placier et al.; Milner). A rhetorical view of professional development, and specifically an examination of how voice and power are distributed among the components of the rhetorical situation, may offer a helpful way to view teacher professional development as an act in which teachers' choices and actions are highlighted as a vital part of a system

that also includes provider expertise, event design, administrative power, and other components of the rhetorical situation.

PROFESSIONAL DEVELOPMENT: THEORY AND RESEARCH

Education scholarship shows that professional development helps teachers advance along "the trajectory toward expertise" (Bransford and Schwartz 68) and that better teachers give better instruction and thus achieve better student learning (Thomas R. Guskey, “The Age of Our Accountability”; Darling-Hammond, *Teacher Quality*; Goldhaber and Anthony; Kukla-Acevedo). In a study of the education systems of the highest-achieving nations on international assessments, researchers found that they “have been particularly intent on developing teachers’ expertise” (Wei, Andree, et al. 28), but the United States has lagged significantly behind other nations, which often provide 100 hours of PD per year in addition to significant time every week spent collaborating with colleagues and studying teaching (Darling-Hammond et al. 5; Wei, Darling-Hammond, et al. 2). Thus a long chain of cause and effect is made from US students’ comparatively poor academic achievement and the comparatively less extensive professional development of American teachers.

The literature generally defines professional development somewhat narrowly as a formal or structured event or activity, as in the definition provided by “The Glossary of Education Reform”: “a wide variety of specialized training, formal education, or advanced professional learning intended to help administrators, teachers, and other educators improve their professional knowledge, competence, skill, and effectiveness” (Abbott). Some, however, see professional development more broadly, as in Grant’s argument that "professional development... goes beyond the term 'training' with its implications of learning skills, and encompasses a definition that includes formal and informal means of helping teachers not only learn new skills but also develop new insights into pedagogy and their own practice, and explore new or advanced understandings of content and resources.” These informal learning experiences may cover quite a wide range, as Borko demonstrates: “For teachers, learning occurs in many different aspects of practice, including their classrooms, their school communities, and professional development courses or workshops...in a brief hallway conversation with a colleague, or after school when counseling a troubled child” (4).

Professional development is carried out in many different contexts, with many different populations of teachers, by many different parties, and, most importantly, for many different purposes, but all these efforts have one goal: to encourage teachers to grow as professionals. Thus it is not surprising that most research on the subject begins with an assumption that professional development

is useful and necessary. Many studies of professional development ground themselves only in the increasingly vocal calls for greater teacher quality and, thus, higher-quality professional development. Desimone et al.'s passive voice and use of a modal here are typical: "Professional development is considered an essential mechanism for deepening teachers' content knowledge and developing their teaching practices" and "could be a cornerstone of systemic reform efforts" (81). Scholars and others publishing in education accept the usefulness of teachers' professional development as a given, and they offer theoretical grounding only when advocating a particular type of professional development (such as using situated learning theory to study professional learning communities). This pattern reflects "the nebulousness and often atheoretical nature of the concept of professional development" (Hardy 12). Further, many professional development opportunities are offered by for-profit companies with varying levels of rootedness in theory. Similarly, scaling particular PD programs to serve large numbers of educators can also water down any theoretical foundation.

That said, two basic theories of how professional development works emerge (often implicitly) in the literature. In earlier works, such as Guskey's "The Age of Our Accountability," professional development is presented as a linear process in which professional development changes teacher actions and/or beliefs, which ultimately affects student learning. While these texts contain a chicken-and-egg debate over which comes first—changes in beliefs or changes in behaviors—their assumption is that professional development happens to teachers, and then they change. Later work shifts to a theory of professional development as less linear and more subject to multiple, complex influences, particularly that of context (Garet et al.; Borko and Putnam; Darling-Hammond, *Teacher Quality*). While in some cases the theory is explicit, such as Borko and Putnam's explanation of situated cognition as a theoretical basis for professional learning, in general these theories are frequently unstated and even assumed. Similarly, in the last several decades, the methods of research on professional development for teachers have moved through two broad stages. Earlier studies focus on teachers' reported responses to professional development activities (for instance, their intention to enact strategies or their satisfaction with a professional development activity) (Frechtling et al.). Although studies of teacher-reported impressions of PD activities continue to be published, the shift toward accountability and measurable outcomes that began in the late twentieth century turned efforts toward discovering the relationship between professional development and student performance (Blank; DuFour and Eaker; Fishman et al.; Thomas R. Guskey, "The Age of Our Accountability"; Loucks-Horsley and Matsumoto). In later years, teachers have continued to be cast as recipients and applyers of PD but more nuanced ones; consider, for example, Guskey's shift from expecting teacher attitudes to change within PD in 1998 ("The

Age of Our Accountability") to acknowledging in 2020 that teachers must see practices bring results for students in the classroom before their beliefs will change ("Flip the Script on Change").

Much of this research focuses on problem-solving, often beginning with an "X ought to be done, but Y is in practice" statement like this one by Mayotte et al.

> Professional development is most effective when it is delivered as part of a systematic, long-term approach to school and teacher improvement (Darling-Hammond & Richardson, 2009; Garet, Porter, Desimone, Burman, & Yoon, 2001). Yet one-shot workshops remain a common form of professional development even though participants report little meaningful change in their classroom practice (Garet et al., 2001). (264)

From there, the typical study pursues the million-dollar question of how best to develop teachers. In general, discussions of PD models demonstrate that good professional development positively affects teachers' content knowledge, teaching practices, attitude toward teaching and learning, and confidence in participants' ability to teach successfully, but poor PD "is seen as too conventionally taught, too top-down, and too isolated from school and classroom realities to have much impact on practice" (Buczynski and Hansen 600). Further, despite frequent acknowledgement in research that "short-term, standardized sessions designed to impart discrete skills and techniques" (Grant) are not effective and other methods (such as action research or participatory communities) should be adopted, it continues to be the case that "most US teachers work in isolation, take a heavy dose of workshops, and do not receive effective learning opportunities in many areas" (Wei, Darling-Hammond, et al. 1).

Research on professional development often examines one or more types of professional development in practice, in an effort to show why certain professional development methods are or are not effective. These types and subtypes of professional development abound. They include

- Action research and teacher research
- Courses and workshops
  - Specific to academic subject areas, *e.g.,* language arts, science
  - Specific to teaching methods, *e.g.,* inquiry-based learning
  - Specific to instruments, software, and hardware, *e.g.,* standardized tests, Google Earth, SmartBoard
  - Specific to policies, *e.g.,* Common Core State Standards (Bostic and Matney; Jenkins and Agamba; Youngs and Center for American Progress)
- Conferences and seminars
  - Specific to academic subject areas

  - Specific to teaching methods
  - Specific to topics relevant to teaching (e.g., social-emotional learning)
- Curriculum mapping or alignment groups (Koppang; Shalem et al.)
- Degree or certification programs
- Informal dialogue with peers and leadership (Organisation for Economic Co-operation and Development)
- Mentoring or peer coaching (Hudson; Jao)
- Participation in a face-to-face or online network of teachers (Hur and Brush; Trust)
- Peer observation in the same school or other schools (Hamilton; Sandt)
- Reading professional literature
- Small groups
  - Reading groups (Burbank et al.; Gardiner et al.; George; Pelletier; Reilly)
  - Professional learning communities (DuFour and Eaker; Pella; Riveros et al.; Servage)
  - Critical friends groups (Burke et al.; Curry)
  - Community of practice (Borg; Caudle et al.)

Much of the literature focuses on these types individually, especially in the form of case studies of particular instances in which one or more of these types were applied. These tend to come in waves as a particular method generates interest among professional development researchers, as seen in the rise in studies of professional learning communities beginning around the year 2000. As more of these studies have been added to the discussion, there has not been consensus on the best *types* of professional development. Instead, significant research focuses on identifying *characteristics* of effective professional development, such as embeddedness and responsiveness to context[1]. So many scholars have sought to identify these key characteristics that Thomas Guskey conducted an analysis of such lists in search of commonalities (Thomas R. Guskey, "Analyzing Lists"). Guskey found these lists to be "inconsistent and contradictory" (4), primarily because "the differences in communities of school administrators, teachers, and students uniquely affect professional development processes and can strongly influence the characteristics that contribute to professional development's effectiveness" (16). Nevertheless, he assures readers that data about student outcomes should be used to continue to

[1] See, for example, the work by Wei, Darling-Hammond, Andree, Richardson & Orphanos, and Ingvarson, Meiers, & Beavis, as well as the The National Staff Development Council's standards for use by professional developers in creating professional development programs that achieve desired outcomes.

pursue the characteristics of best practices for "highly effective professional development within" individual contexts (16).

Guskey's use of the word "effective" and his direct association of effectiveness with student performance is typical of current research in the field. The word "effective" is used frequently in assessing professional development efforts (Garet et al.; Lutrick and Szabo; Penuel et al.; Desimone; Ebert-May et al.), and the implication in most of this scholarship is that effectiveness is determined by measurable changes in specific teaching behaviors (such as implementation of particular curricula, as in Penuel et al.'s "What Makes Professional Development Effective? Strategies That Foster Curriculum Implementation") or, more frequently, in student performance. Measurability of student performance and use of those measurements to determine the success of schools and teachers has become familiar since the introduction of the No Child Left Behind Act of 2001, so measuring student outcomes in order to assess the success of teachers' professional development is not a surprising phenomenon. Groundwater-Smith and Mockler argue that the emergence of an audit culture in schools and schooling has fed and been fed by the rising faith in "standardised testing, 'objective' assessment and the codification and quantification of teachers' knowledge and practice via professional standards" (9), which brings with it a managerial approach to using both standards and teacher professional development as measures of quality control. This managerial approach is one reason for the continuing pervasive use of linear models of professional development despite the newer research advocating other methods.

Some scholars question tacit assumptions that measurable changes in student performance are the best indicator of professional development's effectiveness, and such "tensions are reflective of a disjunction between the embodied capitals of teachers engaged in daily teaching practices in schools, and the often more economistic and bureaucratic capitals endorsed by the state" (Hardy 106). In other words, as set curricula and other systematic methods seek to make the path to higher student test scores as direct and efficient as possible, sometimes through means at odds with what educators see as appropriate for their particular students' learning, it does not come as a surprise that PD, too, is conceived of as another way to achieve efficiency and boost production. Referencing Bauman, Bottery, and Codd, Servage points out that the shift in education—and therefore in what is expected of teachers—toward students' gaining "a competitive edge in global markets" means that "the economic utility of education dominates policy priorities" (151). Part of this shift is "an increased emphasis on efficiency and accountability as business models and business values are applied to" education (Servage 151). In her view, the use of changes in student performance as measurement of the value of PD does

more than ignore the broader range of types of growth teachers can experience; it compounds problematic conceptions of education as business or education as industry.

After reviewing literature related specifically to professional learning communities (a professional development model she studies), Servage finds conflicts between the purported potential of the method to advance reform and a circumscription of such reform within the already accepted (and uncritiqued) models of education. She argues against using professional development "to reinforce a limited vision of what schools can or should be providing" (151), questions the expectation that all good professional development should "engage only in ways that are perceived to further the science of teaching," and seeks to undermine the assumption that what counts as research focuses on students' "observable and measurable" performance (155). Servage expresses concern that when "positivism dominates what constitutes knowledge in teachers' collegial work" and teachers fail to question "collaborative work that emphasizes performativity," the teachers themselves further a positivist notion of what professionalism means for teachers (155).

For example, when collaborative methods of professional development, which in theory would access teachers' many kinds of knowledge about teaching, both quantitative and qualitative, are used to encourage a pathology-based view of their work based on "performing 'sophisticated batteries of tests' and determining appropriate 'treatments' in the classroom" (Servage 155), the professional development is not broadening but limiting teachers' professional horizons by devaluing and eliding large parts of teachers' work, such as those rooted in ethics of care. The work of Penuel et al. serves as an example of the type of professional development that Servage critiques. They argue that curriculum-linked professional development, which "focuses specifically on how to enact pedagogical strategies, use materials, and administer assessments associated with particular curricula," is superior to "workshops that focused on general pedagogical strategies in promoting change in teacher's practice" (928). The authors imply that learning how to carry out a (particular) curriculum correctly in order to achieve higher performance from students is the highest and perhaps only goal of professional development. Servage's point is that when teachers use collaborative, teacher-centered methods to carry out such positivistic professional development, they may internalize or fail to question a flawed definition of teacher research that "discourage[s] the use of qualitative, subjective or craft knowledge in teachers' professional discourses" (156).

Servage's critique of positivism in professional development is oriented within a larger (although still not dominant) community of researchers advancing teacher research and reflective practice as modes of professional development that "[seek] to solidify the knowledge that teachers use and learn

from by unifying it within its own theoretical discourse" (156). Others in this community focus on such modes of professional development as professional learning communities and action research (Darling-Hammond, *Right to Learn*; Cochran-Smith and Lytle; Stenhouse). As Cochran-Smith and Lytle explain, these kinds of professional development value "practical knowledge, craft knowledge, lore, received wisdom, the wisdom of practice, accrued wisdom, or knowledge that is experiential, personal-practical, situated, relational, embodied, popular, and/or tacit" (20), knowledge types that have the potential to undermine "the knowledge transmission model of professional education" (21). Destabilization of long-established epistemological and institutional systems is slow-going, however, and these methods of professional development have been critiqued for failure to fulfill the criteria for traditional definitions of knowledge (see, for example, Fenstermacher).

Guskey's most recent work, however, does note that teachers "retain and repeat practices that work, whether in motivating students, managing student learning, or helping students attain desired learning outcomes" and "abandon practices that don't work or fail to yield any tangible evidence of improvement" ("Flip the Script on Change" 21), which reflects the role teachers' experience can play in identifying effective practice. He makes this point within an explanation of how better to cause teachers to change their beliefs, responding to, for example, Hargreaves' research showing that teachers are slow to abandon instructional practices they have developed through classroom experience; in doing so, he maintains a model in which PD is done to teachers to elicit new behaviors, but by focusing on why teachers respond as they do to PD, this line of inquiry could be a pathway toward intersection with teacher-driven models of PD.

With the field continuing to be guided primarily by traditional concepts of knowledge, the studies that do focus on teachers conceive of them as learners, frequently invoking situated learning theory (Pella; Riveros et al.), or Vygotsky's theories of development (Eun). Even when no theoretical grounding is specified, the literature often casts teachers as students. Beavers illustrates the PD-as-classroom approach that often occurs in these situations:

> "Teachers in staff development are often viewed as the 'class' or 'students' as the presenter adopts the role of the 'teacher' or 'instructor.' Usually, good practices are followed that would be considered appropriate in most primary or secondary classrooms. There are handouts, lectures, group activities, and question sessions." (Beavers 26)

This view of professional development can be seen frequently in the language used in guidance for providing effective professional development, which mimics the language of teaching in the primary and secondary classroom. In one example, Wei, Darling-Hammond, Andrew, Richardson, and Orphanos

suggest that PD events be designed to include "modeling the sought after practices and constructing opportunities for teachers to practice and reflect on the new strategies" (6). Such modeling of language and behaviors students are asked to repeat is used frequently in the classroom through demonstration by the teacher or a student and imitation by other students.

These studies casting teachers as students explicitly consider the role of teachers in professional development, but they generally consider what "teachers" (the recipients of development) need, not what teachers (the rhetorical audience of professional development) think or want. There is good reason for this: early scholarship on professional development was limited to exit surveys and the like (Frechtling et al.), with too little focus on actual outcomes and effects in the classroom, causing later researchers to avoid any hint of "did the teachers like it?" Nevertheless, teacher perspectives influence the processes and outcomes of professional development, whether or not they are solicited or considered.

One learning theory does explicitly foreground what teachers bring into the professional development activity: adult learning theory. In acknowledgement of the fact that "teachers are problem solvers: questioning, challenging, and adapting to actively meet the needs of their students," adult learning theory approaches PD as learning but does not equate teachers to young students (Beavers 26). Teacher professional development informed by adult learning theories allows for teacher voice and choice in what should be learned, respects their experiences and knowledge, and invites voluntary participation (Trotter). To achieve these, adult learning theory also advocates including teachers in the selection and planning of professional development.

Teachers' points of view merit consideration partly because they are professional educators whose ideas about what leads to good teaching are valuable, since teaching is a practice of continual problem-solving in pursuit of learning for a wide variety of individual students. The types of knowledge cited above, from lore to practical knowledge, grow from these daily practices as teachers make connections and see patterns among multifarious individual situations. Although conventional concepts of knowledge argue that it must "transcend the lived world of transiency and imperfection" and leave behind "opinion, impulse, sensory experience, and desire" (Greene 427), emerging understandings of ways of knowing—particularly those related to embodied experience—argue that we use imagination to understand experiences and make meaning. As Maxine Greene puts it, "What matters is an affirmation of energy and the passion of reflection in a renewed hope of common action, of face-to-face encounters among friends and strangers, striving for meaning, striving to understand" (459). Lore and practical knowledge are the outcomes of teachers' reflection on lived experience and continual striving to

understand how to help students learn. They are also vital to teachers' understanding and application of research-based practices and tools in real classrooms, which are neither entirely consistent nor predictable, and which are characterized by the intellectual, social, and emotional particularities of dozens of young people. As Guskey explains, when PD uses rational arguments to tell teachers that previously used methods are bad, irrational, or harmful to students, it seems to stand to reason that teachers, as rational beings in favor of student growth, will jump on board. However, "emotions, attitudes, and perceptions…are driven by what people have previously known and experienced" (Guskey, "Flip the Script on Change" 20), which for teachers includes not only the familiar or comfortable but also what has worked with students in classrooms. To expand these teachers' toolboxes, it is vital to acknowledge how the current tools got there in the first place, and what perceptions led to their current use.

But even without reconsidering today's positivistic views on education, there is reason to value teachers' points of view, because teachers and research are often in line. For instance, teachers' perceptions of a professional development activity are more positive when the activity leads to student improvement (Commeyras and DeGroff; Doubek and Cooper; Morewood et al.), the same criterion that is so highly favored by empirical researchers of professional development's effectiveness. There is no reason to believe that the teacher point of view is unreliable or irrelevant—in fact, such a view furthers the damaging deprofessionalization of teachers that has been decried since the onset of the accountability movement. Instead, teachers as participants in professional development should be considered a valuable resource.

Further, the values, attitudes, and prior knowledge of any group affect how much value its members find in a learning activity. Desimone and others have advocated teacher choice in professional development as a way to ensure that real needs are being met. Choice means that teachers "are more likely to align student learning needs with their professional learning needs; thus influencing student achievement (sic)" (Morewood et al. 203). In other words, teachers' point of view is already considered important to a certain extent.

Scholars researching professional development with an eye toward providing better education for students are not wrong to focus on outcomes for students in the classroom. But both the too-limited exit surveys of participants and the too-positivistic focus on measurable changes in student performance leave gaps that need filling. One approach to filling those gaps should be to pay more attention to teachers as audience for, contributors to, and deliverers of professional development. As professionals who spend every day in the classroom seeking to achieve student learning and solve problems that

interfere with that learning, teachers who participate in professional development bring significant value to the practice. Researchers should find ways to tap into that resource.

RHETOR-CENTERED CONCEPTS OF RHETORIC

> The state, the district, or the school administrator determines the knowledge and skills a teacher needs to know and provides training to impart that knowledge to the teacher. The teacher is responsible for delivering the information to students. And, finally, the students are graded on how much they absorb. That's the *training food chain*. (Wald and Castleberry 7)

The professional development of teachers is by nature a rhetorical act in which the rhetor aims to bring about some change in the mind of another person: those offering the professional development seek to help teachers think (and act) in new ways in their teaching practice. Indeed, consider the following graphic representation of a professional development session provided by Hilda Borko within a discussion of teacher learning through PD:

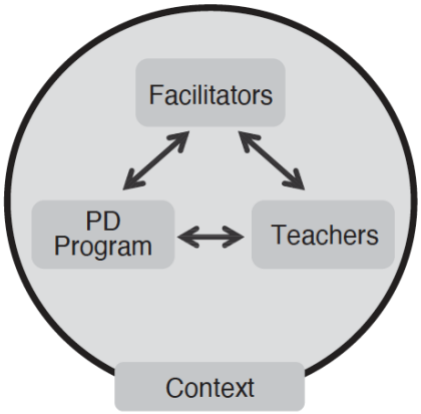

Figure 1: Graphic representation of a professional development session (Borko 4)

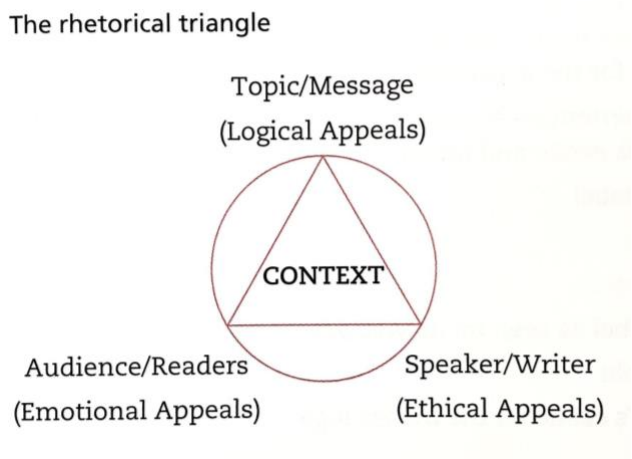

Figure 2: Graphic representation of a rhetorical situation from a popular rhetoric textbook (Lunsford and Ruszkiewicz 35)

Its representation of facilitators, teachers, program, and context are remarkably similar to the widely used rhetorical triangle depicting the interrelatedness of speaker, audience, and subject within the context of the rhetorical situation (see Figure 2).

In most PD models, a speaker (usually a literal speaker addressing a present audience) uses language and other modes of communication to influence the thoughts and actions of an audience, with the goal of improving the professional performance of the teachers that make up that audience. The rhetor is likely to be a school administrator, a curriculum specialist, an academic consultant, or a teacher-educator (and thus to carry some amount of institutional power in addition to that inherent to the role of rhetor). In a professional development session, the rhetor likely seeks to share ideas on instruction—such as a teaching method or use of a resource—with a group of in-service teachers. Although there are many models of professional development for teachers, the most frequently used type is the workshop, in which an expert informs teachers on a topic and perhaps leads them through activities in which they practice application. Although professional development activities of this type may not be transactional, the design certainly maintains a pattern in which rhetor has meaning, rhetor presents meaning, audience gets meaning. Further, while an individual leader of professional development may hold any number of opinions about teachers, the model of the professional development session casts the rhetor as the expert and the audience of teachers as passive receivers of the expertise. A professional developer preparing such a session might think explicitly about her audience, perhaps asking herself questions along the lines of “what strategies will lead these teachers to value what I value and act as I suggest?” thus further casting the teachers as passive receivers. In other

words, the professional development event is designed to be centered on the rhetor, who will conduct a transaction by giving knowledge to the audience. Whether or not the designer considered the PD event rhetorically, this design isn't surprising; rhetoric itself has a long history of viewing rhetorical acts as transactional, and that understanding has become firmly rooted in culture, to the point that someone designing PD is likely to rely unconsciously on such an understanding.

Concepts of rhetoric have been introduced and refined over centuries, but they have generally conceived of rhetorical events as being primarily controlled or determined by the rhetor, along the lines of Aristotle's classic definition: the rhetor forms text as they see fit, and if the rhetor does a good job of it, the intended outcome is achieved. In this understanding, the rhetor takes the actions (perceive/observe, compose/deliver, influence audience, achieve purpose); the rhetor is the primary player, and other components, including the audience, are secondary. From classical rhetoric to the philosophies of modern rhetorical scholars, this limited perspective remained largely unchanged.

While, for example, Aristotle cited the speaker's character, the audience's response, and the argument itself as the three key components of a rhetorical act, this seemingly balanced view (a balance often represented using an equilateral triangle) is actually centered on the rhetor. The focus is made particularly clear in his discussion of audience in *Rhetoric.* In it, he presents a set of categories into which audience members may fall and suggests characteristics one ought to consider in appealing to each category. For instance, "Young men are…changeable and fickle in their desires, which are violent while they last, but quickly over" (84) and rich men consider "wealth…a sort of standard of value for everything else" (88). His psychological consideration of audience, in which he pays attention to the potential variation in audiences' reactions to a rhetorical act, is certainly groundbreaking, but his goal in offering these generalizations is to facilitate the rhetor's successful influence on the audience. Such a transactional view is further reinforced by his distinction between dialectic and rhetoric. Whereas he presents dialectic as equals participating in a shared pursuit of truth, his portrayal of rhetoric casts the rhetor as knowledgeable and clever, acting upon an audience who is easily swayed by emotion. In other words, Aristotle's rhetor invents, the rhetor delivers, and the audience receives the message and uses it to guide action. Even if parts of Aristotle's *Rhetoric* demonstrate the ethical ends of rhetoric, his "theoretical framework sets up a relational role between rhetor and audience" in which the rhetor holds "a position of authority and control relative to the audience, who is a passive agent to be persuaded" (Porter 19). To put it another way, Aristotle's rhetor is the actor and other components of the rhetorical event, including both text and audience, are affected by his actions. Similarly, some others in the Classical era accounted for the audience without theorizing it deeply. Quintilian, for example, noted that

listeners could see right through an evil faux-rhetor's dissembling (because only a good man could truly be a rhetor) and would not be persuaded by his text. While such a view presents the audience as having the power to reject, Quintilian's rhetoric continues to be rhetor-centered, and his focus on legal situations implies a very specific audience with a formalized (and not highly theorized) role.

Based on the foundation laid during the Classical period, a componential, transactional, and rhetor-centered view of rhetoric (which was chiefly focused on persuasive speech) has dominated for centuries. Audience has been included as one of those components, but theorization of it has been limited because of its status as secondary to rhetor in importance. Audience was uncritically defined as the immediately present hearers of a speech or, perhaps, the individuals who read a written product, and audience received little attention as a rhetorical concern. In the eighteenth and nineteenth century, as classical rhetoric began to change in response to shifting economic, social, and religious climates, explicit theorization of audience diminished even further; audience was simply a placeholder in an act defined by the rhetor and his actions. George Campbell, Hugh Blair, and Edward Tyrrell Channing are among those responsible for this dwindling influence. While these rhetoricians vary slightly in their concepts of audience, they all see rhetoric as a way for a rhetor to have an intended effect on a (passive) audience (Golden and Corbett; Ede). As Lida Ede puts it, rhetoric of the 18th century brought a "gradual transformation of ancient rhetoric 'into little more than the practice to achieve purity in diction, perspicuity in sentence structure, and proper ordering,'" because those technical moves were seen as the path to influencing the audience (291). Further, where rhetoricians such as Campbell, Blair, and Channing valued certain stylistic tools based on their (assumed) impact on an audience, current-traditionalists and, later, formalists deemed those tools simply *correct*. Thus, even as nearly every rhetoric textbook offered perfunctory advice for students (as rhetors) to 'consider the audience,' the audience's role remained peripheral at best. Even progressive scholarship, such as Linda Flowers and John Hayes's cognitive-process model of composing, carried forward an idea that to accommodate an audience is to adapt the final packaging of a rhetorical act for effective audience management (Porter 41).

In the 20th century, New Rhetoric brought refinements to concepts of audience that still cast audience as subordinate to rhetor but began to pave the way for rhetorical models that recognized the actual roles of audience (and other elements) in rhetorical events. For example, Bitzer asserted that context is vital to rhetorical situations, a concept that laid the groundwork for treatment of rhetorical acts as less rhetor-centered, but at the same time his specific definition of audience—"those persons who are capable of being influenced by discourse and of being mediators of change"—is characterized

by transactional thinking (7). Perelman's refinement was to distinguish between particular and universal audiences, asserting that some arguments might merely be "effective" with a "particular" audience, whereas "genuinely valid argumentation" would "transcend such particularity and make its appeals more broadly" (Crosswhite 158). Perelman defines *universal audience* as the group of rational and competent people who agree on what is logical, a classification that Michael C. McGee objects to as elitist. Despite this more thorough attention to audience as a concept, including recognition that audience is a construction, these deepening understandings were developed in service of either judgment of a rhetor's success or pursuit of greater influence over audience, maintaining the transactional model of rhetoric put in place centuries earlier.

In the mid- to late-Twentieth century, rhetoricians incrementally increased the complexity of theory related to audience but continued to discuss it as a secondary component, subordinate to the rhetor. Young, Becker, and Pike's *Rhetoric: Discovery and Change* stands out for its explicit and thorough treatment of audience. The text acknowledges the complexity of audience and "argues that 'psychological change, rather than elegant prose, is the immediate and proper goal" for a rhetor (Ede 292). But their extensive discussion, even with its inference-based heuristic for exploring audience, relies heavily on generalizations about what happens in the minds of (all) readers and assumptions about how strategies affect (all) readers through influence and management. Like Pike's tagmemics, Kenneth Burke's dramatism relies on connections between rhetor and audience, arguing that while a rhetor *may* influence the audience to identify with his stance, the audience may of its own accord seek that identification, a view that acknowledges a more active role for audience in service of the rhetor's goal. Throughout these works and those of theorists such as Winterowd, Kinneavy, Moffett, and Britton, the concept of audience merited greater attention as a component of a rhetorical event, but the focus on managing and influencing the audience shows that the rhetor remains central to concepts of rhetorical events.

Another thread in the evolution of audience scholarship shows a similar pattern. A number of concepts of implied readership advance theorization of audience while still foregrounding the rhetor, in this case as a creator or conjurer. In Edwin Black's concept of the "implied auditor," one can study the discourse and discover the ideological orientation of the audience envisioned by the rhetor; in turn, real "auditors look to the discourse they are attending for cues that tell them how they are to view the world" (113). In other words, by implying an auditor with a certain ideology, the rhetor can persuade real auditors to adopt that ideology (perhaps thanks to what Burke claims is a universal desire for identification). In the school of reader-response, Wolfgang Iser famously coined the term "the implied

reader"; in his view, examining a text's intertextuality (its many borrowings from other texts) and considering who would recognize or find meaning in those borrowings allows us to discover something about the implied reader, or the reader most equipped to make meaning of the text.

Michael C. McGee offers a process-based version of implied audience, arguing that a rhetor identifies a concern common among many and articulates it, so that a "vision of mass man dangled before persons" convinces individuals that they are, indeed, part of a group, forming a cohesive audience that exists objectively for some period of time (243). When the shared need or concern passes away or ceases to tie this group together, the ideological connection among them remains in the rhetorical artifact (243). In the same vein, Park argues that rhetors invent the rhetorical situation itself, which we see when rhetors open an argument by "carefully defin[ing] a public attitude or state of knowledge in the way that best creates an exigence for the argument to follow" (253). In this way, the "writer invents, so to speak, their significance and, in so doing, creates an audience… And generally readers tolerate these fictions" (Park 253). Thus the audience becomes not a group of hearers, a subset of that group, or a generalized understanding of that group, but a fiction created by the composer in order to compose.

Whether these twentieth-century scholars conceptualize the audience as "addressed," holding "the assumption that knowledge of this audience's attitudes, beliefs, and expectations is not only possible (via observation and analysis) but essential" (Ede and Lunsford 156), or as "invoked," believing that "the writer uses the semantic and syntactic resources of language to provide cues for the reader" (160), both groups maintain a rhetor-centered understanding of rhetoric. These various versions of the implied reader shine light on some of the complex moves made by rhetors, refining concepts of audience but essentially continuing to view audience from the rhetor's point of view. Even as they imbue audience with significance as an object of study, they simultaneously relegate audience to a subsidiary role, subordinate to rhetor.

By definition, theory grows from our observations of the world—we examine the world as it is and form theories in an effort to explain it, refining those theories as we apply them and make further observations. These rhetor-centered approaches to rhetorical theory likely reflect our instinctive reaction to traditional rhetorical occasions, in which the speaker or writer is the most apparently active, the one with the most apparent power, and so on. As such, it is unsurprising when professional developers conceive of PD events in the same way—with a focus on what the rhetor will do and say, responses the rhetor will elicit, and so on. Nevertheless, rhetorical theory has more to offer. Despite appearances, rhetors are not nuclei around which other components cluster; such a view may reflect

how many rhetors design rhetorical events, but not how they play out in lived experience. At the very least, an audience may simply refuse to participate in the transaction by doing the modern equivalent of throwing tomatoes—walking out or checking for notifications on their smartphones. They could respond in an unexpected way. They could take the microphone themselves, literally or metaphorically. In a larger sense, audience, as both a concept and as individuals, plays a number of influential roles in rhetorical acts, forming one part of a constellation of elements that is not centered on the rhetor. Gaining a more accurate understanding of how rhetorical occasions operate can give insight on such occasions, including the professional development of teachers.

CONCEPTS OF RHETORIC THAT DECENTER THE RHETOR

In *Composition as a Human Science*, Louise Wetherbee Phelps highlights the smell-test, so to speak, that a theory should pass in relation to our lived experiences:

> What we ask here is that discourse theories match in some way what we perceive as the wholeness and complexity of the phenomena. Our existing theories are not so much wrong as they are thin and bloodless. They seem partial and incomplete even on their own terms, when compared to the vitality and copia of discourse itself. It helps if we regard such theories as variations and supplements to one another. (60)

Two aspects of her point are relevant here. First, for rhetorical theory to shed new light on the professional development of teachers, we must use theory that lines up with lived experience; if a theory tells me rhetorical acts occur in one way, but it fails to address something I know to be true—perhaps not from empirically gathered data but from experiencing these occasions many times over—then the theory is insufficient. Theory that doesn't fully account for what we see in the world isn't wrong, but it is incomplete. Second, Phelps rejects the idea that one must pledge fealty to a theory, dismissing others because they differ in particulars or in worldview. Instead, she advocates considering multiple theories to be useful in that they, for instance, fill gaps or take up unanswered questions. I will use such an approach here. Because audience is marginalized in rhetor-centered rhetorical theory, I will lay out a set of related ideas that complement one another and are useful in finding a more complete understanding of the role of audience in a rhetorical act.

In the late 1960s, Barthes dramatically decentered the rhetor through a concept of literature in which the author is both irrelevant and nonexistent when it comes to making meaning of a text. Barthes argued that a text does not have a discoverable meaning to be mined for, especially by examining author and process; instead, the text's meaning comes into being as a reader encounters and interprets

the symbols that make it up. Such an understanding of author and reader may effectively loosen deep-rooted views of author as the seat of meaning, but it does not fully align with lived experience. When a text includes the author's name on the cover, in the byline, or on the program, it almost certainly has some influence on a reader or listener's interpretation, thanks to, for example, the author's reputation or the reader's assumptions. Stated another way, a teacher who attends PD led by a practicing classroom teacher or reads a book by the same may interpret the session or the book differently than if the PD provider or the author brings an identity as an educational consultant. Readers may interpret texts outside the control of the author, but the author's existence does influence that meaning, and not only because of the text itself. Even so, Barthes's point that a text's meaning is not to be found in the author's intentions but in the reader's interpretation points the way to an understanding of the rhetorical situation as *not* centered on the rhetor.

In Barthes's version, "the birth of the reader must be at the cost of the death of the Author" (148); neither can live while the other survives. Such a stance was an effective flourish for shaking up an author-focused field, but Foucault, writing shortly after Barthes, rejected the position as simply replacing the author's centrality with an equally problematic focus on the act of creation occurring elsewhere. Foucault sought a more nuanced understanding of what an author is. He outlines the concept of the author-function, which is not equivalent to the individual person with the same name, but instead defined by the set of texts to which the authorship has been assigned due to cultural understandings of ownership and accountability, as well as ideas about which texts are author-worthy (e.g., novels and speeches, yes; grocery lists and voice mail messages, no). The characteristics of the author-function role, according to Foucault, point to "the manner in which discourse is articulated on the basis of social relationships" (Foucault 313); the role of author is defined not by the person composing or the act of creation but by the relationships between entities. When Foucault concludes his meditation on what an author is, he asserts that all subject positions merit such an examination because "the subject...must be stripped of the creative role and analysed as a complex and variable function of discourse" (Foucault 314). The author is a function that is useful in classifying texts and important in understanding a culture's expectations of a text; the author is not necessarily a text's defining characteristic and certainly not its sole creative source. With his examination of the role of culture in defining authorship and his distinction between the person of the author and the function of an author, he opens the way to understanding roles (author, reader, rhetor, audience, and so on) as slots or functions that different individuals might move into and out of as they multifariously contribute to the act of composing.

The groundwork of a useful model of rhetorical events can be laid if we apply the broad concepts introduced by Barthes and Foucault to Bitzer's concept of the rhetorical situation. While Bitzer's definition of audience was noted earlier as problematic, his larger model of the rhetorical situation was remarkable at its introduction—and continues to be foundational to the field today—because of its gestalt nature. Note his diction and syntax in defining rhetorical situation: "a natural *context* of persons, events, objects, relations, and an exigence which strongly invites utterance" (5) and "a *complex* of persons, events, objects, and relations presenting an actual or potential exigence which can be completely or partially removed if discourse…can so constrain human decision or action as to bring about the significant modification of the exigence" (6) (italics mine). He identifies situation first as a context or complex and subsequently names elements that may be found within this whole. Bitzer offers his concept as an alternative to too-limited approaches to rhetorical theory, which focused on the process of developing a text, the "interaction between speaker, audience, subject and occasion," and other aspects of the "orator's method or…the discourse itself" (Bitzer 2). Smith and Lybarger note an important difference from Kenneth Burke's model: "While Burke's approach is certainly an important one, it retains the modernist view that focuses on the rhetor (agent) as the center of discourse and ignores the notion of congruity with audience perceptions and interests" (Smith and Lybarger 197). This foregounding of the complex, with the elements secondary, makes Bitzer's rhetorical situation a useful theoretical basis for studying audience as more than simply those to receive or come under influence. Even more so, examining the power relations between subjects and the shifting of audience and rhetor roles is facilitated by grounding that examination in theory of rhetorical situation.

While Bitzer's model has been augmented in important ways, it is important first to understand his original concept as a starting place. Bitzer's concept of rhetorical situation includes at least five constituents: exigence, audience, constraints, orator, and oration. Bitzer gives the first three the most attention, presumably because the latter two have been the focus of many previous rhetorical theories. He places purpose and audience at the center of his concept, stating, "In any rhetorical situation there will be at least one controlling exigence which functions as the organizing principle" that "specifies the audience to be addressed and the change to be effected" (7). By exigence he means "an imperfection marked by urgency; …a defect, an obstacle, something waiting to be done, a thing which is other than it should be" (6), and thus the reason any rhetorical act is taken in the first place. In PD, the exigence is the problem or inadequacy that, if resolved, would lead to better student learning. For example, an exigence might be that students need a better way to expand their vocabulary, which could be done through encountering words in the context of high-interest reading material, and a PD session could equip

teachers to take that approach to vocabulary instruction. Bitzer's audience, as noted earlier, is that group of individuals capable of remedying the exigence, the people "to be constrained in decision and action" (6).

In PD, the audience consists of the educators who work with students and thus have the power to address the problem or inadequacy through their professional practice, such as using high-interest texts to teach embedded vocabulary regularly during ELA time. Bitzer's constraints include "persons, events, objects, relations which are parts of the situation because they have the power to constrain decision and action needed to modify the exigence" (8). The constraints in the rhetorical situation of PD might be time, competing priorities, the perpetuation of prior knowledge meant to be supplanted or supplemented (either because of the nature of experience or because the teacher believes another method is better). In our example, one constraint might include the fact that ELA time must include instruction in literary text comprehension and analysis, nonfiction text comprehension and analysis, narrative writing, exposition, argument, and grammar, as well as vocabulary. Another constraint might be a teacher's belief that vocabulary is appropriately learned through studying word lists, and thus time should be spent engaging with such lists in a variety of ways instead of with high-interest texts. In Bitzer's model, these three (exigence, audience, and constraints) form the context into which the rhetor and text (two "additional constituents" (8)) enter.

The PD provider would likely fulfill the role of rhetor here, and the programming of the PD, such as training on how to use high-interest texts to teach vocabulary, the text. Overall, these constituents create a complex within which rhetorical acts take place. Bitzer defines a rhetorical act in this way: "The rhetor alters reality by bringing into existence a discourse of such a character that the audience, in thought and action, is so engaged that it becomes mediator of change" (Bitzer 4). To do so successfully, Bitzer asserts, the rhetor must create a fitting response, one that suits the situation or answers the situation's call. In our example, the PD provider would bring the attendees to a belief that vocabulary expansion is vital to students (so vital that it should be prioritized despite constraints), that word context and engagement are worthy pillars around which to build an instructional practice, and that the teacher has the expertise to carry out that instruction. In Bitzer's model, if the PD provider's training inspired the attendees to change their daily classroom routines, then the text was fitting; reality has been altered by the rhetorical act.

Bitzer's concepts are deeply valuable, as demonstrated by the fact that rhetorical situation has been taken up by scholars ranging from social-constructivists to deconstructionists to postmodernists. Bitzer's version has flaws, however, many of which a variety of scholars have addressed in the decades

since. Perhaps most glaring is Bitzer's assumption that "a thing which is other than it should be" (6) can be objectively observed, with no follow-up question of *according to whom*? As Louise Wetherbee Phelps rightly observes, "reality is too complex to be encompassed by any single truth or perspective on it" (32). Consider the rhetorical situation described above—the PD provider (who may even be on the payroll of the company producing high-interest texts for classroom use) identifies student vocabulary expansion as a need and the use of word context and engagement as the solution for filling that need. Is that the only exigence at hand? Is vocabulary expansion a vital need? Are high-interest texts the best solution? One can imagine a range of equally pressing issues as well as alternate solutions that might be identified by educators, administrators, students, parents, or companies offering teaching resources.

A number of responses have sought to improve this flawed assumption in Bitzer's concept. In his well-known response to Bitzer, Richard Vatz asserted that rhetorical situations are not "discrete and discernable" with "a life of their own independent in meaning of those upon whom they impinge" (155). Instead, he says, the rhetor's selection of information bestows salience and meaning. In framing and undertaking a rhetorical act, the rhetor "is using evocative language" (157)—the rhetor's discourse brings the rhetorical situation into being. While Vatz's much more subjective recasting of the situation begins remedying a flaw in Bitzer's concept, it conflicts with our lived experience, which "involves particularities of persons, actions, and agencies in a certain place and time," as Consigny puts it, such that the rhetor is not "completely free to create his own exigences at will and select his subject matter in a manner of 'pure arbitration'" (178). Taking a pragmatic view, Consigny argues that rhetors take their role in the situation by observing these particularities, punctuating the flow of occurrences in a way that creates a coherent whole (according to their own perception), forming an idea about a need or exigence, and creating a text that aims to respond to that need by influencing an audience. Our PD provider, for example, might examine scores from verbal portions of standardized tests and Lexile measurements, studies on student vocabulary acquisition, and data on students' engagement with high-interest texts. The provider might choose other information to exclude, such as research on other methods of vocabulary acquisition or the role of family background. The PD provider presents this information through PD designed to persuade attendees to see the same exigence and be moved to act upon it. While Consigny's view is vulnerable to social-constructivist or postmodern critiques, it is practically useful and avoids granting an unduly large role in the rhetorical situation to either objective reality or the rhetor's imagination. In addition, it reveals the extent to which rhetorical situation as a model began as heavily weighted toward the rhetor; audience and purpose may be at the center, but they are there because they are the rhetor's focus in making key choices.

A second weakness in Bitzer's concept is the implication that rhetorical situations come only in discrete categories—the inauguration, the funeral, and so on—which makes for 'clean' analysis or critique but doesn't much reflect the world as we know it. As Branham and Pearce point out, "not all texts are conventional, not all contexts are stable, and not all situations imply recognizable techniques or consensual standards of interpretation" (19). Kathleen Jamieson highlights this oversight by asserting that when a rhetorical situation is unprecedented, audience expectations about appropriate responses are influenced by preceding rhetorical forms or genres, not just by the elements of the situation. This explains, for example, why early inaugural addresses resemble sermons. More broadly, Consigny builds a bridge from Bitzer's theory to practical application by pointing out that rhetorical situations do not present clearly bounded or highly structured problems; instead the "rhetorical situation is an indeterminate context marked by troublesome disorder" (178). The rhetor's task isn't to recognize and respond to an exigence as one might read and answer a math problem, "but rather to discover what position to adopt by making sense of the situational incoherencies" (177). The rhetor encounters an indeterminate landscape of events, people, texts, and so on, identifies exigence from his or her perspective, bounds the situation according to that perspective, and determines the position they will take in response. In PD events, the problem at hand may be presented as clearly bounded or highly structured (e.g., student test scores and Lexiles are below grade level; they need more engaging and differentiated ways to acquire vocabulary). In reality, students' literacy development, including vocabulary, takes place within an indeterminate landscape of cognitive, social, economic, and material realities. As such, the rhetor makes a number of choices in arriving at exigence and text. Consigny's revision to Bitzer's model is again useful for examining rhetorical situations as we encounter them in our (messy, indeterminate) lived experience.

Third, true to his objectivist perspectives, Bitzer argues that the rhetorical situation compels the rhetor to produce rhetoric appropriate to it—a "fitting response"—and that the response should be evaluated based on its fittingness. For instance, a funeral calls for eulogy, and discourse that doesn't resemble a eulogy in content or tone would be unfitting, inappropriate, and thus ineffective because it failed to answer the call of the situation. He maintains this position even while acknowledging the possibilities of a lack of response or a non-fitting response; the former does not change the nature of the rhetorical situation, he asserts, and the latter simply isn't rhetoric but something else—poetry or declamation, for instance. The problem with such a view is that our lived experience tells us that "[s]ometimes avoiding apparently appropriate texts is the best response to a rhetorical situation, and sometimes producing an apparently inappropriate text…may be the essence of great rhetoric" (Branham

and Pearce 33). Bitzer's limited view of rhetoric seems to preclude a number of possible actions on the part of a rhetor, including innovation and iconoclasm, both of which may well achieve the rhetor's purpose but would not meet Bitzer's criteria. The problem here lies in the way Bitzer defines "fitting."

Once we understand that rhetorical situation is not correctly understood as objectively knowable—a matter of historic fact—but instead as rooted in the perceptions and actions of those involved (such as the rhetor's determination of salience and boundaries), we recognize that there cannot reside within the situation some predetermined form and content for fitting rhetorical discourse. Further, if we consider Bitzer's statement that, in a rhetorical act, a "rhetor alters reality by bringing into existence a discourse of such a character that the audience, in thought and action, is so engaged that it becomes mediator of change" (4), then it seems that it is the *audience* who determines what form and content will characterize a fitting response. For example, the PD provider aims to offer content attendees will accept as valuable, but the attendees determine whether or not the PD offered is fitting for their professional growth and whether they will change their practice accordingly (assuming the PD has not been required by their districts to effect mandated changes, a possibility we will address in a moment). Jamieson implies this role for the audience when she asserts that, at a funeral, a sensitive rhetor will eulogize the deceased because "The situation demands it. The audience expects it" (163). Taking on Bitzer's objectivist assumptions, she presents the situation's demands and the audience's expectations as parallel, whereas I would argue that the former is simply a misunderstanding of the latter; nevertheless, her conflation reveals that audience expectations determine fittingness. This view is articulated by Garret and Xiao, who see "the audience rather than speaker as the pivotal element, as a [sic] active entity which is crucial in determining exigency, constraints, and the 'fittingness' of the rhetor's response" (30).

To some extent, this understanding of audience as pivotal reveals why Bitzer's understanding of fittingness is often upheld in our lived experience. The discourse tradition in which the audience is rooted frequently "generates needs and promotes interests in an audience that must be met by new discourses; it cultivates an audience's expectations about the appropriate forms of discourses…, the right modes of argumentation, and…recognition and interpretation of a rhetorical exigency" (Garret and Xiao 38–39). Because tradition has been to present eulogies at funerals, we see an exigence for speaking at funerals, and we understand that exigence to be met by eulogistic speech.

Further, recognizing the audience role allows Bitzer's model to be augmented in a way that also accounts for innovative or iconoclastic rhetorical acts. To address this third gap in Bitzer's model, Branham and Pearce discuss the relationship between text and context, particularly that

"communicative acts simultaneously depend upon and reconstruct existing contexts" (19). When a text abides by rules and expectations in the way that a eulogy does for a funeral, it not only responds to its context but also recreates that context by reinforcing preexisting rules and expectations. However, Branham and Pearce point out, texts can also "change the context in which they occur to one in which they might 'fit,'" a phenomenon they term "contextual reconstruction" (19). Not only might the rhetor choose not to meet preexisting expectations held by the audience, but she may also create new expectations through her framing of the exigence, thus changing the context. Perhaps a funeral typically features a eulogy, but a particular speaker insists that the deceased would have vastly preferred for him to lead the group in a joyful sing-along; if the audience is convinced that such a method fittingly honors their loved one, not only may the sing-along be seen as fitting to the occasion, but such an occurrence may be less unexpected at a future funeral. This view addresses the too-limited applicability of Bitzer's original model by allowing for those innovative, iconoclastic, rule-breaking texts that otherwise fit Bitzer's definition of rhetoric as texts that achieve practical ends. Of course, the rhetor may still fail to achieve her purpose (alter reality by influencing the audience's thoughts and actions, in Bitzer's terms). In Branham and Pearce's concept, "the 'context' of any given text is the perception of it by various interpretive communities, not the features of the historical situation in which it occurs" (20). In PD, this means that the attendees' perceptions of what students need, what will help them learn, what content is valuable, whether the provider is credible, and so on all form the context. A PD provider may frame a PD event by sharing facts about how students learn and how high-interest texts leverage cognition to support learning. These might be important parts of context, but if the teachers know their classroom libraries are small, thin on high-interest topics, and expensive to expand, that information is part of the context of the PD session—unbeknownst to the provider who may have planned the session to recommend the richest topics relevant to today’s kids. Just as the rhetor's perception and framing of events influences his understanding of the exigence and undertaking of a rhetorical act, the audience's perceptions play that vital role in the rhetorical situation that Bitzer originally attributed to the situation's inherent or objective nature.

By revealing the two-way street of influence between text and context, Branham and Pearce may highlight the greatest flaw in Bitzer's model, but they also reveal its greatest potential. His initial version brought the "context" and "complex" to the foreground, which in turn lit the way toward thinking of rhetorical situations as interconnected systems in which all parts affect all others. Writing in 1988, Louise Wetherbee-Phelps points out that "the componential approach" is inherently flawed because if "one tries to understand complex phenomena by analyzing them into their elements and

studying these in isolation," the connections and "interrelationships" get ignored (105). She advocates an "interactive approach" in which parts really aren't parts in any practical sense; there is "only the interactivity of the system, which defines functional aspects that tend to change dynamically as the activity evolves." (Phelps 105). Similarly, in Garret and Xiao's suggested revisions to the concept of rhetorical situation, they recommend "placing much greater stress on the interactive, organic nature of the rhetorical situation" (31). Such a view, while complex, is useful in examining the indeterminate, disordered situations that we encounter in our lived experiences. For this reason, it is worth examining a useful metaphor that has evolved from Bitzer's work in recent decades: rhetorical situation as ecology.

In an ecology, a complex system of flora, fauna, and natural processes operates in such a way that no part of the system exists or could exist as it does without its interactions with other parts of the system. An ecology is a happening—consumption, production, growth, decay, and so on—more than it is an arrangement of parts. A change in any part—the reduction or removal of a species, a shift in chemical balance, a temperature change—affects the system as a whole and therefore its constituents. The parallel here is that "[o]ne single text or exigence cannot exist apart from its ecology any more than an animal or plant species can" (Rivers and Weber 194), making ecology a useful metaphor for theorists seeking to emphasize the importance of context in rhetoric, not as a backdrop but as a set of actors. Further, the complexity and reciprocity of an ecology, with causes and effects that reach distant parts of the system in subtle but important ways, have made the metaphor a useful one for theorists seeking to uncover previously overlooked aspects of rhetorical situations. It offers a way to respond to a need pointed out by Smith and Lybarger: to "re-orient Bitzer's model to account for multiple exigences, multiple audiences, and the plethora of constraints they impose on or derive from any situation" (210). Because an ecology is such a complex system in which, for instance, a seemingly simple predator/prey interaction actually exhibits complex and shifting relationships (such as varying predation rates at high and low densities) and far-reaching effects (such as changes in plant populations and the those changes' effects), it is useful as a metaphor for a rhetorical situation in which multiple exigences and audiences affect rhetor, text, and so on.

Further, the animals, plants, and substances that make up an ecology do not simply exist within the ecology but are formed by it, which aligns with Louise Wetherbee Phelps assertion that in a useful theory of rhetoric "all parts are not only interdependent but mutually defining and transactive" (32). She notes in particular the shifting "relationships between subject and object, observer and observed"; since "each is derived from and defined by the constantly new relationships in which it participates," one cannot safely study them as stable components of a situation (Phelps 32-33). For instance, when a

rhetor composes within a context and pursues a rhetorical purpose, "change is likely to occur in the rhetor as well as in the audience through engagement in the rhetorical situation" (Gorrell 401). The rhetor is changed (or a new version of that rhetor is created) through participation. Biesecker goes even further by drawing on Derrida to argue that rhetors and audiences have no pre-existing identity that they bring into a rhetorical situation, and that we should instead "see the rhetorical situation as an event that makes possible the production of identities and social relations" (Biesecker 126). Here is where the work of Barthes and Foucault contribute vital understandings; if positions such as 'rhetor' and 'audience' are not titles assigned to individuals but functions defined by relationships, then subjects may emerge in different roles as the rhetorical event unfolds; rhetor may become audience, audience may become rhetor, new exigences may be identified, and so on. To return to our example, while the PD provider is presenting the prepared session focused on how students can learn words encountered in the context of high-interest texts, a teacher attending the training may speak up and share the ways a lesson that depends on the availability of texts on current topics relevant to today's children is vulnerable to a lack of ever-evolving resources. By 'taking the mike' so to speak, the teacher may at that point shift from an audience role to a rhetor role, and the PD provider may shift into an audience role as she listens and seeks to understand, as she becomes, in Bitzer's terms, the one who is in a position to remedy the exigence identified by the rhetor (in this case, how the method could be used in a classroom with a limited library). Taking into account what the attendee has said, the PD provider might change the text of the session by demonstrating different strategies than she planned, such as identifying and accessing appropriate texts online. Both PD provider and attendee have thus shifted between rhetor and audience roles, and both have had a role in composing the text of the PD session. Gorrell and Biesecker's observations and Phelps' call for a theory to account for these transactive relationships is answered by ecological thinking, since the metaphor explicitly recognizes the ways all parts and the connections between them affect all others. As Jenny Edbauer puts it, "Rather than replacing the rhetorical situation models that we have found so useful,…an ecological augmentation adopts a view toward the processes and events that extend beyond the limited boundaries of elements" (20).

With both the theory of rhetorical situation and the metaphor of ecology in mind, consider again the role of audience, which is seen as a component in other rhetorical models, but better understood as a highly connected point in the network of a rhetorical ecology. This view fits well with the field view of audience taken by post-structuralists and social-constructionists, particularly with the concept of discourse community. A discourse community is defined by its "mechanisms of intercommunication" (Swales 25) or the forums in which it carries out its discourse. For example, a

discourse community of teachers is defined by the ways it communicates within and through its education journals and books, social media platforms, faculty meetings, newsletters, learning management systems, conference presentations, and other forums. The discourse within these forums is "a textual system with stated and unstated conventions, a vital history, mechanisms for wielding power, institutional hierarchies, vested interests, and so on" (Porter 106). These characteristics, while not necessarily homogenous within or across forums, constitute a sense of acceptable logic among the discourse community, which James E. Porter likens to having a sort of communal implied reader (82). If a group shares an implied reader, its members can write in a way that is likely to be effective for other members, because those real readers are very likely to share traits with the implied reader. Thus, social-constructionists and poststructuralists "[conceive] of audience as a structure embodied in the sets of texts that define a given discourse community" (Porter 83); by examining the texts of the forums, one can discover what the discourse community values, what it accepts as evidence, what assumptions it shares, what it avoids stating outright, and so on.

Now consider how the audience—the discourse community—for which a rhetor composes is likely to influence the rhetorical act. The forums, with their language conventions, vested interests, hierarchical structures, and so on, constitute "a discourse field or ground from which the writer's text springs" (Porter 83), so that the writer who writes from *within* a discourse community and *for* that discourse community is heavily influenced *by* that discourse community, to the extent that the community contributes to the act of composing. The PD provider who is immersed in the discourse not only of education researchers but also teachers will be influenced by the ways teachers talk, write, think, argue, negotiate, and so on. If the resulting PD session is rooted in what teachers value, uses evidence teachers accept, and makes assumptions teachers share, then the attendees are more likely to respond well to the PD. The concept of discourse community gives greater specificity to Branham and Pearce's claim that the text influences context and context influences text, such that a text can reinforce the expectations that already exist. Within a field view of audience, the audience influences the text created not just because the rhetor imagines what will persuade that audience but because the rhetor has waded into the forums that define that audience and consciously and unconsciously been affected by them. Conversely, this concept may also explain why an audience of teachers may reject PD that grows entirely from the discourse community of, say, university researchers or school administrators; no matter how credible, the content may not be accepted if the values, assumptions, acceptable forms of evidence, and so on do not align with that used within a discourse community of classroom teachers.

An understanding of the rhetorical situation as ecology sheds light on the role of audience. The audience is not simply the receiver of the text created by the rhetor. The audience influences the rhetor's conception of what is worthy of saying and how it ought to be said. The audience is a major determiner of whether the rhetor has sufficient credibility to be granted space on the metaphorical dais. The audience produces the language conventions the rhetor follows (or chooses to eschew). In an ecology, a number of organisms and natural processes hold as much power as the creatures at the top of the food chain; likewise, audience influences other points in the rhetorical ecology in a number of complex ways. Power is distributed throughout the network through these influences; the rhetor does not hold outsize power or lie at the nucleus.

EXAMINING TEACHERS' ROLES IN THE RHETORICAL SITUATION OF PD

What, then, of teachers in professional development? In the design of traditional professional development, they are cast as audience, but an ecological understanding of the rhetorical situation reveals that they may enact that role in a variety of ways. Further, no matter how they are cast by the designers of any particular professional development experiences, teachers may shift fluidly between rhetorical roles as they see fit as participants, learners, and professionals.

Having established an ecological understanding of the rhetorical situation, and having acknowledged the complexity and importance of the relationships between elements, we can more effectively examine the role of a particular element, connection, or process—in this case, the roles teachers take in their professional development experiences. This may mean considering how a teacher acts as audience, rhetor, or something else in particular moments. To do so is not to return to an oversimplified componential model but is, as Edbauer puts it, simply to "temporarily bracket the discrete elements" in order to better understand how "the rhetorical process itself plays out between the sites of these elements" (19). Imagine placing a tiny organism under a microscope; to turn the knob of the microscope and bring into focus different parts of the organism's internal systems allows us to better understand the system as a whole—as long as we are continually aware of the importance of connections and processes, not elements only. To bring one layer or part into focus is not to assert that it is the most important or central as long as we remember that "every perspective simultaneously reveals and conceals" (Garret and Xiao 40). In other words, we can examine a teacher's role as audience in a rhetorical situation, even knowing that a twist of the microscope's knob might allow us to examine the teacher's role as rhetor in the same moment.

In this project, I sought to turn that microscope to examine professional development that might offer a range of teacher-selected rhetorical roles. While many complex rhetorical situations might be found in the world of professional development, few invite teachers to make a full range of choices about when and how they engage with the rhetorical situation and in what roles. One setting that does allow that range of choice is Twitter, the microblogging social media platform. Teachers who use Twitter as a source of knowledge that can make them better teachers or as a way to deliver such knowledge to others use it for professional development. To that end, educators use Twitter to share lessons and activities, ask and answer questions about professional practice, draw connections between current events and the classroom, give feedback on one another's teacher-created resources, and create both temporary and enduring communities of education professionals seeking to perfect their craft. When they use Twitter in these ways, educators can choose when to post, what to say, whom to follow, how to respond (or not), when to bring someone else into a conversation, and so on; in other words, they can fluidly adopt and switch between rhetorical roles in the network of a rhetorical ecology.

By applying the lens of the rhetorical situation to the topic of professional development through specific cases of teachers who use both Twitter and other methods for PD, I seek to gain insight on how and why teachers engage with professional development.

RESEARCH QUESTIONS

Based on an understanding of how rhetorical situations operate, this project focuses on how teachers are positioned—by design and by choice—within the rhetorical situation of the PD experience. Because of our traditional notions of professional development, PD events are often designed in a rhetor-centered way, with professional developers in the role of rhetor and teachers in the role of audience. Unconventional methods of professional development, such as everyday behaviors that lead to professional growth, may cast the teacher in other roles. In both cases, the teacher makes choices and takes roles according to personal and professional interests and goals. Twitter, which affords a number of different types of professional development situations, allows teachers to take on and move between roles, while also creating a durable artifact of these moves. By both interviewing Twitter-using teachers about their professional development experiences and examining their Twitter use, I will pursue the following questions:

- How do educators perceive their roles in the in-person professional development they have experienced?
- How do educators make use of Twitter's affordances during everyday PD-oriented Twitter use?

- How do educators embrace, resist, or otherwise respond to the roles they are given in the professional development they experience, both using Twitter and in other settings?
- How do educators use the affordances of Twitter to shift the rhetorical roles they assume in Twitter-based professional development activities?

CHAPTER SUMMARIES

Chapter II: Twitter Professional Development

Chapter II provides an overview of the features and affordances of the microblogging platform Twitter, as well as a review of literature related to the use of Twitter for PD. The chapter also explores the rhetorical implications of Twitter's affordances and the ways those affordances may be used rhetorically in educator PD specifically. The layering of Twitter's affordances, rhetorical uses, and PD serves as a groundwork for exploring the way participants in this study used Twitter for PD and shifted between rhetorical roles when doing so.

Chapter III: Methods and Methodology

Chapter III outlines the methods I used to carry out this collective case study, including data collection through interviews and collection of Twitter posts and data analysis through several types of coding and text analysis.

Chapter IV: How Educators Perceive In-Person PD

Chapter IV presents interview data related to each participant's perceptions of the PD he or she had experienced and then synthesizes that data to answer the research question "How do educators perceive their roles in the in-person professional development they have experienced?"

Chapter V: Affordances and Rhetorical Roles in Twitter PD

Chapter V presents interview data related to Twitter PD and quantitative Twitter data related to each participant's use of Twitter for PD. It also presents sample Twitter posts from each participant along with analysis of both affordance use and rhetorical roles at play. Based on all of these data sources, chapter 5 offers answers to two research questions: "How do educators make use of Twitter's affordances during everyday PD-oriented Twitter use?" and "How do educators use the affordances of Twitter to shift the rhetorical roles they assume in Twitter-based professional development activities?"

Chapter VI: Embracing, Resisting, and Shifting Rhetorical Roles in Educator PD

Chapter VI presents interview data related to each participant's engagement with rhetorical roles during their PD experiences and then synthesizes that data to answer the research question "How do educators embrace, resist, or otherwise respond to the roles they are given in the professional development they experience, both using Twitter and in other settings?"

Chapter VII: Conclusion

Chapter VII briefly summarizes the study and its findings, reflects on the usefulness of rhetoric as a lens for educator professional development, provides recommendations for educators and for those who design or influence their PD, and suggests avenues for future research based on this study's findings.

CONCLUSION

PD's greatest potential is in teachers' continual participation in professional learning and their development of a growth mindset. One way to fulfill that potential is to build on educators' motivation, interest, or desire to participate in professional growth activities. Much of what is published on the topic of teacher professional development is intended as a how-to guide, checklist, or prescription of the traits effective professional development should have in order to achieve teacher improvement and, thus, improved student learning. This project aims instead to examine not 'what should happen' but 'what is happening,' to discover something about the actual practices of teachers engaging with professional development—particularly when conceptualized as rhetorical situations—and from these discoveries to look toward the ways a rhetorical understanding of professional development situations can help teachers, administrators, and others who participate in choices around professional development make sense of these experiences and approach new ones with an additional conceptual lens that may augment those already in use.

CHAPTER II

TWITTER AND TEACHER PROFESSIONAL DEVELOPMENT

TWITTER

Twitter is a social media platform originally conceived in 2006 as a microblogging tool that allowed friends to share their daily goings-on. Because of its functioning as a short message service (SMS) platform for cell phones, Twitter had a 140-character limit for each tweet, a limit that eventually changed to a 280-character limit in 2017, by which time the platform was web-based and most users engaged with it via smartphone, tablet, or computer (MacArthur). As of this writing in late 2022, Twitter has more than 486 million users worldwide ("The Latest Twitter Statistics") posting almost 900 million tweets per day ("How Many Tweets per Day 2022").

Anyone with internet access can create an account on Twitter. Twitter user accounts are public unless the user changes the settings to private, allowing the user to control who follows the account and sees its tweets. Twitter users can follow as many accounts as they like (asking permission to do so if an account is private), which will cause tweets from the followed account to appear in a continually updating stream on the user's Twitter home page (see Figure 3).

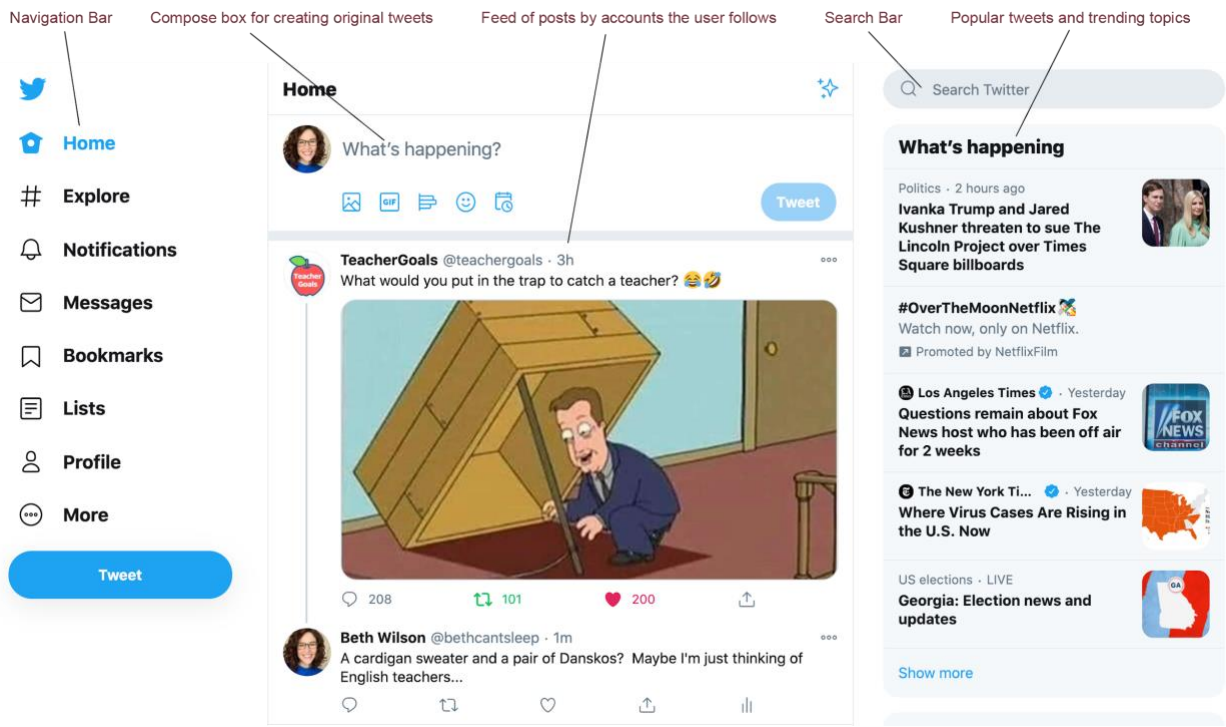

Figure 3: Features of the Twitter home page

In addition to 280 characters of text, the Twitter user can include website links, images, gifs, and emojis within these posts. Users can "like" a tweet, retweet it on their own profile with or without a comment, or reply to a tweet (see Figure 4). They can also share a tweet via direct message, which can also be used for private messaging (this function will not be analyzed further in this discussion of affordances, as it exits the public forum of Twitter and creates a separate rhetorical situation that is not available to other Twitter users or for examination in this study).

Figure 4: Features of a tweet

If a user retweets another user's tweet, both usernames will appear in the post (see Figure 5). The original post will appear intact just as it did as a tweet, and the name of the account retweeting that post will appear in gray, in a smaller font size, and with the retweet symbol.

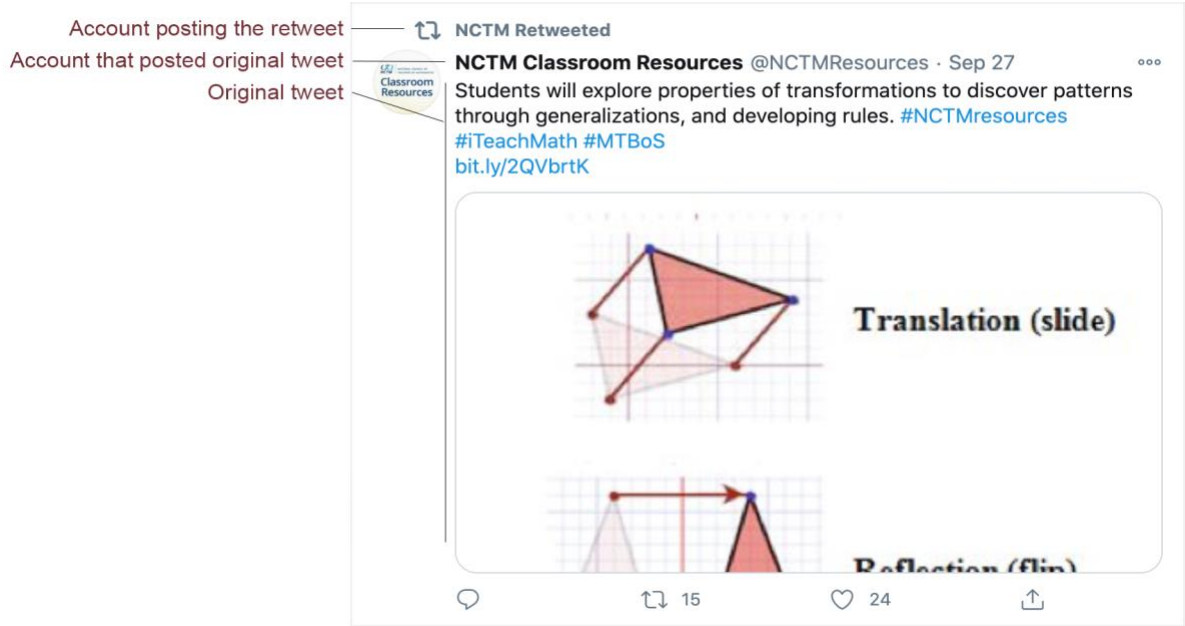

Figure 5: Features of a retweet

If a user retweets a post with a comment of their own, this appearance shifts. The comment will have the appearance of a tweet in terms of font size and indentation, and the post being retweeted appears indented and within an inset box (see Figure 6).

Figure 6: Features of a retweet with comment

If one or more users reply to a tweet, those replies will appear underneath the original tweet and indented (see Figure 7). These replies can respond to the tweet and to other replies.

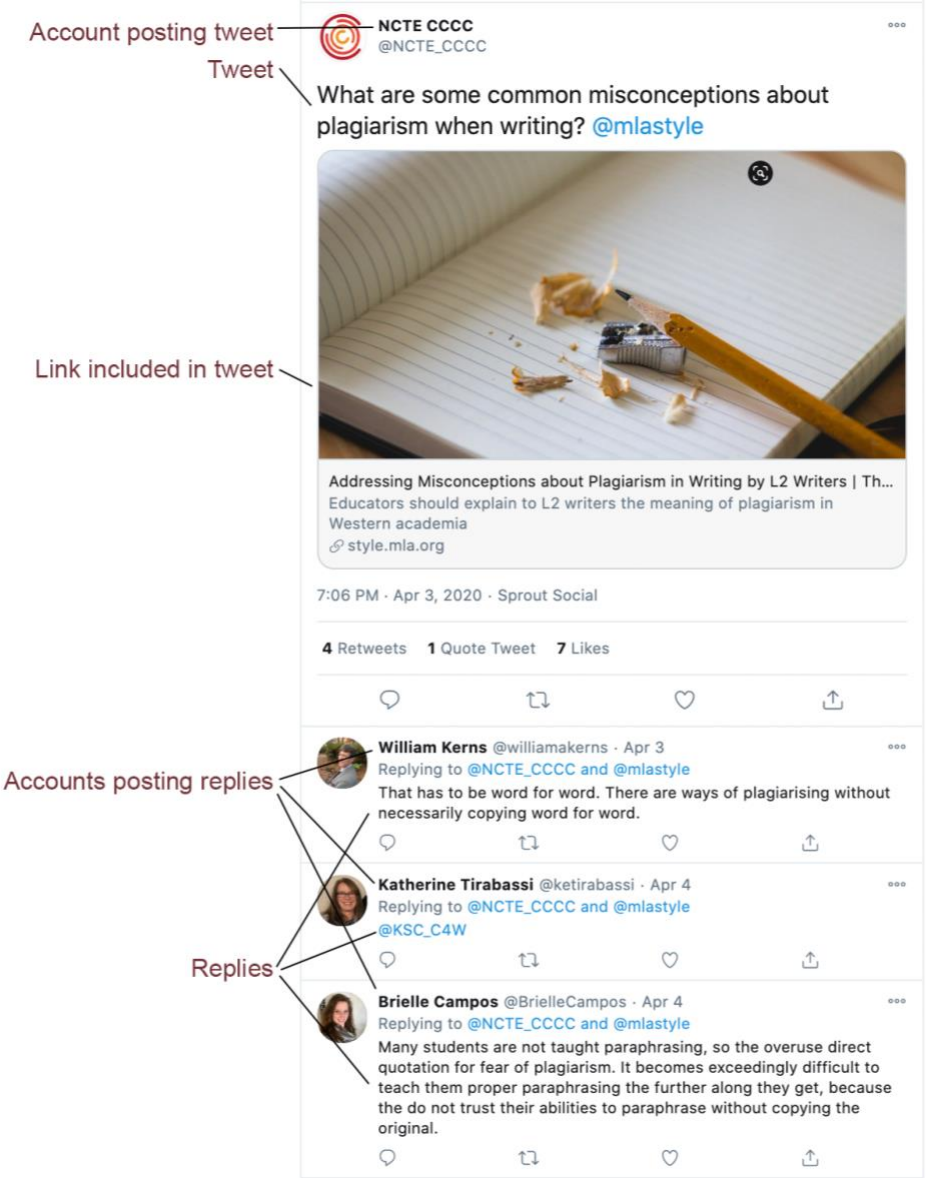

Figure 7: Features of a reply

The retweet and reply features can be used in combination. For example, a retweet with comment can be retweeted, as can a reply (see Figure 8).

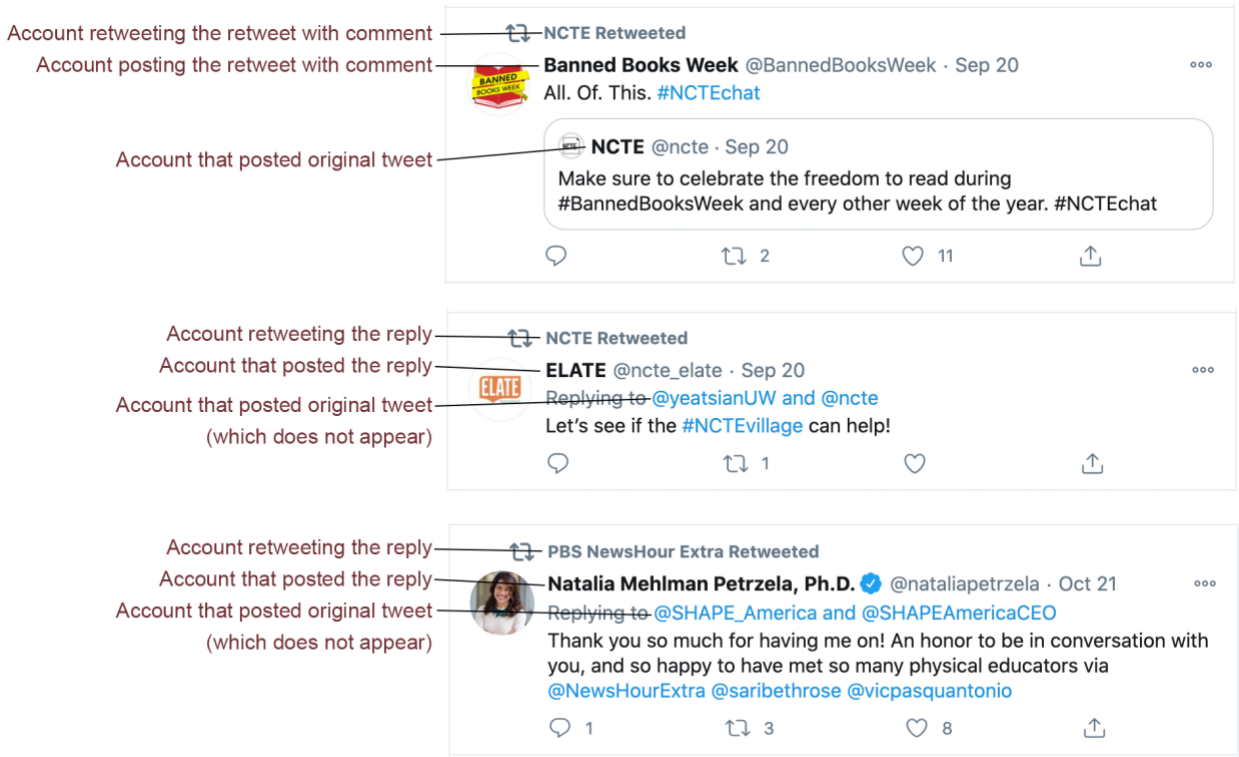

Figure 8: Retweeted retweets and replies

Within a tweet, two tools can be used to create connections with other users or other tweets. Other users can be tagged within a tweet using the @ symbol and username, which will create a link to that user's profile as well as create a notification alerting the user of the tagged tweet (see Figure 9). A tweet can be linked with other tweets through the use of hashtags, which include the # symbol and a piece of text (see Figure 9). Hashtags act as an indexing system in that clicking or searching a hashtag will retrieve all tweets that include it. Hashtags can simultaneously contribute to the text of the tweet itself and act as organizational devices. One evocative way to conceive of the hashtag is as "a portal to an affinity space dedicated to interactions around this content" (Greenhalgh and Koehler 274). By clicking a hashtag or typing the hashtag's text into Twitter's search function, a user creates a customized feed of tweets tied to the tag that form a conversation or forum where related tweets are aggregated. For example, if everyone who attended the NCTE 2023 conference tweeted their thoughts and experiences using the hashtag #NCTE2023, one could search for that hashtag on Twitter (or simply click an occurrence of it) and see all tweets produced by users during or about the conference. Such an online "affinity space" facilitates distribution of content and interactions around it.

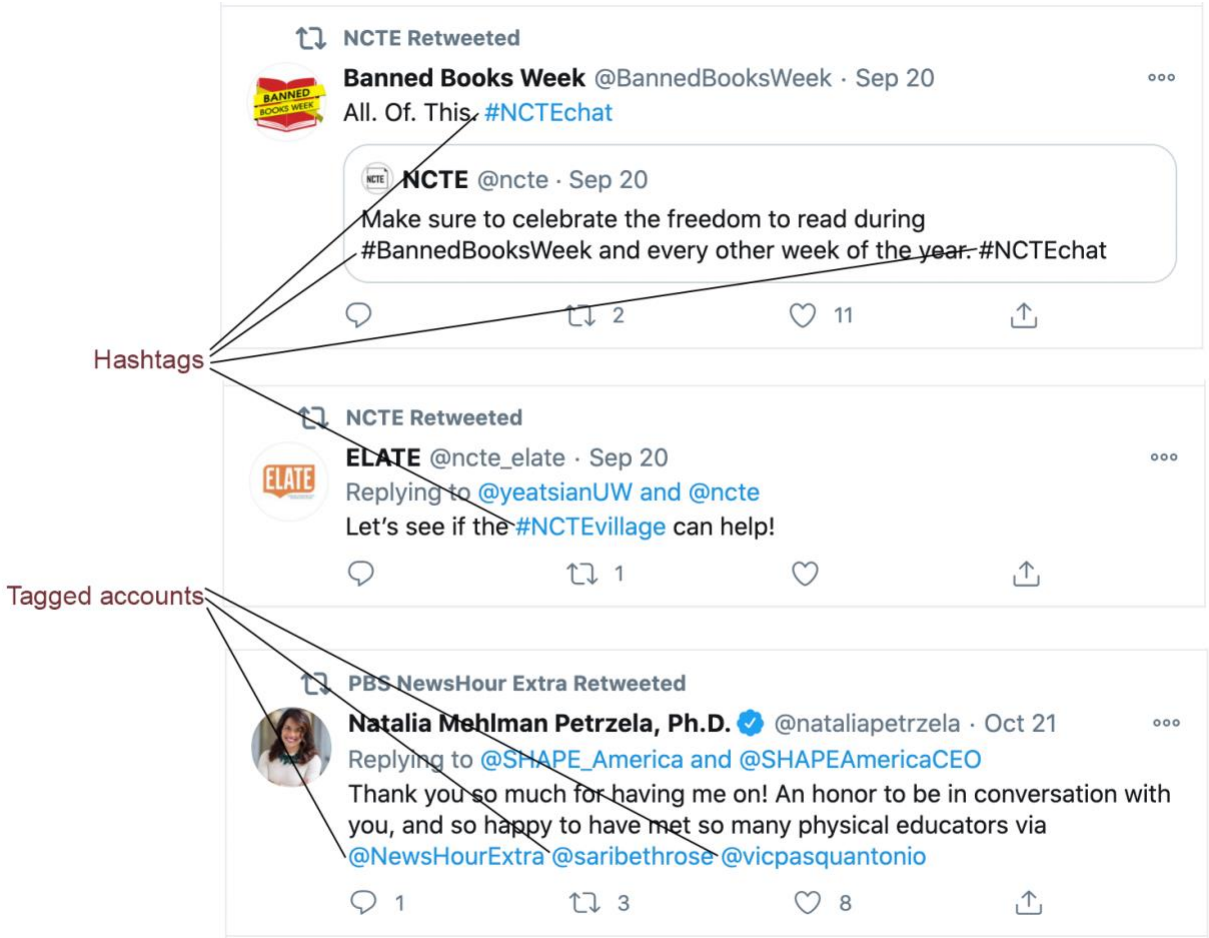

Figure 9: Hashtags and tagged accounts within Twitter posts

On Twitter, like other social media, any internet user (which includes more than half the global population (Clement)) can publish without the kind of gatekeeping associated with traditional media platforms and can interact with others who do the same.[2] Among other things, this access creates "a global network where participants from around the world can share not only resources/information, but also their cultural perspectives based on their construction of knowledge of the world" (Adjapong et al.), making it a viable tool for learning in general and for professional development in particular. Prestridge says that web tools have caused a shift in professional development.

[2] Twitter does restrict posts that violate their rules and ultimately ban users who post them regularly. However, these are related to violence, exploitation, and a range of other uses that are not relevant to the use of Twitter for professional development.

TWITTER FOR PD

While Veletsianos laments that "there is a paucity of research exploring professional development on social media across different contexts" (285), Twitter has been identified as having potential to support learning (Ebner et al.; Gao et al.; Tang and Hew), and several researchers have found Twitter use to be effective for teachers' growth as professionals (Carpenter and Krutka; Lord and Lomicka; Visser et al.; Trust et al.; Greenhalgh and Koehler; Veletsianos; Luo et al.; Rehm and Notten; Holmes et al.; Adjapong et al.). Most research on Twitter for professional development is grounded in the study of professional learning networks (e.g., Adjapong et al.), participatory culture (e.g., Prestridge), and community of practice (e.g., Rosell-Aguilar).

According to the literature, teachers using Twitter for professional development are using it in a number of ways, including the following:

- Asking or answering questions (Risser; Visser et al.)
- Backchanneling during a conference or similar event (Carpenter and Krutka; Risser and Waddell; Reinhardt et al.)
- Building or contributing to the profession (Prestridge)
- Collaborating with other teachers (Carpenter and Krutka; O'Keeffe; Greenhalgh and Koehler)
- Emotional support or community-building (Carpenter and Krutka; Wright)
- Gathering and sharing resources (Carpenter and Krutka; Forte et al.; Greenhalgh and Koehler; O'Keeffe; Prestridge; Visser et al.)
- Participating in Twitter chats (Carpenter and Krutka; Adjapong et al.)
- Reflecting (Visser et al.; Prestridge)
- Sharing ideas or experiences from the classroom (Visser et al.; Prestridge; Greenhalgh and Koehler)

When social media practices in which K-12 teachers share resources, give feedback, describe professional practice, and ask questions are considered acts of professional development, a new concept of PD is introduced. Instead of being centered on delivery of content from expert facilitators, it is instead "boundless and self-generating on-demand learning" in which "teachers are generating the content through collaboration and independent inquiry" (Prestridge 144). Twitter users, who enter the forum without gatekeepers, choose when to generate content, when to share it, when to consume it, and when to ignore it. This range of choices sets Twitter PD apart from other types. In traditional PD, the casting of teachers as audience assumes that they will receive and enact the content; in some situations

they may, in fact, choose for themselves whether or not to listen to or enact the content, but when the PD has been required by a school or district, meeting the designers' expectations is not an assumption but a requirement. Twitter PD is also available on demand according to the teacher's schedule, interests, and immediate needs, unlike an in-person workshop or PLC. The content is self-selected, interactive, and available without gatekeeping, unlike reading books and journal articles. Compared to all of these models, the structure of Twitter invites teachers to choose for themselves the content, timing, type of participation, and amount of interaction, making it a markedly different approach to PD.

TEACHERS' RHETORICAL ROLES AND MOVES IN THE TWITTER PD LITERATURE

While studies of teacher use of Twitter for professional development have not used rhetoric as a lens or focused on it explicitly, the existing Twitter PD literature can be mined for preliminary insights on what rhetorical roles and moves teachers make and take on Twitter. For example, the uses of Twitter listed above yield a number of rhetorical moves one might find when examining a teacher's Twitter use for PD, such as

- asking a question
- answering a question
- collaborating with another teacher
- building relationships, or
- sharing a teaching and learning resource, professional practice, or classroom experience

Three studies give particular insight on the rhetorical roles and moves that may be found in teachers' Twitter use: two case studies of teachers on Twitter, and one study of an affinity group created by the use of a hashtag.

Muireann O'Keeffe's case study of three educators' use of Twitter for professional development focuses on higher education, but her analysis of the users' engagement on a visitor-resident spectrum gives useful insight on audience/rhetor roles that can be taken when the platform is used for PD. For example, one participant, Denise, "made it clear that she did not want to make posts on Twitter at any time" but "Twitter was useful in gathering information from educational sources" (O'Keeffe 6). Denise chooses to take an audience role on the platform and seems to take no actions that affect the rhetorical ecosystems on Twitter, although other ecosystems of which she is a part may be affected. Her activity may not produce artifacts to be studied, but her interest in teaching and learning resources implies that this kind of content may be found in teacher Twitter use.

Another of O'Keeffe's participants, Louise, also expressed preference for a role one might label as audience; she "described herself as a 'lurker' strategically following educators, observing tweets, and gathering information to help with her work," she "primarily used Twitter to retrieve information from other professionals," and she "regarded herself as an observer on Twitter indicating she was not fully comfortable in expressing her voice online" (O'Keeffe 7). However, unlike Denise's, Louise's Twitter profile showed that she in fact shifted into other roles to some extent, as "her tweets show that she established participation by making posts, establishing presence and involving herself in conversations" (O'Keeffe 7). While O'Keeffe does not provide details on the nature of these posts, her discussion of Louise demonstrates at a minimum the fact that an audience role may be enacted in a range of ways on Twitter, and perhaps that a user of Twitter for PD may take on the role of rhetor even while perceiving herself only as audience. This implies that rhetorical moves such as sharing thoughts in response to an original post, asking or answering questions, and using the reply, retweet, or like functions may demonstrate a blending of the audience and rhetor roles.

Finally, a participant identified as Ben used Twitter in a role more in line with a rhetor. In O'Keeffe's words, "Ben tweeted. Thereby exhibiting his knowledge and practice" (O'Keeffe 10). While O'Keeffe's use of the word "exhibit" focuses on Ben's demonstration of knowledge, the implication is that this demonstration is made for the benefit of an audience who might learn from him, the rhetor. O'Keeffe also notes a cycle of gathering, sharing, and generating knowledge that unfolded through Ben's use of Twitter: he "found information about new pedagogical approaches via Twitter and initiated collaborations with others interested in this pedagogical strategy. He subsequently contributed knowledge back to the community through a journal article on the topic" (O'Keeffe 10). While O'Keeffe, with her interest in the higher education context, focuses on the generation and publication of knowledge, the cycle she describes also exemplifies a shifting between rhetorical roles. Casting himself as audience, Ben received information from others on Twitter; as a collaborator, he engaged in a give-and-take that presumably cast him alternately as rhetor and audience; and then he wrote and published a journal article which, with its location in non-social media, likely casts him even more firmly as the rhetor than if he had shared the new knowledge via Twitter, where rhetor/audience lines can shift quickly enough to reduce distinctions that are much more clear between article author and reader. Overall, O'Keeffe's discussion of Ben signals that one might expect to find artifacts in a teacher's Twitter profile in which the rhetor role is adopted through the posting of original content for the sake of others' learning. Further, it highlights the ways that gathering and resharing of content may be enactments of

an audience role through the taking in of information and the rhetor role through the selection, reframing, or application of information for the benefit of others in the field.

O'Keeffe's case study, while limited, gives insight on the kinds of practices and, particularly, roles that instructors may take when they engage in PD on Twitter.

In another case study, Sarah Prestridge examines why teachers use Twitter for PD and identifies four types of engagement with the platform. First, info-consumers "follow like-minded colleagues to consume their content" by using it in their own professional practice while making "little to no contribution of substantive knowledge or resources to their professional learning networks" (Prestridge 151). Based on her description, these users seem to enact a conventional conception of audience as receivers (and, presumably, users) of the rhetor's content. She does not specify whether these Twitter users took advantage of the like feature, bringing in some aspects of the rhetor's role. This finding does not inform the analysis of teacher Twitter use, but it does emphasize the fact that one role will leave no artifact to be studied: the purest audience role (within the Twitter ecosystem) in which a Twitter user reads posts but does not like, reply, retweet, or tweet.

Second, Prestridge identifies info-networkers, who share information and knowledge within Twitter and outside of it. She states that these users make "little to no contribution of substantive knowledge or resources to their professional learning networks," but "consume...or 'retweet' to share with others" (Prestridge 153). This case demonstrates the significance of the lens applied during the study. Prestridge, with a focus on professional learning networks and the reciprocity of their members, gives an example of a teacher who follows a Google Classroom expert. "I read her things," says the participant, "I watch her videos. I test them out in my classrooms, and then I share them with other teachers, on Facebook, on Twitter" (Prestridge 153). Prestridge emphasizes the lack of new knowledge contribution through this example of an info-networker. When viewed through a rhetorical lens, however, this example emphasizes the range of roles a teacher might take when using Twitter for professional development, shifting from a consumer role, which echoes conventional conceptions of audience, to being an active amplifier of ideas that the user has given her stamp of approval—a role that includes some elements of the rhetor. The participant goes on to say, "I do a lot of retweeting, because I go, 'Why say the same thing? So I'll give somebody else credit for it, I'll just retweet it. I'm not precious on having to be the first'" (Prestridge 153). She demonstrates that there is power in having one's name and voice seen as the originator of an idea, as is seen in conceptions of the rhetor and, interestingly, shows that she does not highly prize having that power. While Prestridge focuses on the participant's lack of knowledge contribution, the sharing of valuable knowledge seems to be a high priority and may

have the same net effect on a Twitter user's personal learning network—better instruction for more students. The info-networker seems to operate in a shifting, liminal space between audience and rhetor, combining aspects of each, which implies that such a blending may be found in the Twitter activity of other teachers.

Third, Prestridge identifies the self-seeking contributor who "posts their knowledge, ideas, and/or curriculum materials" in order to get "feedback on or validation of their curriculum materials" (Prestridge 154). Prestridge's categorization focuses on information consumerism, as these users share their own practices for the purpose of benefiting from others' expertise. Even so, she notes that, in the process of requesting validation of their choices, they may share some knowledge, at which point they may join a conversation that can develop new knowledge. Viewed through a rhetorical lens, these cases raise a question: to what extent does asking a pedagogical question on Twitter cast a teacher as a rhetor selecting the subject and direction of the conversation? And to what extent does it cast the teacher as audience receiving what others share? This case reveals that it will be important to examine the content of a post, not just the affordances used, in order to understand the rhetorical roles at play.

Finally, Prestridge identifies the category of the vocationalist, who "engages in social media as a professional learning process to build the profession," which occurs as these teachers "begin new threads or ideas, lead chats and actively trial new ideas in their educational context, feeding back to their community with reflective cycles" (Prestridge 154). Unlike in the case of O'Keeffe's most highly networked and most complexly engaged participants, the set of activities identified by Prestridge here feature characteristics associated primarily with rhetors: her description frames these users as prominent 'speakers' whose choices and content feature most highly in the rhetorical situation, carry the most power within it, and exert the most control over it. While the mention of applying new ideas in the classroom and reporting results implies that these Twitter users are learning from others, no other language invokes an audience role for the vocationalists. This case raises the question of whether analysis of a teacher's Twitter use through a rhetorical lens would reveal prevalent enactment of a rhetor role, or if even a teacher with the traits of Prestridge's vocationalist enacts some aspects of the audience role or of a blending of the two.

The last of these three relevant studies is Greenhalgh and Koehler's examination of how Twitter facilitated just-in-time learning by allowing the creation of an affinity space through teachers' use of a hashtag. The authors' methods and findings both give insight on what an examination of rhetorical roles might reveal.

First, Greenhalgh and Koehler's methods include coding tweets by purpose. Because of the nature of the study and thus the limited scope of the tweets being examined, only five purposes were found, but these five reflect the rhetorical moves one may find in the Twitter use of teachers. They are "invite collaboration and build community," "provide pedagogical support," "share resources for learners," "describe classroom experiences," "and "other" (Greenhalgh and Koehler 278).

Their findings, too, are of interest. Less than 11% of those who interacted with the hashtag posted original content, the purest rhetor role described in this study (although to reuse an existing hashtag—one developed by others and reused as a way of responding or chiming in—implies an aspect of the audience role). Almost 25% of Twitter users who engaged with the hashtag liked but never tweeted, the purest audience role described (although liking itself does enact some aspects of the rhetor's role). The activity they saw much more than either of these came from users who retweeted original posts to amplify the message and reach new audiences. Greenhalgh and Koehler do not differentiate between the two types of retweet or include other information that would give insight on specific content or choices, but like Prestridge's info-networkers, these users seem to take roles that hybridize audience and rhetor.

Taken together, these three studies shed some light on the ways teachers may take on roles that are primarily audience, primarily rhetor, or a combination of the two, as well as what rhetorical moves we may anticipate finding among their Twitter use.

RHETORICAL IMPLICATIONS OF TWITTER'S AFFORDANCES AND THE TWITTER PD LITERATURE

A synthesis of this information allows for a preliminary understanding of how teachers may engage with Twitter PD in terms of rhetorical roles and moves. The research on Twitter PD reveals that users take a variety of roles that may combine characteristics of both the rhetor and audience roles. Further, it shows that there is no clean mapping of Twitter use to role. For example, posting a tweet that asks for suggestions of a classroom activity frames the Twitter user as a receiver of knowledge, but also manifests the PD provider's power of selecting and framing the content of a professional development event. To drill down further, the act of posting a Tweet brings characteristics of a rhetor, as does selection of the content, but the rhetorical move of asking brings in an audience role. Thus, these three elements–Twitter affordance used, rhetorical move made, and subject or content–may yield more useful information if analyzed separately.

Rhetorical Implications of Twitter's Affordances

Different uses of Twitter activity enact the rhetor and audience roles in different ways to different extents. Table 1 outlines these implications.

Table 1: Rhetorical implications of Twitter affordances

Affordance	**Visibility**	**Role implications: rhetor**	**Role implications: audience**
Tweet	Twitter followers' homepages User's profile, under first tab (Tweets) and second tab (Tweets and Replies)	Tweets are compositions, whether original or bricolage, posted to followers by the Twitter user.	Because of the nature of Twitter as social media, an original tweet may be a response to posts already shared, topics or hashtags trending, or conversations in play.
Retweet without comment	Twitter followers' homepages The tweet author's notifications User's profile, under first tab (Tweets) and second tab (Tweets and Replies)	Through a retweet without comment, a Twitter user decides what content is worthwhile and shares it with an audience.	Through a retweet without comment, a Twitter user amplifies a rhetor's message. Graphically, the original poster's username is significantly more visible than that of the user who retweets it, whose username is shown in a smaller font and lighter color.
Retweet with comment	Twitter followers' homepages The tweet author's notifications User's profile, under first tab (Tweets) and second tab (Tweets and Replies)	A retweet with comment shows the Twitter user's comment first, and the comment may take any turn as it echoes, reframes, amends, or objects to the original tweet. The username of the Twitter user posting the retweet is represented at the same color and size as that of the original poster, with the original poster's username shown within an inset. The overall effect is that the retweet looks similar to an original tweet, with the retweeted post appearing as part of the posts' content.	Through a retweet with comment, a Twitter user amplifies a rhetor's message. It may also act as a reaction or response to posts already shared, topics or hashtags trending, or conversations in play.

Table 1: Continued

Affordance	**Visibility**	**Role implications: rhetor**	**Role implications: audience**
Like	The tweet author's notifications The homepage of any Twitter user who follows both the user who tweeted and the one who liked the tweet In some cases, Twitter's algorithms will show a tweet on the homepage of a user who follows multiple people who have liked it User's profile, under fourth tab (Likes)	A like triggers a post to the user's profile, albeit not on the front page, and may trigger a post to others' homepages. Twitter does not have multiple reactions, so a like can carry many meanings, such as interest in the topic or support of the poster, not only agreement with the content of the post.	A like may be seen as analogous to eye contact or other signs of attentiveness in an in-person rhetorical situation. It allows a user to express that a post has been seen, paid attention to, and supported, agreed with, appreciated, or simply acknowledged.
Reply	The tweet author's notifications The homepage of any Twitter user who follows both the user who tweeted and the one who replied User's profile, under second tab (Tweets and Replies)	A reply is a composition, whether original or bricolage, by a Twitter user.	Unlike a retweet with comment, a reply maintains the position of the original poster as the primary or original sharer of content. While a reply may appear on the homepages of some of a Twitter user's followers, it appears as a reply under the original tweet.

No action on Twitter is entirely an enactment of the rhetor role or the audience role. An invisible action such as lurking (reading posts without taking any other action on the platform) might seem to be a pure enactment of the audience role, but all rhetorical roles have some impact on the ecosystem of the rhetorical situation; for example, lurkers might influence the context outside of Twitter that influences those on the platform, or awareness of their existence might influence a user in the way discourse community does. On the other end of the rhetor/audience spectrum, it might seem possible for a tweet to entirely enact the rhetor role; on the contrary, not only does the ecosystem understanding of rhetorical situations make a pure enactment of any role unlikely, the nature of the

platform as social media means that almost any post will in some way respond to a larger conversation or rhetorical situation on Twitter.

Instead of seeking to categorize Twitter functionalities into the rhetor or audience role, it is useful to consider them on a scatterplot, with rhetor role and audience role as axes.

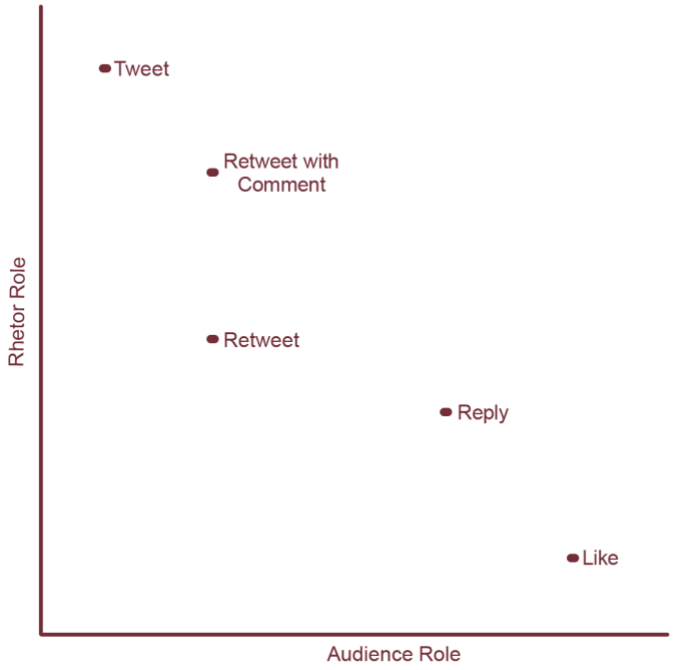

Figure 10: Scatterplot of Twitter post types by rhetorical role

Individual Twitter posts may fall elsewhere (for example, a particular tweet might ask others to share needed information, enacting comparatively more of an audience role than in another tweet; or a particular reply might introduce original, impactful information that overshadows the original tweet, enacting comparatively more of a rhetor role). However, conceiving of each functionality's comparative rhetorical role enactments in this way offers a starting place for considering the patterns that emerge in a user's overall Twitter use.

Rhetorical Moves and Content that May Be Found in Twitter PD

The literature on Twitter PD leads us to believe that a teacher's Twitter PD might include posts that

- Ask for feedback on a lesson or activity
- Publish findings of experimenting with a teaching method

- Share a classroom experience
- Exchange ideas with another teacher to collaborate on a professional practice
- Share a teaching resource, such as an education article
- Encourage other teachers during a trying time

While previous studies have treated the types as whole, a rhetorical lens highlights the existence of two parts of each of these examples: a rhetorical move and a topic, or a 'does' and a 'says.' For example, three of these examples involve making the same move, sharing information, about different topics: findings of experimenting with a teaching method, a classroom experience, and a teaching resource, such as an education article. Thus, the rhetorical implications of Twitter PD invite us to consider Twitter use in three dimensions: post type, rhetorical move, and topic. Further, we might predict that a closer examination of posts that have been deemed "collaborating" might reveal moves of asking questions, answering questions, and sharing ideas, all of which would likely concern the same topic, such as a teaching method.

Because previous studies of Twitter PD do not use a rhetorical lens, there is no existing set of likely categories within each of these dimensions. However, based on the literature, we can extrapolate some preliminary categories, which can be seen in Table 2.

Table 2: Preliminary categories of Twitter post types

Post Types	**Rhetorical Moves**	**Topics**
● Tweet ● Retweet ● Retween with comment ● Reply ● Like	● Sharing/disseminating/ telling (an idea or information) ● Answering a question ● Asking a question ● Expressing support, approval, or appreciation	● Teaching & learning resource ● Professional practice ● Classroom experience ● Professional development event ● Teaching as a profession/field ● Teachers as part of school or education community

The brevity of these lists reflects the limited scope of existing studies, but they do serve as a starting place for an analysis of teachers' Twitter PD through a rhetorical lens.

CONCLUSION

Twitter offers users a variety of affordances with which to compose texts for a wide range of readers and engage with others' texts. Since it is used by the professional community of educators, it is

rich with opportunities for users to interact with one another for professional learning. Moreover, it is equally rich with opportunities for those educators to access all roles within the rhetorical situation in ways they choose for themselves. Teachers are using Twitter for PD, but that use has not been studied deeply. This study will examine how Twitter's affordances are being used by the participants to enhance their professional growth as they enter and influence rhetorical situations with each post.

CHAPTER III

METHODS AND METHODOLOGY

OVERVIEW

This study seeks to apply a rhetorical lens to discover more about how educators engage with PD. The following research questions drive the research:

- How do educators perceive their roles in the in-person professional development they have experienced?
- How do educators make use of Twitter's affordances during everyday PD-oriented Twitter use?
- How do teachers embrace, resist, or otherwise respond to the roles they are given in the professional development they experience, both using Twitter and in other settings?
- How do educators use the affordances of Twitter to shift the rhetorical roles they assume in Twitter-based professional development activities?

The format of the research is a set of four case studies of individual educational professionals. Within each case, I used two data types: semi-structured interviews and PD-related activity on the micro-blogging platform Twitter. The interviews provided insight on participants' perceptions of PD as well as the rhetorical roles they described taking within it. Interviews allowed me to discover "how people 'see things,'" but relying entirely on such a data source "ignores the importance of how people 'do things'" (Silverman, "Analyzing Talk and Text" 832). In this case, that 'doing' occurs on Twitter, which is composed of texts of various types, so I used text analysis of each participant's Twitter use to examine their rhetorical positioning in Twitter-based professional development activities. Simple counts of Twitter activities also gave insight on how the participants use Twitter for PD. Using these data sources allowed for full consideration of my research questions because it provided insight on individual experience from multiple angles.

By electing to conduct both text analysis and interviews as part of case studies while bringing rhetorical theory to bear on the world of education, I certainly acted as a "bricoleur...deploying whatever strategies, methods, and empirical materials" would shed light on the particular areas I sought to explore (Denzin and Lincoln 4). In this chapter, I will seek to both explain the bricolage and shed light on how straddling two disciplines informed it.

COLLECTIVE CASE STUDY

The goal of the research was to better understand individual experiences in order to discover more about when and how educators take on rhetorical roles in professional development. Due to the descriptive nature of my research questions (a version of Yin's "What is happening or has happened?" (5)), case studies were an appropriate model, allowing a deeper dive into the voices and experiences of individual teachers, with each teacher being one case. Specifically, I carried out a collective instrumental case study with a holistic design structure: collective in that it extends to more than one case (four, to be exact), instrumental in that it seeks to shed insight on other, similar situations (Stake 437), and holistic in that the four cases stand independent of each other and are not embedded (Yin). I approached the four case studies systematically, aiming to take advantage of case study methods' capability of "disciplining personal and particularized experience" (Stake 449). As such, each aspect of each case study was carried out identically and in parallel, from recruitment to data collection to analysis. I designed the collective case study such that each case could provide insight on its own, but using parallel processes left open the possibility of discovery through similarities or differences between cases, as well.

PARTICIPANTS

Because I sought teachers who used Twitter for professional development, I recruited participants through social media in several ways. First, I used snowball sampling by posting a recruitment tweet and asked other teachers to amplify it by retweeting it within their Twitter teacher communities. Second, I posted a recruitment tweet and included a popular hashtag used by math teachers on Twitter. In one case, when a teacher tweeted about using Twitter for professional development, I directly asked her if she would be interested in participating. These efforts led to six educators across the US volunteering to participate, five of which responded to my follow-up communication. I asked them if they worked in K-12 education, and I assessed their use of Twitter for professional development. Yin notes that individuals are often selected for study because they represent "an otherwise ordinary case that has nevertheless been associated with an unusually successful outcome" (Yin 7). The teachers who responded to the recruitment letter and volunteered did so because of their frequent use of Twitter in their own growth, which led to their interest in participating; as a result, the group of cases I studied were, in fact, "otherwise ordinary" but "unusually successful" in using Twitter for PD. Because of the recruitment methods, the participants may not represent the average teacher who engages with Twitter. Case studies are not and should not purport to

be generalizable to populations (in this case, all teachers) but to situations; in this case, the situation at hand is one in which an educator is motivated to pursue PD on their own and interested in social media. The array of participants in this study does have the potential to provide insight from which I can make extrapolations that may apply to other, similar situations.

Although I collected data for all five respondents, the scope of the data was too broad and needed limiting based on the intended size of the project. I selected the four whose primary role is student-facing (not working at the central office or in a primarily administrative role) and carried out the study using those participants. Each has been assigned a pseudonym and a pseudonymous Twitter username for the purpose of this research.

Table 3: Study participants

	Al (@AlgebraAficionado)	Chloe (@CreativeClassroom)	Laila (@LibraryLove)	Maria (@MathMind)
Current Role	Math teacher, grade 8	Classroom teacher, grade 4	School Librarian	Math teacher, grades 5-8
Years in education	19	4	6	19
Geographic location[3]	Middle Atlantic	South Atlantic	East South Central	Pacific
School type + size	Public, 1000 students in grades K-8	Public, 600 students in grades K-5	Public, 1000 students in grades 5-8	Private (religious), 300 students in grades K-8

Al teaches eighth-graders two courses: eighth-grade math and an Algebra I course that earns high school transcript credit. Al has a bachelor's degree in mathematics with a minor in education. He is viewed as a subject-matter expert within his district, where he is the senior Algebra I teacher, and on Twitter, where he is known for being a representative and trainer for a popular web-based software used in math instruction. He is a veteran educator with 19 years in the classroom. He has always taught middle grades math, and has taught geometry in addition to Algebra I and Math 8. The population of his suburban middle school has changed from predominately white to having a larger percentage of Hispanic/Latinx students. Less than a quarter of the students qualify for free/reduced lunch.

[3] Geographic location based on US Census Department Census Regions and Divisions of the US.

Chloe teaches fourth grade math and science at a public K-5 school. She is in her fourth year of teaching, all four of which have been in the fourth grade, either self-contained, ELA/social studies, or math/science. She is also the fourth-grade team chair, the yearbook representative, and the School Advisory Council representative. Chloe has an associate's degree in general education, a bachelor's degree in elementary education, and a master's degree in educational leadership. She also holds certification to be a K-12 principal. Despite only four years in the classroom, she has quickly gained attention as her students have achieved significant gains in their learning (as demonstrated by standardized test results). She has been recognized as a High Impact Teacher each of her four years in the profession. She was selected for a fellowship program in her state that aims to amplify the techniques of successful teachers across their school buildings and districts. She works in a Title I school where 100% of the students qualify for free/reduced lunch. Chloe has taught in Title I schools throughout her career. The student body is primarily Hispanic/Latinx, with Black and white students making up progressively smaller portions of the population.

Laila is a school librarian in the largest middle school in a metro area school district. She holds two bachelor's degrees in psychology and sport management and a master's degree in information science. She also has two microcredentials related to technology integration. She has worked in school libraries for seven years after spending time in other fields earlier in her career. She is active in her state school library association as well as at the district level, which itself has over 100 school librarians. She works at a large, urban middle school with a student population that is approximately half Black, with Hispanic/Latinx students making up another 40%, and a mix of races and ethnicities making up the balance. It is a Title I school where the majority of students qualify for free/reduced lunch. It also includes a population of homeless students who receive services through the school.

Maria teaches all of the accelerated math classes in the middle grades (fifth through eighth) at a relatively small, suburban, predominately white Catholic school. It is her 19th year in the classroom, the last 11 of which have been exclusively focused on math. Other positions have included teaching fifth grade, managing the library, and teaching computer skills. Maria has a bachelor's degree focused on math instruction and a master's degree focused on curriculum and instruction in literacy. Maria's school enrolls just under 300 students in a suburban area. The students are mostly white. Filipino students make up the next largest demographic group.

DATA COLLECTION: INTERVIEWS

Semi-structured interviews were used to gain insight on the participants' perceptions and lived experiences regarding professional development and Twitter. As such, the interview questions focused significantly on how participants made meaning of their experiences, asking them to select representative examples, reflect on experiences, and describe their perceptions of their own roles. These questions grow from a view of participants as "actively engaged in making meaning of the events in their lives and as located in social contexts that set the frames for personal meaning-making" (Magnussen and Marecek 83). Each interview included the following questions:

1. What is your role as an education professional?
2. How long have you worked in education?
3. Please describe the institution in which you work (e.g., private/public, approximate student body size and composition, or and other distinguishing characteristics).
4. What undergraduate and graduate degrees have you earned, and from what types of programs? Has any other program or training contributed significantly to your development as an education professional? If so, which ones?
5. Describe the amount, frequency, and types of professional development you have experienced as an educator.
6. Consider a few of the professional development experiences you have had in the past. How would you characterize your role in those experiences?

   Follow-up questions:

   - In the design of the event, were you in the position of offering PD, receiving PD, or some other position? What makes you say that?
   - To what extent do you feel you contributed to the learning of the PD event's participants? Its leader(s)? Why?
   - Do you think you have made any contributions that altered the original design of the PD? If so, how?
   - Did you feel you could decide how (or whether) to use the information in your professional practice? Why or why not? If not, who decided how you would apply the information or concepts?
7. How would you characterize your experience with social media in general and Twitter in particular? For instance, describe the frequency, extent, types, and motivation of your social media use.

8. Do you consider any aspect of your typical Twitter use a method of professional development for your teaching practice? Why or why not?

   If yes:

   - In your use of Twitter for PD, are you in the position of offering PD, receiving PD, or some other position? What makes you say that?
   - To what extent do you feel you contribute to the design (in terms of content or process) of professional development taking place via Twitter? Why?
   - To what extent do you feel you contributed to the learning of participants using Twitter for PD? To the learning of those leading PD using Twitter? Why?
   - When you have used Twitter for PD, have you felt you could decide how (or whether) to use the information in your professional practice? Why or why not? If not, who decided how you would apply the information or concepts?
9. How does your engagement with or role in professional development differ on Twitter than when you experience it in other ways?
10. Is there anything else about your PD experiences (through any model or platform) that you would like to share with me?

These questions, with their focus on perceptions and lived experiences, were selected in order to maximize the potential for interviews to "provide access to the meanings people attribute to their experiences and social worlds" (Miller and Glassner 126). A few follow-up questions specific to the participant's comments were used to increase that access, but there was little variation in the questions otherwise.

I had some concern that my own role, either as a school administrator or as a doctoral candidate, would influence the teachers. Kvale argues that interviews always include power asymmetry because of the interviewer's level of choice and control, from topic to instrument to interpretation. In addition to these inherent asymmetries, I brought some level of authority or power in my professional title, while also representing a high level of academic achievement, which could carry weight with participants who'd built their careers around valuing education. I sought to balance these concerns in several ways. First, in both the recruitment letter and in introducing myself during interviews, I emphasized my many years as a classroom teacher, the recency of my move into administration, and my investment in teachers as professionals whom I respect. My goal was to ensure that the participants felt as comfortable as possible being candid, without seeking to meet any standards or expectations I might have of them as educators. Further, I dressed casually for each interview and avoided settings or

backgrounds for each video interview that might emphasize my position or education. I also strove for an accepting and encouraging tone and showed receptiveness to what the participants had to say. Finally, I tried to avoid manipulation in the wording or tone of questions or follow-ups, I sought to draw out participant explanations in order to balance my own "monopoly of interpretation" (Kvale 485), and I have sought to be transparent in my reporting of methods in order to allow interrogation of the role of power in the interviews I conducted.

Because the participants were located in different parts of the country, I interviewed each participant using the videoconferencing platform Zoom, with which all participants were familiar, recording each conversation for transcription, as well as taking notes. Using videoconferencing instead of conducting phone interviews allowed participation by teachers in different parts of the country while also allowing us to interact naturally and understand one another better using facial expressions and body language in addition to tone and inflection; while I did not analyze these aspects of the interview, their inclusion supported both accuracy of transcription and comprehension of meaning. I used the digital transcription service Temi to create first-round transcriptions, and then used three rounds of manual transcriptions to ensure accuracy.

With the interview transcribed, I sought to follow Neuendorf's recommendation of separating the text into units before coding them. Grant-Davie acknowledges that "division and classification are interpretive acts" (273), which I found especially to be true because "the syntax of a verbal protocol is often fragmentary, elliptical, stuttering, or revised in midutterance" (Grant-Davie 276). My participants often rephrased the same idea several times in seeking to make a point well, and often interrupted a train of thought with another point, then returned to the original idea, signaling the return with a phrase such as "so anyway" or "like I was saying." I initially tried segmenting into T-units, which is often considered appropriate for research in rhetoric and composition, but I found that the approach artificially segmented participants' thoughts and clouded the points they sought to make (quite similar to the trial-and-error efforts described by Brice). Instead, I determined that segmenting by what Grant-Davie calls episodic units (a unit of speech that captures the speaker's meaning and ends when the speaker changes topics or begins making a new point) would be more appropriate. This approach to dividing data into segments also aligned with Lincoln and Guba's recommendation that units be heuristic, independent, and related to the understanding I sought to achieve in my research. I sought to understand not how participants used language in the interview (their syntax) but what they thought and felt about professional development (their meaning), so the episodic unit proved more effective. To prepare the segments for analysis, I marked the beginning and end of each unit with a line break within

the word processor, leaving each transcript otherwise intact. This method, as opposed to using brackets or other divisions, prepared me to transfer the unitized transcripts into spreadsheet software for analysis.

DATA COLLECTION: TWITTER

Twitter users can create or interact with posts in several ways by tweeting, retweeting, replying to tweets, or liking tweets, and all of these methods entail taking part in rhetorical situations on Twitter. Thus, I determined that all of these types of Twitter use would be included in the data. Because Twitter posts are limited in length to 280 characters and tend to be used to make a single point or rhetorical move, the unit of analysis was almost always the post itself, and further segmenting was not needed. In a small percentage of cases, one tweet contained two distinct segments, with two rhetorical moves and even two topics. If posts were related, such as several tweets posted in a row as a thread, they would be treated as separate units, since even with the character limit, Twitter users make choices in determining where to end one tweet and begin the next one. Based on the frequency and range of tweets in each participant's Twitter profile, I set the scope of data collection to be all tweets, retweets, replies, and likes for the month of February, which did not include significant school breaks, border a significant school break, or cover unusual instructional time periods, such as state standardized testing or distance learning initiated after the Covid-19 pandemic reached the US. While the pandemic had begun and had reached the US, the education community on Twitter had not yet begun discussion or reacting to potential impacts of the pandemic on schools or teaching and learning. Although (Dodor et al.) identified school breaks as a time when teachers would be most active on Twitter, due to having more free time, I hoped that choosing a time period free of school breaks would yield the greatest variety of activity, as teachers would be encountering a range of professional experiences.

In collecting the Twitter posts into a database[4], I sought a method that would retain all aspects of the post as it appeared in its original context. Each data point needed to include all content, whether text, emojis, images, or links. If it was a reply or retweet, the associated original posts needed to be

[4] In some ways, Twitter itself could be thought of as a database, but the Twitter profile page can change over time (if tweets are deleted, for example), so I needed to create a stable database instead. Before arriving at my final method, I first used a tweet aggregator to collect each participant's tweets, retweets, and replies in a spreadsheet that could be searched easily and included links to the original posts online. Despite its popularity with Twitter researchers, this method had several drawbacks for my particular study. It did not collect likes, did not include images, and did not show original posts in the case of replies. The aggregator was convenient, required little effort on the researcher's part, and was searchable, but the lack of context and visual content made it of little use for my study.

included for context. When it was part of a thread or discussion, that context needed to be included. Responses in a Twitter chat needed to be accompanied by the chat's questions, as well. I was undertaking this study to examine the complexities of rhetorical roles in each educator's case, with the assumption "that examining the context and other complex conditions related to the case(s) being studied are integral to understanding the case(s)" (Yin 4). As such, I found that the only way to examine the Twitter posts as they appeared to the participants and other Twitter users, including complete textual, visual, and linked content, would be via a database of screenshots. I organized these screenshots chronologically using the document design software InDesign and labeled each of the participant's posts using a letter and number, with the letter representing the participant's pseudonym and the number representing the individual post. For example, posts by the participant whose pseudonym is Al and whose pseudonymous Twitter username is @AlgebraAficionado are labeled A1, A2, A3, and so on. The total posts made in February by a participant ranged from 112 to 1,296.

DATA ANALYSIS

In order to reveal patterns in the data, as well as make comprehensive grouping and easy retrieval of data possible, I created a coding system for each data source. Because the sources contained different types of data, I approached each independently of the other, developing coding systems that suited the content of the data and the purpose for which it was collected.

Interview Data

My goal in collecting data through interviews was to learn more about teachers' PD experiences and their perspectives on the roles they took in PD. Thus, I assigned each segment a code, reflecting the experiences, feelings, and perspectives reflected in each. The first round of codes was similar to what Saldaña calls Initial Coding (117), seeking to reflect the content of the participant's speech without fitting a particular type of code. On the second and ensuing iterative readings of the interview data, I assessed the the previously assigned codes to identify those that were closely related and should be combined, ultimately developing a set of codes that combines what Miles, Huberman and Saldaña call Descriptive Coding (65) and what Saldaña calls Concept Coding (119). The final set of codes for interview data was as follows:

- Design (The way PD events are designed, including roles as they are cast by design)
- Power within PD (e.g., who has it, how it is manifested)
- Being in the role of provider of PD

- Being in the role of recipient of PD
- Twitter as a method of PD
- Comparisons of Twitter PD and other kinds of PD
- Intersection of teachers' use of Twitter and their in-person PD or school communities
- Community and relationship-building as part of teachers' use of Twitter
- Self-representation on Twitter

While in other cases (including my coding of Twitter data), it is important that every segment be labeled with only one code, I did not find that practice useful for the interview data. Coding allowed me to sort and group pieces of talk to reveal themes, but I had no need to, for example, calculate proportions of types of talk. If one piece of talk described how the participant experienced the role of provider of PD while also commenting on how the recipient has power over the provider's success, it was meaningful for me to use both codes for that piece of talk in order to explore those themes.

I used general spreadsheet software to organize the textual data and associated codes. With reference to Geisler's analysis of affordances of various types of software, along with modifications based on my specific analysis goals, I took the following approach to organizing the segments of interview data and their codes (which I am including in detail in response to Brice's call for researchers in rhetoric and composition to be more transparent about the choices they make in their data analysis, particularly coding processes):

1. Place the interview transcript in a word processor and press return at the end of each segment to start a new line.
2. Copy and paste the segmented interview text into spreadsheet software, so that each segment occupies its own cell.
3. Insert a column to the left of the segments and number them consecutively.
4. In the column to the right of the segments, enter each segment's code(s).
5. Sort the spreadsheet by the code column. Change the fill color of each row so that all segments with the same code are also coded with the same fill color.
6. Re-sort the sheet by segment number to return segments to their original context while highlighting the patterns of codes.
7. Use the sort feature as needed to see segments in groups by codes and in context within the interview text.
8. Create a separate spreadsheet for each code.

9. Sort each interview by code, and copy all relevant segments to the corresponding code spreadsheet, so that each code-specific spreadsheet includes relevant segments from all interviews.

This method of data storage allowed me a consistent and thorough way to shift between focusing on context and revealing patterns in the data. The use of spreadsheet software best fit my particular data needs because it allowed "retrieving the data by code and then recovering the full context of the retrieved segments" (Geisler 237).

Twitter Data

My goal in collecting Twitter use data was to learn more about the rhetorical roles teachers take when they pursue professional development on the social media platform. Thus, I assigned each Twitter post, retweet, or like a code reflecting the rhetorical move manifested in it. Initially I had trouble arriving at mutually exclusive codes for Twitter use that did not create either an overly detailed or oversimplified set of codes. In responding to this issue of non-mutually exclusive codes, I drew on Krippendorff's concept of using dimensions to solve the issue. I identified different dimensions in which the codes fell: the type of post (Tweet, Retweet, and so on), the rhetorical move (what the segment "does"), and the content (what the segment "says," or Focused Coding in Saldaña's terms (239)). Within each dimension, I developed a set of codes, and I assigned each segment a single code within each dimension. I revised this set of codes iteratively as I progressed. Instead of seeing the codes flourish and then need consolidation, I found that initial codes were appropriate but needed to be more inclusive. For example, the code for "thanking someone" emerged early, and as coding progressed, the same coding category came to include thanking, expressing approval of, or expressing appreciation for someone. The final set of coding categories is below; each Twitter post was tagged with one code in each category.

Post Type

- Tweet
- Retweet
- Retweet with comment
- Reply
- Like

Rhetorical Move (Does)

- Sharing/disseminating/telling (an idea or information)
- Celebrating/affirming (an accomplishment or person)

- Thanking or expressing appreciation, approval, or support (of another Twitter user)
- Agreeing
- Disagreeing
- Answering a question or giving a direct response to a Twitter post (without making one of the other moves)
- Asking a question
- Promoting (an event, occasion, media)

Topic (Says

- Teaching & learning resource, such as classroom activity (or student work as an example thereof), lesson, reading, tech tool, expert source, or course content.
- Classroom/student-related (general; not a resource or a practice pr procedure)
- Professional development event
- Teaching as a profession/field (in terms of pay, rights, working environment, etc.)
- Teaching practice, processes, procedures, differentiation, principles of teaching
- Teachers as part of community in school, the field of education, or teachers on Twitter (including collaboration, working on a team, building relationships, navigating school politics)
- Student voice, power, agency, choice
- Educational leadership
- Twitter chat administration
- School functioning or life of the school unrelated to classroom teaching and learning (e.g., athletic events, community partnerships)
- Career (e.g., completing degree, changing positions, advancement, hiring, interviewing)
- Teacher morale (e.g., fulfillment, mental health, burnout, "teacher life")
- Advocacy (to our about government or person in position of power over education)

Here, too, general spreadsheet software was useful in sorting the data. For each participant, I created a spreadsheet that included five columns:

- The Twitter use's label, as shown in the database of screenshots (A1, A2, etc.)
- Post Type
- Rhetorical Move (Does)
- Topic (Says)
- Additional notes

Thus, I could sort each participant's Twitter activity along all three dimensions independently, while retaining the ability to sort in the original order shown in the screenshot database. Figure 11 shows one line of this database.

Post Number	Type	Move	Topic	Notes
M11	T	Q	C	Disagrees with prior-year T's practice (not teaching the right standards)

Figure 11: Sample line of Twitter activity database

QUALITY

In developing the methods outlined above, I followed Lincoln and Guba's assertion that constructivist inquiry needs different criteria to judge quality than traditional social science research, suggesting "[c]redibility as an analog to internal validity, transferability as an analog to external validity, dependability as an analog to reliability, and confirmability as an analog to objectivity" (76-77). In particular, I focused on triangulation, systematicity, reflexivity, and transparency.

Triangulation contributed in two ways to the quality of the research methods. I used methodological triangulation by pairing interviews with text analysis of Twitter posts in order to "better unravel the processes under study" (Denzin 102). The two methods also yielded two data sources that allowed for perspective triangulation, as the interview data and the Twitter use data could be compared so that participants' perspectives could shed light on their practice, and vice versa. Neither of these two types of triangulation aims to use one data source to confirm another in pursuit of a single truth; instead, their use is intended to facilitate discovery through the foregrounding of each against the backdrop of the other.

My main tool for reflexivity was the regular writing of memos throughout the research process. These memos especially aimed to maintain awareness of my role and perspective in the research process; acknowledge assumptions or biases; recognize interpretations I was making, as well as their alternatives; and reflect on how I did and could maintain respect for and fair representation of participants' perspectives and texts.

To ensure systematicity, I carefully developed (and honed through memo-writing) my methods of collecting and organizing data, and I applied those methods systematically as demonstrated above as well as through writing memos on the steps I had taken at each stage in each case study and those I

would take next, in order to ensure consistency within and across cases. In case studies that are exploratory by nature, Silverman states that "standard issues of 'reliability' can, in part, be addressed by systematic transcription of data," which I achieved by using video recordings, automated transcription, and at least three rounds of transcription refinement per interview ("Analyzing Talk and Text" 832). In iteratively developing codes and using a code book, I sought to "[d]emonstrate that categories have been used consistently" (Silverman, *Doing Qualitative Research* 224).

While I found these efforts at ensuring the quality of my research process were fairly straightforward, though not necessarily easy, at which to arrive and for which to devise techniques, one aspect of reliability was a bit thornier. In some qualitative research using coding, primarily that in social science research, reliability is bolstered by the use of a second coder who uses the code book to do a second coding of the data, which can be compared to the first. It seemed that this practice was needed for increasing reliability in my study, particularly for the database of Twitter use. Grant-Davie asserts that since limited coded data appears in the research report, the inclusion of a second coder in the process is intended to demonstrate that data was coded appropriately; in other words, "to be credible, a coding system should be shown capable of working to some extent mechanically and predictably, independent of its creator" (282) and as "a more 'scientific' instrument of analysis" (283). The issue here, Grant-Davie argues, is that such implications mask the truth that coding is interpretive, and if the researcher and a second coder code the data in the same ways, it means not the coding system is objective but that the two interpreters approach the data with shared interpretive perspectives and goals. In the case of a large data set that would be coded by multiple coders, this exercise would be highly valuable. In the case of a dataset small enough for one person to code, that approach might disingenuously imply increased quality but would actually have little effect. In light of this argument, I determined that having a second coder code the data would not make the data analysis more reliable. In the end, I followed the lead of Glassner and Loughlin, who, in describing their own research, explain

> "In more positivistic research designs, coder reliability is assessed in terms of agreement among coders. In qualitative research one is unconcerned with standardizing interpretation of data. Rather, our goal in developing this complex cataloguing and retrieval system has been to retain good access to the words of the subjects, without relying upon the memory of interviewers or data analysts" (27).

To this end, I used thoroughness and systematicity to achieve the goals that having a second coder is meant to imply; specifically, using "computer-assisted recording and analysis of the data" ensured that "the patterns actually existed throughout the data rather than in favourable examples"

(Silverman, *Doing Qualitative Research* 222). While adding a discussion of a method *not* used in the research may be atypical, I include it here for the sake of transparency (and to echo those who have questioned the implied quality gain brought by use of a second coder in a small, qualitative study, such as Brice, Glassner and Loughlin).

RESEARCHER IDENTITY

I used frequent research memos not only to help ensure systematic processes but also to support ongoing reflexivity about my own choices and role in the research. Because I am an educator, an educational leader (who evaluates teachers), a professional development participant, and a Twitter user, I sought to be aware of and account for my own participation in the research. I took this approach not only to shed light on potential bias in qualitative research, but also because of my position as a rhetorical critic:

> Insofar as people are affective beings, acknowledging rhetorical critics as participants enmeshed in affective networks makes it possible to attend to formerly disregarded moments of persuasion and identification that could have serious consequences for critics, audiences, and other participants alike. (Middleton et al. 574)

I am very much part of an affective network related to how teachers teach and develop their practice; both "persuasion" and "identification" could easily come into play as I interacted with participants and interpreted data.

In selecting participants, I employed careful "consideration of context and power, especially the comparative power of the scholar venturing into the field and the people who reside there" (McKinnon et al. 564). Since I am involved in hiring, I excluded three volunteers whose location, position, or history implied that they could seek to be hired at my school or another school where I could feasibly work in the future (because of proximity and the nature of the independent school world). One of these three did, in fact, seek employment at my school twice before the conclusion of my project. In addition to these potential explicit power imbalances, I was also aware of some participants' perceptions of administrators and sought to present my authentic self as both a person and a professional, giving access to my genuine point of view and not foregrounding any trappings of my authority as an administrator in my own school beyond what is authentic to me as a highly invested education professional. Further, I sought to honor their schedules (classroom teachers, in particular, have limited control over their time) and maintain promised boundaries on the time taken by the interviews. In all of

these ways, I sought to “carefully consider...relationships between the rhetorical scholars conducting the fieldwork and the people studied” (McKinnon et al. 564) in order to both treat participants ethically and be honest with myself and others about my subject position.

In addition to being a teacher and administrator, I am also a Twitter user, which places me tangentially in relationship with the participants in my case studies. To my knowledge, I had no interaction with these particular educators prior to their joining my study, and I used open-ended questions in the interviews to avoid influencing their responses. My own Twitter use is less frequent than theirs, and I am not a prominent figure on Twitter compared to these participants, who have far more followers than I do (many times over). However, my use of Twitter for professional engagement and development, and thus my place in the discourse community of education Twitter, could color my interpretation of the data.

Like these participants, I am an educator; school life is my life, the language of learning is the language I use. The participants and I share an ‘insider’ perspective on the good and bad of being in education in the United States. I have worked in both public and private schools and taught in both middle and high school, as well as serving as an administrator, which gave me specific ‘insider’ status to some extent on the varying roles and settings in which the participants worked. The shared language, insight, and experiences that educators have in common certainly played a role in both my interactions with the participants and my interpretation of the data.

Finally, in acknowledging my subject position in this study, it is important to note my disposition toward the topic in general. As a teacher and a school administrator, I am attuned to areas in which teachers can grow while simultaneously believing that teachers’ perspectives are likely to be as or more valuable than the perspectives of people in positions of power in their institutions. In carrying out the data collection and analysis in this study, I could not help but bring along (consciously and unconsciously) that view of teachers and the work of teaching. I did find that I was not alert to participants' growth areas as I might be in my everyday work with teachers, presumably because I had no professional stake in the participants’ instructional effectiveness, since they work in other schools, and perhaps also because I had insight only on their descriptions of their work as teachers, without the observational data I frequently gather explicitly and implicitly in my role as a school leader. I found that there was no specific decision I could make within my methods to account for this disposition toward the topic, but I state it here for the sake of transparency, since acknowledging it “as part of the critical process not only adds information about the interpretation of rhetoric, but...also develops richness in

the account that might not be present if critics write themselves out of the scenes they experience" (Middleton et al. 574).

I consider the use of quality methods to be an ethical issue, and as such I have sought to lay bare the choices I made in designing and carrying out the research, eschewing temptation to present the process as 'textbook,' standardized, or without possibility of imperfection. When Brice acknowledges a "lack of adequate discussion of data analysis procedures" (Brice 159) in rhetoric and composition research reports, she is in some ways pointing out a self-protecting elision of the details that could make us vulnerable as researchers. To combat that temptation, I aimed not only for quality but also for transparency. I used memoing throughout the process and have created space in this chapter for extensive detail regarding methods, in order to allow readers to assess the quality of the research and and to avoid presenting a process that is unproblematic and seems to generate findings on its own.

CHAPTER IV

HOW EDUCATORS PERCEIVE IN-PERSON PD AND ENGAGE WITH TWITTER PD

INTRODUCTION

Through interviews, the participants in this study described their perceptions of their roles within the PD they had experienced throughout their careers in education. Their comments reveal both what they have experienced and how those experiences have contributed to their orientation toward PD. The data gathered from these interviews serves to pursue answers to the research question, "How do educators perceive their roles in the in-person professional development they have experienced?" As Guskey explains, teachers' lived experiences, attitudes, and perceptions have a significant impact on changes they carry out in their classrooms, especially those that are sustained for the long term ("Flip the Script on Change"). Understanding more about how teachers perceive professional development offers one angle of insight on how teachers' perspectives can be accounted for in the professional development with which they engage. In this chapter, I will describe each participant's experiences and perspective first, before concluding the chapter by synthesizing and observing patterns in these perspectives.

AL

PD Experience

Much of Al's experience with in-person professional development has been PD provided by his district in the form of "some type of training, whether it's about content area, how to teach, differentiated instruction," mental health issues, or other topics. Days devoted to PD in his district are typically split into several workshops, often a mix of required sessions and options from which to choose. Al said that in some cases he may have the freedom to choose whether or how to use PD offered by his district, whereas others may have specific requirements. Recently, Al has begun attending more PD on his own; when he is a presenter, fees are often waived, and he does not need to solicit funding from his district. These PD experiences have typically been in a conference format, where attendees "get to choose a handful of sessions to attend," which Al appreciates. Thus he has extensive experience in the role of receiving PD and, recently, a fair amount of experience as a provider of PD.

Providing PD

Al reported that he draws on both his experience as a teacher and his experience in the receiver role when he is presenting PD. He thinks of his session as he would a lesson, asking himself "How can I maximize learning?" In a particular conference session he had recently led, he introduced himself, set goals for the sessions, and then, "because it was a short 50-minute session...let the participants take the role of a learner" as he taught them how to use an educational technology tool and create discourse in the mathematics classroom. He concluded the session with time for questions, after which he shared his Twitter handles, and some of the attendees followed him on the platform. The next day, he engaged with those attendees on Twitter, answering questions and sharing resources. He seemed to partially attribute the value of this follow-up to the limits inherent in a conference session: "As a teacher, if you have 50 minutes, you're probably hitting one standard, and as a presenter you're trying to hit 20 topics in 50 minutes!"

Receiving PD

When Al has been in the role of receiving PD, he has experienced a few different models, from less interactive sessions when a speaker presents to an audience that listens quietly to more interactive sessions in which the presenter and attendees share ideas. He has experienced the former through keynote sessions at conferences and presenter-oriented workshops in district PD. His perceptions of the keynote sessions were fairly neutral and highlighted the lack of interaction or connection; Al described the recipients' role in one such session as listening and taking notes, because "although the speaker was dynamic, there was not much interaction with him or with one another." Al had experienced similarly presenter-oriented sessions in his district. He felt that his own knowledge or experience was not recognized in these sessions. In addition, these presenters' methods often contradicted what Al is expected to do as an educator; looking back on those, Al said, "Oh man if an administrator watched me read off slides, I would get the worst review!" Generally, PD models that are designed for attendees to be passive recipients, or active only by taking notes, were not engaging or effective for Al compared to other methods.

When Al has experienced more interactive PD events, he has found the model engaging and, in some cases, the exchange of ideas valuable. In one session, Al learned about using 3D printing in math instruction, and since the session had only five or so attendees, "it was really like almost...one-on-one learning" about a skill he could add to his toolbox. He also described a session of less than ten people about "ways of making connections with middle school learners." In a discussion with the presenter and the other attendees, Al said, "I talked about how I did something similar in my own classroom, and we

shared little stories, and we bounced ideas off each other." Al felt that his speaking up about his own practices was useful for others, including the presenter, because "other people in the presentation get to use that idea and see if that's something they feel comfortable with. Which is, you know, just as important as the presenter at that time." In addition to finding participatory models more engaging, a theme in Al's perceptions seemed to be that he got more out of a PD event when he felt he added value to it.

Al described changes in his behaviors in the recipient role as a direct result of his experiences in the provider role. He said that before he had ever provided PD, he "was more of a just sit-and-listen type," perhaps taking notes, but not cognizant of how his own behavior influenced the PD session. After he began providing training to others on how to use an educational technology tool for math instruction, he said, "I understand that for the person to achieve their goal, they need more of an active participant." Even if he is tired and doesn't feel like engaging actively, "it's integral to their success to be an active participant, so I try to go above and beyond." According to Al, the presenter is in a vulnerable position, particularly when there is no prior relationship with the attendees. He compared the situation to a classroom, where "you can build rapport with your students. There's some days my students don't want to work, and I feel like my rapport with them sometimes convinces them. They feel like, 'I should do this for Mr. [Al]'." Similarly, Al tries to "give these presenters…an assumed rapport because we're colleagues as educators" and thus tries to be the active attendees they banked on when they designed their session. Al said that while teachers can be a tough audience who is critical of PD presenters, he would advise teachers "in in-person PD to give the presenter…the benefit of the doubt and try to work with them."

Finally, Al said he valued a model of PD that some might not identify as such: chatting about their practice and observing each other in action. For example, he said, "one of my favorite lines is 'stealing teacher moves'" from "other amazing teachers" by finding out "what they do that you feel comfortable incorporating into your own classroom." This theme of exchanging ideas with other educators appeared across much of his discussion of PD, from models he finds valuable to the credibility of presenters.

Preferences in Providers and Content

Al perceives current educators or, at most, those recently in the classroom as credible presenters of PD. Al says he is most open to PD "when it's other teachers doing it and not administrators or people who give PDs as a profession." He sees the latter as disconnected from the daily work of teaching. He specifically mentioned textbook company representatives as an example; he and his

colleagues, he says, find other educators more valuable "than a textbook company saying 'turn to page 247. Look at what we have in the textbooks,'" which often leaves Al and his colleagues thinking, "'Yeah, we know what's in the textbook. We've been using it for five years. Don't tell me what's already there. Give me new ideas.'"

Because of his desire to learn valuable content from credible sources, Al has attempted to influence the PD provided at his school. The curriculum coordinator at his school was making arrangements for the textbook company representative to present, and Al advocated for an alternate presenter he knew who offered "mini ideas...you can use in your classroom." The administrator followed his advice and changed the plan. Al reported feeling that his "opinion was valued," especially when the curriculum coordinator credited him with the idea. Further, his colleagues in the math department valued the PD session and thanked Al for helping them have access to relevant, applicable ideas. Al's perception was that his colleagues were more open to the PD because they respect him as a mathematician and a teacher. In this anecdote, Al emphasized two perceptions that were themes in his interview: that presenters are more credible if they have a connection to the classroom—in this case, a connection to a respected classroom teacher—and the value of learning that can be applied immediately.

Al described the content he finds most valuable, saying that when he takes notes during PD, he is looking for "little things that I can incorporate almost the next day into my classroom." He offered an example suggestion he heard in a session: when having students work in groups, the teacher can choose one group to join as a participant for 20 minutes, while still keeping an eye on the entire room. He said, "Wow, I don't think I've ever done that, and I'm sort of excited today to sit down with a group [to] be one of the members in the group and be like, 'Yo, guys, I'm joining your group for today,' and just like see what happens—see what positive effect it has, if there's any negative effects in the classroom. So that's the thing I think is important is, 'Can I take ideas which I can instantaneously and quickly start using in my classroom to change my instruction?'" Al says that "the big ideas are harder. When you get a big idea and there's big changes, it's like you really have to plan that out, and a lot of times you push most of it to the next year." Al felt that, because teachers are "more likely to incorporate quickly" the immediately applicable ideas and "actually start using them in your own classroom," they have more value. He implied that the likelihood that a teacher will actually apply an idea is the determining factor here—if it can't be applied for months, it's less likely to impact student learning, because it's less likely to be put into practice.

CHLOE

PD Experience

Because Chloe has always taught in what the state or district considers low-performing schools, she has experienced a significant amount of PD. These schools have goals set for them, and a committee of stakeholders and teachers (of which Chloe has been a part) creates an improvement plan for meeting them. Chloe said that these plans "just slap on more PD and more PD" as methods for reaching the goals. As a result, Chloe said, "It's almost a weekly basis where we've got some required PD and a presenter coming in." She shared examples of training sessions that repeated the same information as previous ones. As a result, she said, "a lot of times the teachers are very burnt out because being at the schools that I'm at, they just shove PD down your throats...They think PDs will make everyone a better teacher, but it's not." This seems to highlight the conundrum for such schools—if PD is shown to improve teacher effectiveness, and teacher effectiveness is the greatest influence on student growth according to research (typically defined by performance on standardized assessments), then schools that need to increase student growth increase PD, which in Chloe's experience can eventually have diminishing returns.

That said, Chloe's perception of PD has shifted during her four years in the profession, with school-provided or required PD events feeling generally relevant and useful when she was new to teaching or to a district, and less so as her experience and expertise increased. For example, in her first year of teaching "everything was new to me, so everything was useful," and in her second year, after she changed districts, the "new programs,...new initiatives,...different ways of teaching and different expectations" at her new school made the required PD "new, applicable, interesting, and useful, a good use of my time." By her fourth year, Chloe noticed a shift in her perspective on PD. On one hand, she said, "I am a lifelong learner and I love to learn and challenge myself, and I don't think I'm perfect at all," but on the other hand, she sits in faculty training sessions and thinks, "Oh my gosh, I could lead this training so much better than this person." or "I've been doing this for four years, *I know*," and she wishes she could use the time to tend to student needs. Specifically, she has come to feel that PD should be differentiated for teachers at different levels of professional growth just as lessons must be differentiated for students at different stages in their learning. She felt that this would allow more advanced teachers to take a leadership role by assisting with or expanding on the PD presented. She said that her school- or district-provided PD experiences were less interesting and valuable than the conferences she has paid to attend on her own.

Receiving PD

Chloe reported that in most of the PD she has been part of, particularly that required by her school or district, she has been in the role of receiver during “sit and get” PD sessions. Chloe described several aspects of both her perceptions and her behaviors during these sessions. Chloe said, “I'm the kind of teacher who always speaks up when people don't want to, when they're awkward and uncomfortable. I'm always first to raise my hand. I'll just kind of say what no one wants to say.”

Chloe also described ways her behaviors in the receiver role respond to the specific context. She said that her time is not honored in whole-staff PD sessions that are not useful, which influences her behavior in them. For example, during an all-school training on a topic she already understood, faculty were told to show respect by putting away devices, but Chloe typed an important email during the session. However, in small-group contexts, she reported behaving differently in the receiver role. She said, “In the small group with just teams, people will just sit there….and they're staring, and time's passing, and [the PD providers are] asking questions, they want you to interact with them, but everyone's just so burnt out, or in a bad mood, or thinking about their kids, or whatever it is. So I'm like, ‘Okay, it's this. It's that.’ I feel bad for them, the presenters. I mean they're here, and we're just sitting like bumps on a log. So I'll try to help move it along. I'll try to offer what I know and interact with them.”

When in the receiver role, Chloe sometimes uses questions or comments to influence the direction of the training. She shared an anecdote as an example. When a presenter about the math program iReady began discussing math games, other attendees complained that their students were not completing their iReady practice because they were playing games within the platform. Chloe spoke up to explain how teachers can turn the games off. Chloe said that she frequently shares new information when it would help other attendees or the leader; in some cases, leaders welcome the addition, but in others, the provider “tries to reel back in, draw back on the reins,” or “shut it down,” perhaps because of concerns about time, loss of control, or interference with the message prepared by the provider.

When in the role of attendee, Chloe said that she also asks questions that might influence what the presenter shares: “Sometimes I'll just ask a question like, ‘Why does this matter? Why is it important?’ Not to be a smart aleck, but I want to know, what's the importance of this? What's the significance that's going to impact my teaching? And if I don't see it, then I'm not afraid to ask a question, and sometimes maybe they'll go off the plan a little bit.” As in other reflections on her behaviors in the role of attendee, Chloe noted the role of context: she won’t speak up if doing so would push the session past its scheduled time, for example.

Marginal Access to a Provider Role

While sit-and-get sessions of dubious value dominate Chloe's PD experiences, particularly those within her district, she described a few exceptions when other models were used; in each one she described, the design allowed her to take on an aspect of the provider role. For example, she attended a two-day, district-provided training that included an optional extension when attendees could offer mini-sessions for other attendees; Chloe led a Twitter-related session. She felt the mini-session model was more valuable that "the typical, 'Does anybody have any further questions?' at the end." In another case, Chloe's principal, impressed by her students' scores in comparison with others at the school, asked her to offer an in-school PD event regarding her math intervention and getting "everyone on board with the most effective data-backed practices."

Chloe has also advocated for more of these teacher-led PD events. She has asked her principals to have an in-house PD event in which teachers present based on their areas of expertise. Chloe sees the teachers in the school as valuable providers of PD, and she values models of PD that cast them as such.

In general Chloe did not believe that she affected others' learning while in the receiver role because most PD is "just so presenter driven." She could think of two exceptions when PD leaders might have learned from her. At the two-day conference that ended with mini-sessions led by attendees, she thought she may have influenced the leaders, "I had a few things to say about Twitter and chats that some of the facilitators did not know." She also thought of a PD event at her school that was an exception: "My school recently did...an in-house...behavior training…We just kind of did stations, and people went around, and we did short presentations." Chloe said, "I was asked to present about my classroom management system, and our behavior coach walked around, and she was like, 'Wow, that was really good. I never knew that.'"

Applying PD

Chloe described a self-defined approach to applying PD. "I feel like I always take it upon myself to decide if I'm going to do it or not," she said. "There've been times when they'll say 'You're going to do this, and you're going to move your number routines to the end.' And I'm thinking in my head, 'No, I'm not,' but I'm just like [nodding], 'Uh-huh. Yeah.'" She pointed out that this approach has been validated by her school leadership on some occasions: "I have had two principals pull me aside before a big meeting and say…'I'm going to say this, but it doesn't apply to you. Just keep doing what you're doing.' So that kind of...reaffirms me, in addition to my data, 'Okay, I'm a good teacher, I can make this decision. I don't have to blindly do what they say.'" She said that she knows what her students need based on the learning outcomes they demonstrate; "If I wasn't getting the results, then I might be like, 'Okay, maybe

this is a good idea. I should give it a shot.' But since I do get the results— you know, they're not 100% every time, there's always room to improve, so I shouldn't say it like that—but...I'm always going to do what's best for the kids–what I think is best, and what's data-driven." While she was confident that her students' demonstrated learning justified her independent decisions about instruction, she also clearly felt self-conscious that saying so implied a fixed mindset and resistance to new ideas, which contradicted her continual desire to learn.

LAILA

PD Experience

Laila says that she has been in both the receiving and providing roles. In some, such as the School Library Journal Leadership Summit, the design casts her as an attendee in the role of a receiver. In others, she has a choice: "In my district or in my state, it's been designed where I could be the deliverer or the receiver. I feel like the way that that seems different is because those are opportunities where it's open for you to submit an idea and say, 'Hey, I'd like to present,' there's always a call for people to present, even at our district level." Laila has presented in various PD models, but she said, "I don't want to be the one who's always up front speaking, because the person doing the most talking is also the person who's learning." No matter her role, Laila believes that when she engages with PD, "even as a presenter for some professional development, I'm still a learner."

Influencing Learning

Laila felt that whether she affects the learning of other attendees depends on the situation. She said, "I honestly think it depends on the mindset of the people in attendance...I feel like about 90% of the sessions that I have been in, we've all been open minded to learning from everybody that's in the room." She also reflected on the roles as they are designed in PD, with the presenter teaching the attendees, and the ways reality differs: "People are experts at certain things, right? We give these labels, but...I've always found that there's something that the 'presenter' [with air quotes] may not have thought of, or it may not have been a situation that they've been in to be able to offer certain advice or expertise. But somebody else who's sitting behind me in that session has...that expertise and they can share that...With that mindset of learning from whoever's in that room, I've taken away things from people in a session [whose] name wasn't on the program."

Laila felt that she had been able to influence PD events through feedback surveys that ask questions such as "What did you gain most? What would you have liked to see different?" She felt that

these surveys may have influenced changes in ensuing events, such as when an annual event "was changed because there was consistent feedback." At an annual national conference she attends, an app is used throughout the event for session reviews, as well as at the end for the conference as a whole; Laila, "noticed that with this last one, they were more focused on creating strands of content where they hadn't before. And I think that's something that came out of the previous [year's survey] because we had just learned about our standards and finding ways to really hone in on those."

The Role of Choice in the Receiver Role

Laila reported always feeling that she could choose whether and how to apply her PD, and this seemed partly because it has frequently been in the form of conferences. She has found that when attending conferences, she has not felt judged if she left a session, since other attendees know that "you get a short time frame and there's lots of different opportunities to choose from. So you want to make the most of your time," even if that includes "getting up to leave because it's not really what you thought it would be, or…there's another session—you really got what you needed from this one, you're ready to go make it to the next one because, you know, it may not be offered at another time." With that much choice in what to attend (or not), Laila felt she also had full control over application (or not) of her learning. She said that this was also true of PD provided by her district, which is very large, with over a hundred librarians, whose PD is combined with even more educational technology specialists, creating a critical mass that can support conference-style PD within the district. Thus, Laila said, "One of the biggest things with in-house is that we get that information ahead of time. It's not like we're getting there that day-of and finding out what's offered….You can think about what it is that you need, professionally, for your library, just for you. We've even had some sessions that are based on us as people, so that's helpful. It can be stressful in education, so having those opportunities to kind of talk to or listen to people who are skilled in certain areas, whether it be the mental aspects, or the goal-setting aspect, having the freedom to choose those things is very important. So we've always been able to kind of go and navigate our own courses in terms of what we might do each of those days."

Laila's perception of PD as a state or district requirement focused on relevance and volume. She said that some PD attendees will be in a session that may not be useful or relevant for them "because their district says they have to have this many hours, and it's an astronomical number, like almost 70 hours in a school year." She said, "But is that meaningful? So for me, one of the biggest things is you should not be required to take or be in these sessions learning if it's not meaningful to your practice. Sometimes it's useless...especially because when you think about it, if you're not taking it and putting it into practice within the next week, you're not going to ever do it because you've forgotten about it." If

large amounts of PD is required of educators in hopes of improved practice, Laila said, “let's make sure we offer it.”

MARIA

An Evolving Investment in PD

Maria’s experience of PD before 2013 consisted only of what her diocese provided, which was “usually principals with a PowerPoint that they don't know anything about.” In 2013, Maria became involved in PD outside of her district when keynote speaker Mayam Bialek caught her eye and her father paid her expenses to attend the annual conference for the National Council of Teachers of Mathematics. She describes her first NCTM conference as “fine,” if less community-oriented than she had hoped, but after she met more math teachers through Twitter and began to build relationships, she also had richer conference experiences. At her second NCTM conference, an acquaintance “introduced me around to all my math heroes,” and later Maria attended Twitter Math Camp for five consecutive summers, which was “the best PD ever.” Math PD events became part of her regular practice, including regional and national conferences. The majority of these were paid for by her father. On the topic of funding and how it affects conference attendance, Maria pointed out that she is often at national conferences with non-teachers, and she’s only there because she finances her attendance herself; “teachers don't get to go,” she said, “It generally is the [instructional] coaches, the consultants, all those people.”

After having attended so many conferences, Maria has arrived at a point where she finds the highest value in unstructured times outside of sessions, when each participant in the conversation both provides and receives learning in a shared learning experience: “Some of the best conversations I have in conferences take place over dinner...Some of the best learning happens in that time.” In particular, she notes that other resources outside of conferences offer ideas on great lessons, practices, and “the math pedagogy,” but only conversations with other teachers facilitate shared reflection, particularly on the human element, such as “your role as a teacher or how you're caring for your students.”

Receiving, Providing, and Influencing

In terms of more explicit provider or receiver roles, Maria acknowledged that she has provided PD, but saw her primary role as receiving: “Anything that's within the diocese is...almost all receiving...Twice, I was asked to be 'the presenter' (with air quotes). I was presenting their stuff...But for the most part on the receiving end.” Similarly, she has presented at conferences three times, but characterizes most of her experiences as receiving.

When she thought about her experiences in the provider role at conferences, she focused on the extent of her impact on others. At conferences, she saw the number of attendees as important, saying that she "shared and had an impact on a very small number, but hopefully that number at least got something from it." When presenting PD at her school in her principal's stead, she also felt that her impact was low. She happened to have attended a workshop on her own to which her principal had been sent by the district. Since she understood the material better than he did, he asked her to re-present the material to the faculty using his slides; in her words, she "had to be the person with the principal's PowerPoint and read off" the slides. In addition to not having influence over the content of the PD she was delivering, she also believed her audience was inappropriate; the PD session about math was presented to all teachers, about a third of whom did not teach math, making it challenging to meet her audience's needs.

Maria also described ways she may have influenced others' learning during recent training in her district about a particular instructional strategy. The faculty are divided into groups in which they learn to use proficiency scales in teaching math, and since Maria knows the standards well, her group of seventh-grade math teachers has learned a lot from her: "we've had really productive conversations and some people who don't know the standards as well, I think they've taken a lot." Even so, Maria downplayed her impact, saying that she had influence "only because" she happens to know the topic better than others, and pointing out that "it's such a limited group of people."

Maria felt that she may have helped others learn while she was in the receiver role at conferences. In some cases, she sits with people she knows in a session and talks with them about the content, or she and her friends will discuss the content between sessions or over meals, which allows them to learn from one another. While she feels she is not one to interact with strangers, "because of my Twitter experience, I'm way more open to talking to people, and because I'm seen as a connector through Twitter, I think I have taken a confidence to go out and try and connect people in sessions or convince them to get on Twitter." This seemed to be a double-edged sword, as she also said that knowing more people at conferences leads her to sit with people she knows and therefore make fewer new connections.

Although Maria has, in fact, held a provider role and been active in connecting with others around professional learning, she spoke about each of these occasions as exceptions, as having only marginal influence on others' learning, or as having influence on only a few people. Further, she said, "I can't think of any case where I would have" influenced the learning of a PD provider. Overall, Maria seemed to perceive her impact on others as minimal, despite the fact that she seems to have had an

active role in a fair number of PD events and has received positive feedback about her formal and informal contributions.

HOW DO EDUCATORS PERCEIVE THEIR ROLES IN THE IN-PERSON PROFESSIONAL DEVELOPMENT THEY HAVE EXPERIENCED?

All four participants have experienced extensive PD, and all four reported being eager to grow as educators and to learn from PD they have access to, particularly by gaining instructional ideas that will help meet their students' needs, which aligns with findings in the literature that teachers' perceptions of a professional development activity are more positive when the activity leads to student improvement (Commeyras and DeGroff; Doubek and Cooper; Morewood et al.).

Their love of (effective) PD and their assumption that it will help them be better teachers echoes the association of PD with improved instruction that is assumed in most literature on the topic. They reported a variety of levels of effectiveness in the PD they had experienced, but all spoke more positively about PD experiences they chose for themselves than those they were required to attend by (and often within) their districts as part of what Wald and Castleberry call "the training food chain" (7).

Several participants described PD experiences they found ineffective, particularly when they perceived the provider as lacking expertise or when the PD was not well-suited to the attendees. In general, the participants' choosiness when it comes to PD–and their commitment to applying only effective practices–echoes findings that teachers are slow to abandon practices they have found to be effective in their own classrooms with their own students (Guskey "Flip the Script on Change"). One participant, Chloe, expressed the most extensive experience with poor PD; she has worked in low-performing schools (as defined by student test scores), where school improvement plans tend to include frequent PD, but where the volume of PD has not, in Chloe's opinion, achieved the intended ends of improved student learning (and test scores). Like much of the literature on teacher professional development and K-12 education in general (as described by Groundwater-Smith and Mockler), she assumed that improved student performance on standardized tests was an important goal, but her experience led her to object to an assumption that high-frequency PD was a certain path to improved learning.

In in-person PD, the participants saw two clear and distinct roles: PD provider, who acts as rhetor by crafting and delivering a message, and PD recipient, who is cast in the role of audience and is expected to consume and act on the message. This highly delineated understanding of the roles is similar to that seen in literature on PD, where teachers were seen primarily as receivers of instruction

very similar to students in a traditional classroom (Beavers 26; Buczynski and Hansen 600; Grant). All four participants saw themselves primarily in the role of recipient of PD and cast primarily as audience. While all had taken the rhetor role to some extent, the frequency and volume of time all had spent in the audience role led them to characterize that role as their primary one.

Chloe and Al emphasized "sit and get" or "being talked at" as the most frequent model of PD, with a presenter delivering information that the audience is intended to (passively) receive and internalize, echoing Buczynski and Hansen's description of poor PD "as too conventionally taught, too top-down" (600). Neither saw this model as effective, because it failed to differentiate for attendees' varied needs and did not invite active participation or reciprocal learning, which aligns with Darling-Hammond, Hyler, and Gardner's recommendation for effective PD to involve "active learning" (7). Several participants also perceived a fair number of their PD experiences as ineffective because the provider did not follow best practices that they as teachers are expected to follow, such as having expertise in the topic, differentiating based on the learners' needs, and designing engaging lessons (as opposed to reading slides aloud). The participants' frustration with these sessions serves to demonstrate the literature's recommendation that best practices of teaching be followed in PD (Beavers; Wei, Darling-Hammond, et al.; Darling-Hammond et al.)

Participants valued the ability to affect what they learned in the recipient role at conference-style PD events where choice was part of the event's design, reflecting advocacy for this model in literature on teacher PD (Desimone; Morewood et al.). In these cases, the rhetor in the sessions determined the parameters, and attendees chose from among those sessions. This access to choice was appreciated by all three participants who mentioned it. However, Maria pointed out that choice can also prevent her from being exposed to new ideas or knowledge in areas she is not already interested in.

While participants saw distinct, predetermined roles of provider and receiver in their PD experiences, several did note that the design sometimes invites attendees to teach others, and these types were perceived positively. For example, Chloe appreciated a PD event that concluded with a session in which attendees could choose to present on topics of expertise, and Maria had experienced a training program that included a professional learning community component in which her expertise allowed her to teach her peers. Small-group settings were also highlighted as offering greater chance of interacting–and sharing knowledge–with others in a PD session.

The participants described conscious behaviors that they adopted when in the audience role, particularly active participation and attention in smaller settings where others are likely to notice or where the provider's plans hinge on audience participation. At the same time, when in the receiver role,

none of the four participants felt that they had had any influence on the design or content of traditional PD events once underway, thanks to the advance planning and staging involved, with one exception: Chloe reported asking questions–sometimes provocative ones–that have deepened the content or changed the provider's course somewhat, depending on the provider. One other participant felt she had influenced PD during its design phase: Laila noted that by completing surveys after an annual conference, she affected the content of the same conference the following year. The use of surveys was noted in the literature as ineffective in assessing PD quality (Frechtling et al.), but Laila cited the practice as useful in ensuring that future events were relevant to what educators saw as their most current or pressing needs.

All participants had fulfilled the provider role. Maria and Chloe had been in the role the least and perceived themselves as having limited influence on others' learning, while Al had recently gained training and experience in the role that shifted his self-perception to see himself as a provider of valuable PD in a way he never had before. Laila emphasized her perception of herself as a learner no matter whether she is a provider or receiver of PD.

Highly structured experiences such as workshops, trainings, and conferences were mentioned most often by all participants, reflecting the same definition as is seen in most of the literature. However, Maria and Al both pointed out that less "designed" situations are conducive to learning, in line with assertions from Grant, Servage, and Borko. Al said that observation and conversation–seeing others teach or chatting with others about what works for them–both give him very valuable insight. Similarly, Maria said that when she attends conferences, some of her best learning occurs during conversations between sessions or over dinner, especially because instead of these conversations facilitate deep reflection on teaching practices and student support. Maria's descriptions of her richest PD experiences resonate with Greene's description of "face-to-face encounters among friends and strangers, striving for meaning, striving to understand" (459) as well as with Darling-Hammond, Hyler, and Gardner's inclusion of reflection and feedback as key to effective PD. Both teachers' discussions of the value of talking with and observing other teachers point to un-designed time as a type of PD they find meaningful.

CHAPTER V

AFFORDANCES AND RHETORICAL ROLES IN TWITTER PD

INTRODUCTION

Interviews and collection and analysis of the participants' PD-related Twitter use during a specified time period created data that pursues the research question, "How do educators make use of Twitter's affordances during everyday PD-oriented Twitter use?" Because professional learning must be an ongoing transformational process (Learning Forward 57), and because Twitter offers a mechanism for information-gathering (and sharing), reflection, and professional interaction on a daily basis, knowing more about how teachers use the affordances of Twitter offers useful information for the education field. This insight can support a variety of next steps, from leveraging social media platforms for teachers' professional growth to identifying teachers' needs or desires that could be better supported through other PD to, as in this study, laying the groundwork for analyzing other aspects of that Twitter use, such as the rhetorical roles taken within it.

In combination with these two data sources, textual analysis of sample Twitter use from each participant reveals how the participants used the affordances of Twitter to enact rhetorical roles as they carried out Twitter PD. I entered context-sensitive text analysis of this Twitter activity with several assumptions, based on the work of Huckin. First, as texts come into existence, communities form around them, and "these texts contain observable patterns of language usage that come to mean certain things to the members of a given community" (86). Writers attempt to communicate meaning to readers, and they use conventions and linguistic patterns (and, in my case, visual and other patterns) in that attempt, although there is no guarantee that the writer's intended meaning and the meaning constructed by readers will align (86). Writers may belong to and thus draw on multiple discourse communities (in this case, perhaps discourse communities of education and of frequent social media users), which may be reflected in the text (88). Finally, small details affect meaning and are worth noticing when interpreting a text (89), such as selection of particular words, emojis, or Twitter functions. In applying context-sensitive textual analysis, I collected data that adds to the interview and quantitative Twitter data to pursue the research question, "How do educators use the affordances of Twitter enact rhetorical roles in Twitter-based professional development activities?"

AL

Al's Use of Twitter Affordances for PD

Al initially set up a Twitter account for personal use, later expanding into using it for professional growth and networking. Later, he created a second Twitter account focused on Desmos, the educational technology tool he uses and teaches to other educators. I will focus primarily on his main account, but will also discuss his secondary, Desmos-specific account.

Al believes that his Twitter use is "100%" a form of professional development because he "get[s] so many ideas off of it." Al reports that he uses his main Twitter account for "interacting with other math teachers" and building "professional relationships," and for providing and receiving PD. On his tool-specific account, Al has focused on building community and providing resources for teachers who use the tool, placing him in a provider role.

Al has placed himself in a receiver role frequently on Twitter as he has found new class activities, learned best practices, and built personal relationships. For example, when his school began exploring a new system of assessing learning, Al asked his followers on Twitter, "Who's got great ideas about standards-based grading?" He got an "unbelievable" number of resources, and "in a short amount of time, without me needing to read any textbook, any articles,...I had the shared ideas of a bunch of teachers who were actually using these ideas." He valued this access to "not just theories" but "ideas in application" as well as teachers' thoughts on what they would change if they were starting the practice from scratch. Al saw dual value in the knowledge he gathered by posting his question to Twitter: he gained information from those already studying it, and he also got the added value of the teachers' perspective about what was working in the classroom and what could work better.

Al also values the interaction between users thanks to Twitter's nature as a social media platform. Al said that unlike "most professional development, it's a dialogue between people." He found it ironic that an electronic platform would support "more of an open conversation" than most PD events, where "you're being talked at." As with in-person PD, Al sees interaction with other teachers as important to the value of PD. Al sees the open, public nature of Twitter exchanges, without geographic or temporal boundaries, as a benefit of Twitter PD in comparison with the place- and time-bound nature of conventional models. For example, he said that since he has a public account, "almost anybody can see your responses and anybody can jump in." An educator from another country, "an author of a book," or other "experts can actually jump in the conversation to support it," unlike in-person PD, where "the people in the room are the people in the room, and you don't get outside influences."

Al often places himself in the role of provider when he uses Twitter. He has led Twitter chats, made and shared video tutorials, answered questions, and given “insight or the little bit of expertise” that helped an educator improve their craft. He described instances when he answered users’ questions directly and when the account teacher2teacher, which amplifies teacher questions to garner more responses, tagged him in questions and he responded with his thoughts. He makes a special effort to help other teachers grow, saying, “because Twitter has made me a better teacher...I want to try to help others out there.” He sees his participation in these roles, especially in his tool-specific account, as “trying to get that sense of community supporting one another,” and he believes it is working because followers “direct message me about how it's really helping them throughout the school year.”

As he has sought to support other educators’ growth by taking the PD provider role on Twitter, Al has been surprised by the number and variety of followers he has, including teachers overseas, and by others' perception of him. When those far-flung followers have sought his insight or sought him out at conferences, he has been a bit dumbstruck. He said, “I'm like, I'm not— I don't have a master's. I'm not this kind of person.” Al appeared simultaneously proud, pleased, and abashed that he had achieved some level of Twitter fame within the math community, and he felt that it had resulted from his passion for helping others improve their craft as math teachers by taking the provider role in Twitter PD. The attention has led him to think that “it's really cool how people value each other's opinions and need each other's insight” and seek it through Twitter.

Finally, when Al described his use of Twitter for PD, he mentioned several occasions when his use of Twitter’s affordances has affected in-person PD experiences. In one example, Al explained that the application to become a trained presenter on the educational technology tool Desmos was only publicized on Twitter. That training “truly changed…how I instruct in the classroom” and “extended my career in a different direction.” In another example, Al described times when he convinced his administrators to give him access to resources or change PD plans after he used Twitter for research. In a third example, Al explained that he had recently presented at a conference because a Twitter contact encouraged him to, and then they attended one another’s sessions. He said, “We've shared ideas through Twitter for over a year, and now we both went to each other's session, too,” which built a more personal relationship that he expects to continue growing, “so the learning basically never ends...we're going to continue to support one another.”

Al’s Twitter By the Numbers: Main Account

Complete data regarding Al’s use of Twitter functions, rhetorical moves, and topics addressed appear in Appendix I. During the time period studied, Al made use of the tweet, retweet with comment,

and retweet functions, those that appear on one's profile and in followers' feeds, far less often than the reply and like functions, which primarily come to the attention of the original poster and those engaging with the post. In fact, these three functions taken together constitute 3.5% of his overall Twitter use. Even compared to the other two functions, he used these three together less than he used reply, and only 3.8% as often as he used like.

When Al did use tweet, retweet with comment, and retweet, it was almost always about either a professional development experience or a teaching and learning resource. When tweeting about professional development, he sometimes promoted upcoming events, as when he linked the registration page for an upcoming conference and tweeted "Any @njea or NJ area math teachers, @amtnj is having a 2-day summer institute all about @Desmos ! The link is attached, if you have questions let me know," and included several emojis to catch readers' attention. In another example, Al celebrated an upcoming in-person PD experience in which he would be in a provider role, tweeting, "Excited to spend the day with [school's Twitter username] math teachers and share my love of @desmos with them. Thanks [sic] you [username] for the invite and the southern hospitality! #iteachmath." When he tweeted about teaching and learning resources, he sometimes shared a method of teaching, as when he recommended using a manipulative called algebra tiles in the teaching of factoring by tweeting, "If you are introducing factoring to #algebra students I highly recommend the use of Algebra tiles. Started using them in my classroom a couple of years ago and they make a HUGE difference. #iteachmath #mtbos" and including a photo of the manipulative in use (#mtbos stands for "math teacher blog-o-sphere"). In other cases, he shared activities he had created in Desmos so that others could use them as well, as when he tweeted a link to his activity along with this message: "Here is my #MatchMyCL submission. Connecting representations is such an important skill for #algebra teachers. This screen allows students to make important connections for quadratics and then use the action button to get feedback" [#MatchMyCL refers to a Desmos challenge intended to invite creative uses of the tool by teachers].

Al made use of the reply function more frequently than tweet, retweet with comment, and retweet. His replies are distributed somewhat more broadly across rhetorical moves, and 17 of the 24 fall into thank/support, agree, and answer—moves that are, not surprisingly, ways of responding to someone else. The vast majority of his replies, 75%, were about teaching and learning resources, and they typically involved giving feedback on a teaching and learning resource someone else has shared, thanking them for their feedback about his own teaching and learning resource, or otherwise engaging in a "back-and-forth" conversation about such a resource, to use his own words in his interview. In a

representative example, one user posted a question about copying activities between slides in Desmos, which Al answered by sharing a website address where the instructions could be found. In response, another user asked if whole folders could be moved between activities, after which Al and that user exchanged several posts in which Al answered his question, gained more information about the user's goals, and suggested an approach that could achieve what the user needed.

Finally, Al used the like function a whopping 602 times, 93% of his Twitter use. The posts he liked spanned a broader range of rhetorical moves and topics than his own posts, which were much more narrowly focused. However, even within his likes, almost 50% were about teaching and learning resources, and 22% were about professional development experiences, maintaining his focus on these two topics demonstrated in his Twitter posts. Other topics addressed by posts he liked are (in order of prevalence) classroom experiences (outside of lessons or teaching and learning resources), educational practices or principles, community-building among educators, and teacher morale. These ranged from a post about a middle schooler sharing a sought-after Girl Scout cookie with a teacher, to suggested follow-up questions to ask during class to help students talk about their mathematical thinking, to a post celebrating the user's students' growth as shown by their test scores, to several posts mourning the loss of a well-known teacher among the math education community.

Overall, Al's use of his main account focuses significantly on increasing his and others' teaching capacity, whether by learning new skills, gaining new resources, or finding out about in-person professional development opportunities. Other aspects of the lives of teachers, such as daily school experiences and morale, also appear, but at a much lower rate and primarily through his liking of others' posts.

Al's Twitter By the Numbers: Tool-Specific Account

Complete data regarding Al's use of Twitter functions, rhetorical moves, and topics addressed in his secondary account appear in Appendix I. Al used his secondary account, which is devoted solely to the use of the educational technology tool Desmos (but is not sponsored or funded by Desmos), slightly differently than he used his main account. He only tweeted twice, even less than on his main account, but he used retweet with comment and retweet almost six times as much as he used those two functions on his main account. As in his main account, these posts focus on teaching and learning resources (primarily sharing them) and professional development experiences (primarily promoting them beforehand or celebrating them during and after the event). Frequently, he retweets another teacher's sharing of a Desmos activity, sometimes using retweet and sometimes using retweet with comment, adding, "Thanks for sharing, [name]!" Similarly, he sometimes retweets a post from the

official Desmos account with a simple comment such as “Check these out!” He also uses retweet with comment to amplify questions from teachers, as when he asked his followers to help a teacher looking for a Desmos activity that helps students understand relationships between the slope of a line, its rise and run, and coordinates of points on that line. The more frequent use of retweet and retweet with comment functions using this secondary account, especially considering how many are focused on sharing teaching and learning resources, seems to demonstrate a greater commitment to connecting Desmos users with each other and with Desmos uses than, for example, sharing his own experiences with and thoughts about teaching. This aligns with Al’s comments in the interview that he intends that account to build a community of Desmos users who support one another.

As with his main account, Al uses the reply feature to offer feedback, answer questions, agree, and thank. Many are one of three types: explaining how to use a feature in Desmos, sharing a specific tool or activity within Desmos that will serve another user’s need, or thanking or praising a user for a Desmos activity posted to Twitter. Also similar to his main account, Al uses the like function more than any other, and on a somewhat broader range of posts. However, the proportion is not as extreme, with likes accounting for 61% of his Twitter use on his secondary account. Of those likes, 83% are focused on a teaching and learning resources—specifically uses of Desmos in the classroom.

Across the board, all of Al’s uses of this account seems to downplay his identity as an individual teacher and to foreground the uses of Desmos. His own voice emerges primarily when he explains information others can use or thanks and praises others for doing the same.

Al’s Sample Tweets: Affordance Use and Rhetorical Roles

Sample Tweet One: Al Celebrates In-Person PD on Twitter

Al posted the first of these two tweets as he prepared to present a PD session at a school that had invited him. The post states, “Excited to by [tagged school] to present [tagged educational technology tool] to their math teachers. Thanks for the invite [tagged school leader]! @amtnj @NJEAPD #iteachmath.” The post includes a photo of Al (obscured by me) and a slide (obscured by me) from the slide deck he presented during the session. The word “by” seems to be a typo for “be at.” In addition to the school and teacher tagged, the remaining tagged accounts belong to regional professional associations, and the hashtag #iteachmath is popular with elementary and secondary math teachers. This tweet received several replies of appreciation for Al’s PD, to which he replies with thanks.

The second tweet in this set is a retweet of a tweet posted by an attendee of the PD session Al led. The retweeted post reads, “Fantastic PD day with [Al’s account] learning more about [educational

technology tool]! [two tagged accounts] #iteachmath" and includes four photos from the PD event: a table of attendees, Al presenting (both obscured by me), and two views of a teacher using the tool. A small gray label at the top shows that the post is retweet by Al. Al also posted a reply to this post, saying, "Thanks for inviting me, really enjoyed the time with you and your staff. Please let me know if I can assist in the future! [two tagged accounts]"

Figure 12: Al sample tweet one, part one

Figure 13: Al sample tweet one, part two

In the first of these tweets, Al uses the affordances of Twitter to create a tweet that will be seen by a broad audience, in which he shares news of an in-person PD experience with his Twitter followers. In this case, he is not conducting PD on Twitter, but celebrating his opportunity to provide it in person. Tagging five different accounts in his post, Al leverages the networking potential of Twitter's tagging feature, using his tweet to acknowledge and catch the eye of the school and school leader with which he's working, the educational technology company whose product he'll teach about, and two professional associations whose members might find the educational technology tool relevant. His use of the tagging feature may also attract attention from anyone who follows any of those accounts. Tagging the individual and the school that invited him to present allows Al to build a relationship with staff thereby making positive mention of them and drawing the attention of Twitter users to their accounts. Tagging the other accounts more likely publicizes his provision of the PD to followers who might find that interesting. Since this is a school-specific PD experience (and since it began moments after this post), his publicizing the event does not seek to attract attendees. Thus, the goal may be for followers of those accounts to become aware of the school's initiation of PD, the educational tool itself, or Al's availability as a PD leader in their region. Al also uses one hashtag (#iteachmath) that many elementary and secondary math teachers use, making his post likely to appear for those Twitter users;

these users are likely to be outside his region, but availability of the educational tool and PD related to it may be of interest to them.

Al also takes advantage of his ability to attach a photo to his post, sharing one in which Al poses in front of the slides for his PD event. Leading PD is a new role for Al, and showing himself in such a role both builds his credibility as a PD presenter and demonstrates his pride in his professional growth; Al's Twitter followers may also be invited to be proud of or impressed by his new role as a PD provider.

In this post, Al took the rhetor role, determining that the in-person PD session he was about to lead (by taking the rhetor role) was worth informing others about. In that role, he also made composition choices in creating the text, such as choosing to emphasize excitement and gratitude, as opposed to pride or self-satisfaction. His composing choices also included determining whose accounts to tag in order to build an appropriate audience for the message.

On the other hand, in the second tweet of this set, he uses the retweet feature and the reply feature to amplify and then respond to someone else's tweet about the same in-person PD event–while maintaining significant aspects of the audience role. In this case, a school leader present at the in-person PD event took the rhetor role in composing a tweet about the PD session Al led. Upon reading that tweet, Al made two choices. First, he retweeted the tweet, amplifying her message without foregounding his own voice. Of course, since he was in the rhetor role by design in the in-person PD session, and since the tweet praises his work in that role, the overall impression foregrounds him as a rhetor; however, he does not compound that representation by, for example, using the retweet with comment feature to make his Twitter username appear larger in the post or to compose his own message. Al does compose a message in response, in which he thanks the school leader, shares his enjoyment of the experience, and offers further support, but he does so using the reply feature, which makes his response visually subordinate to the original post. Overall, while his use of Twitter affordances in this case represents him more in an audience role, the retweeted message and the humble tone of his reply do contribute further to one of the same rhetorical ends as the original post–publicization of Al's competence as a leader of PD.

Sample Tweet Two: Al as Rhetor and PD Provider

Sparking a long Twitter conversation among several people, Al's initial post praises a teaching resource called algebra tiles for its usefulness in teaching factoring. The text portion is 209 characters long and reads, "If you are introducing factoring to #algebra students I highly recommend the use of Algebra tiles. I started using them in my classroom a couple of years ago and they make a HUGE difference. #iteachmath #mtbos" followed by three photos of blue, green, and yellow tiles arranged on

graph paper with some algebraic expressions. The hashtag #algebra signals the specific math course in which factoring is a major learning objective. Both #iteachmath and #mtbos are used frequently by the community of math teachers on twitter and other online platforms. A series of replies includes additional information and examples from Al, expressions of agreement, additional or alternative suggestions, questions, and answers to those questions. In one reply, Al advises readers not to “tell students they are wrong” when they arrange the blocks a particular way and to “Celebrate right and wrong answers and let discussions happen!” In two other replies, he shares additional examples of student use of algebra tiles. In another two replies, he asks another user a question about a digital version of algebra tiles they provided, then thanks them for the answer. In another set, he agrees with another user about the usefulness of concrete objects that students can manipulate to understand abstract concepts, both to differentiate for struggling students and to support all students’ learning. Several of these replies include hashtags and are very similar to the original post.

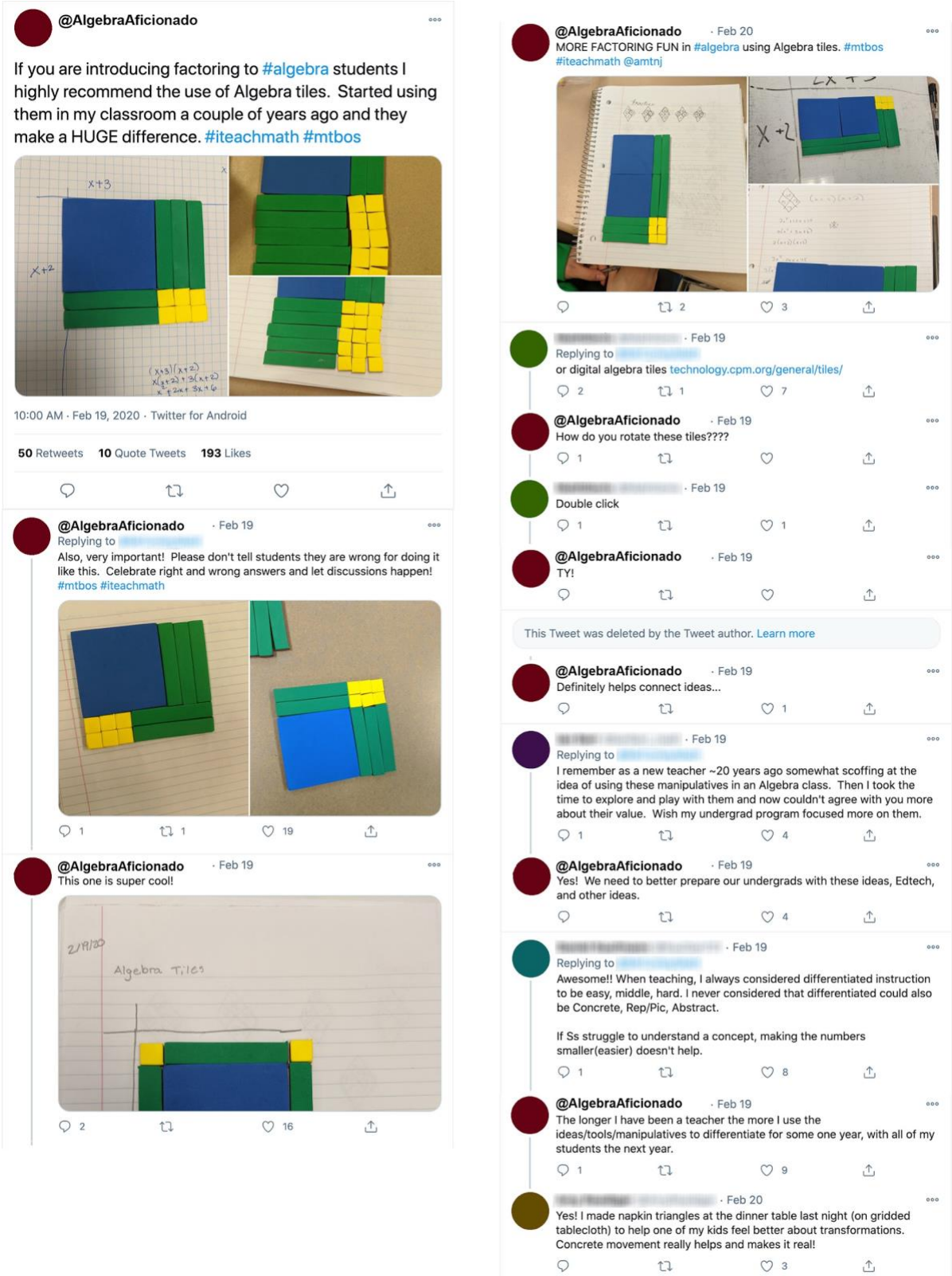

Figure 14: Al sample tweet two

Figure 14: Continued

Al uses Twitter's affordances to broadcast a suggestion to his followers and other Twitter users in this tweet, naming a teaching resource (a manipulative called algebra tiles), identifying what algebraic concept it is useful for teaching, showing the resource in use, and following up with advice on how to leverage students' mistakes to spark deeper understanding. As he uses the text portion of a tweet to make his suggestion, Al uses the 'you' pronoun and explicitly exhorts his followers on how they should amend their teaching practice, making this post a straightforward attempt to offer PD. He includes a testimonial to the resource's effectiveness in his own classroom, as well, perhaps because, as he

mentioned in his interviews, those who offer PD but are removed from the classroom have little credibility.

In this post, Al does not tag any other account, instead focusing on hashtags to connect with appropriate audiences, especially by using the #iteachmath and #mtbos hashtags. Since his subject is very specific to teachers of Algebra I and is intended as PD, these hashtags make the post searchable for a teacher searching Twitter for ideas.

Al uses the ability to post photos to supplement his post, doing so in a way that shows an understanding of the discourse community for whom the post is intended. The language within Al's post is brief, and he relies on the attached photos of correct and incorrect use to demonstrate how and why they would be useful for algebra teachers during a unit on factoring. Had his audience been different (preservice teachers, for example, or students), the photo in combination with the text portion of his tweet may not have been sufficient to communicate his message–potentially making it unsuitable for Twitter, since he had already used most of the character count available in a tweet. However, knowing that the tweet's intended audience included only algebra teachers, Al made use of the text and photo affordances, along with hashtagging, to make his point for those who could act upon it.

Al also made use of the reply feature in order to extend his text and its impact while interacting with other Twitter users. In three different replies, he gives additional guidance and examples of student work to further develop readers' understanding of how to use the resource in the classroom. As others engage with his post, Al continues to use the reply feature for several purposes. In one instance, another user shares a digital version of algebra tiles, and Al, taking the audience role as he reads and seeks to act on that user's reply, asks a question ("How do you rotate these tiles????"). He maintains that audience role as he thanks them for the answer.

Al also uses the reply features to engage with Twitter users on the topics of preservice teacher education, differentiation for various learners, and how teaching practice changes over time as personal prejudices are overcome through experience. Although each exchange, like most Twitter exchanges, is brief, they touch on important topics in the field and encourage Al and other readers to reflect on ways to improve professional practice for the individual and the field. In most of these replies, Al maintains an audience role by reflecting back what another Twitter user has said or thanking someone for their reply. In one exception, Al shares his own experience on a topic (differentiation) selected by another user, creating a back-and-forth exchange in which each takes the rhetor and audience roles in turn. This brief exchange mimics those that Al described in his interview as a highly rewarding component of effective PD.

In developing his post, Al clearly takes the rhetor role, identifying a topic he deems worth communicating, determining what information to include and exclude in the composition, crafting the text for a particular audience, and so on. Al extends that rhetor role into his use of the reply feature, as he adds examples and nuances using text and photos. However, after those posts, the replies to his post proliferate. Two users provide additional resources to use in similar ways to the one he shared, so his PD begets additional PD that he and others can benefit from. Other users agree with his post and articulate why, contributing to the argument he initially made in the post by deepening it. Some users have their own exchanges in the thread of replies, gaining professional learning from Al's post that Al didn't even provide. Throughout this thread, Al shifts between audience and rhetor roles from one post to the next, sometimes not replying, sometimes replying with a question, sometimes adding to someone else's point, and sometimes simply acknowledging the value of another user's message.

This post gained the most engagement from other Twitter users of any post during the time of data collection, which seems to be because it offered PD that many Twitter users found both applicable in the classroom and evocative of their own thinking about their professional practice.

CHLOE

Chloe's Uses of Twitter Affordances for PD

Chloe first used Twitter as a teenager, embarrassingly tweeting her "every thought" in an account that she has since deleted. As a new professional, she created an education-focused account with the intention of sharing her own practices, but quickly discovered that "Twitter has a lot of really good PD," such as Mastery Chat and teachers sharing ideas. She values the fact that Twitter offers "bite-size PD," although she does "take it with a grain of salt" since posts are "not always data driven or research proven."

In her use of Twitter's affordances for professional growth, Chloe has taken both the provider and receiver role, "sometimes a facilitator, sometimes a collaborator." Her approach to role-taking has shifted as she's grown professionally: earlier in her career, she was most eager to share her great ideas, but now, having grown into educational leadership, she wants "to soak up like a sponge from everyone around me. I want to hear what you have to say, because…I already know everything in my head, but I don't know what you have to say.'"

Putting herself into the receiver role, Chloe reads other people's posts looking for "useful takeaways" just as she does in in-person PD. She reports that she has frequently implemented what she has learned on Twitter. The fact that Twitter users present her with a wide variety of potentially useful

information for her teaching practice makes Chloe feel that she can choose what is valuable among what she finds. She said, “There are things that I find that I'm like, ‘Wow, this is trash.’...Other times I'll see something that I really like and I'm like, ‘Oh my gosh. I'm going to implement this, I'm just going to tweak it a little for my kids.”

Chloe has also used Twitter chats as a way to take the receiver role, eager for posts that “make me think differently or change my mind.” In these chats, Chloe has observed a variety of ways educators use the affordances to engage with the chat. For example, some chats post broad questions that Twitter users interpret very differently. She also described a variety of methods of participating in the chat: “Sometimes people will respond to them within the thread. Sometimes people will respond to them on their own tweets so it'll pop up on their [profile timeline]. Sometimes if no one's used a GIF in a while, I'll reply with a GIF, and then people will like it and they'll respond with their own GIFs and we'll go back and forth. And, you know, different conversations branching off, and different interpretations of the questions.” Chloe saw the use of the affordances to engage in different ways as a benefit of the platform that led to greater influence among the participants. She also saw them as allowing varied types of expression and interaction, mentioning specifically that she tries to make other users laugh “with my GIFs or my stupid memes” in a way that she doesn’t during in-person PD.

One reason Chloe uses Twitter is that its affordances give her access to the provider role that she doesn’t have in person. As an example, she described a time when she planned to provide a PD session on number talks at her school as part of the school improvement plan, but the extensive paperwork required in her district for approving the content, methods, resources, and other characteristics of school-based PD deterred her. In contrast, she estimates that her Twitter activity is “50% sharing, 50% hearing from other people,” a significantly higher ratio than in person thanks to the greater access she has to the provider role.

Chloe also uses Twitter’s affordances to shift rapidly between provider and receiver roles. Chloe gave the example of interacting with posts that ask questions about education: “I do answer as many of the questions that I think I have a good answer for that might benefit someone, but I also scroll through and read everyone's responses and try to see how their thinking compares to mine.”

In addition to composing tweets about her classroom instruction, she has taken the provider role within Twitter chats. For example, she has long been a participant in Mastery Chat, and she felt that she had provided learning for both its participants and its leaders, as demonstrated by likes, retweets, and positive replies from the chat facilitators. She also discussed the possibility of leading chats on Twitter. In one case, her district's math department did a math chat on Twitter in which Chloe

participated. Eager to repeat the activity with increased participation, she offered to host them in the future, but the department leader did not take her up on the offer or create more chats. The experience made Chloe feel that she wants to "take initiative" in designing PD in the future. Twitter, she believes, allows teachers to do that. She said, "I've seen brand new teachers and some of…my Twitter friends—they made New Teacher Chat. You know, you don't have to be a professional to begin a revolution on Twitter."

Chloe implied that when she takes the provider role, tweeting her own practices or principles, she looks for validation from others' use of Twitter's feedback affordances, with some providing more than others. For example, sometimes she tweets about a classroom activity and the district's math department account likes the tweet, leading Chloe to think, "Damn it. That was only a like!" Other times, "they'll retweet it and I'm like, 'Yes, validation! They liked what I did.'...The head of the math department…runs the Twitter. So when something is liked or something is retweeted, it's a big deal."

Finally, Chloe uses the affordances of Twitter in combination with tools outside of Twitter to influence others. In some cases, she uses images of Twitter posts and affordances of her smartphone to take the provider role, screenshotting tweets and sharing them with colleagues or her intern. In other cases, she uses Twitter to share learning from in-person PD events even as they are underway, integrating multiple methods of internalizing and disseminating information. At some PD events, providers had introduced a hashtag for the event and encouraged attendees to tweet their thoughts and questions. Chloe finds this invitation "perfect" partly because she enjoys having access to the provider role in that way and partly because tweeting her thoughts helps her stay engaged. She also mentioned that when she shares photos or other posts during an event, the PD provider may retweet or favorite the post, which she likes. The connection between the in-person and Twitter activity in support of the PD seemed to make Chloe feel more fully involved, particularly as she gained individual (online) attention from the provider.

Chloe pointed out that the affordances Twitter provides, such as communication that isn't limited by time or space, has allowed her to form relationships that play out online and through in-person meet-ups. At the same time, those same affordances make her aware of how her actions may be perceived differently online than in person; for example, her words in a faculty meeting are transient, whereas a tweet is "on the internet forever." In fact, she has written replies in a chat on Twitter that her principal mentioned to her in person, leading Chloe to think, "'Oh my gosh. You saw that?' I mean, nothing bad, but they want you to know that they're watching you, you know? So I would say that's something to be cognizant of more so online than in-person PD."

Chloe's Twitter by the Numbers

Complete data regarding Chloe's use of Twitter functions, rhetorical moves, and topics addressed appear in Appendix I. When tweeting, Chloe most frequently shared or told information, and her tweets were almost evenly distributed between teaching and learning resources, professional practice, and community. In those related to teaching and learning resources, she often shared lessons or activities from her classroom, as in a tweet that contained a picture of what appeared to be a phone texting conversation projected on a screen in her classroom and the post "Math warm ups for today. Spiral question from [her math department's username] plus added elapsed time question. Got the text idea from [a teacher's username]! [heart-eyes emoji] #RealWorldRelevance #ITeachMath #T2T #4thGrade." Tweets about professional practice included posts on using humor to engage students in test preparation, rapport as part of classroom management, and the attractive display of student work outside the classroom. Chloe shared or celebrated her teaching community in tweets when, for example, she tweeted, "Amazing lesson by [student teacher's username] today. Tomorrow is her last day. We miss her already!! #EdChat #ITeachMath [Chloe's school's username]" along with pictures of her student teacher working with students on the last day of her practicum in Chloe's class.

Chloe rarely used the retweet with comment function, but she used the retweet function almost as often as she tweeted. Her retweets followed similar patterns to her tweets, except that she retweeted a higher percentage of teaching and learning resources. Retweets frequently shared ideas for teaching, such as one sharing an activity in which students determine how many ways they can divide a candy bar equally among friends. Some shared ideas related to building community or leadership, such as one about an administrator's use of a Google form to conduct a weekly staff check-in and another about an instructional coach who posts signs outside teachers' doors calling attention to their professional strengths or areas of expertise.

Chloe used the tweet, retweet with comment, and retweet functions for a total of 10.5% of her Twitter use for the period studied. Among the 44 posts using these three functions that appear on a user's profile, 21 were focused on teaching and learning resources, and another seven on professional practice, so that more than half dealt with topics directly related to classroom instruction. Community is her next most frequently addressed topic, also with seven.

Chloe's use of the reply function was infrequent, with only retweet with comment being used less. When she did use replies, she agreed and answered most often, followed by thanking and sharing or telling, thus making responsive rhetorical moves most frequently, which aligns with the reply function's responsive nature.

Finally, Chloe used the like function most often, accounting for 87% of her Twitter activity. A third of these likes related to teaching and learning resources, which was by far the most frequent topic of her likes, followed by professional practice at 14%, and community and PD at 11% each. While Chloe's likes are distributed across almost all of the topics coded, the most frequent topics remain consistent with those found in her other Twitter activity.

Chloe's Sample Tweets: Affordance Use and Rhetorical Roles

Sample Tweet One: Chloe as Careful but Casual Rhetor

In the first sample tweet, Chloe shares a lesson she used in her own classroom through a combination of 228 characters' worth of words, abbreviations, emojis, and hashtags, as well as four photos. The tweet reads "Fraction decomposition today with pizzas," followed by an emoji of a smiling face with open hands, then continues, "Justified with visual models and engaged in some error analysis. #SetTheStageToEngage #ITeachMath #EdChat #KidsDeserveIt #T2T Yes I went to 3 pizza places and they gave me boxes lol," followed by three pizza slice emojis and four birdseye-view photos of students working with worksheets and paper pizzas in pizza boxes. The hashtags include, respectively, one used frequently by the community surrounding a popular PD conference, one popular with math instructors, one used for many education-related tweets that invite conversation on Twitter, one that grew from a book on how to make learning both meaningful and fun, and one encouraged by a Twitter account that helps teachers learn from one another. The abbreviation "lol" is known across many platforms to stand for "laughing out loud." The four photos show the lesson in action, including students at tables and on the floor, working independently and collaborating, but all using pizza boxes, paper "pizzas," and worksheets to complete Chloe's lesson.

Figure 15: Chloe sample tweet one

The primary affordances used here are the tweet, a post that is authored by Chloe and stands alone in her followers' feeds, and the ability to use a combination of text, emojis, hashtags, and photos to compose it. Chloe fully takes the rhetor role, crafting a message that draws attention to an effective lesson she designed and used in class.

The tweet opens with the overall topic, "Fraction decomposition today with pizzas," followed by an emoji conveying excitement about the topic. That opening phrase includes language that has meaning for the discourse community of elementary math teachers, to whom "fraction decomposition" is a familiar concept–and for whom the juxtaposition of that academic language against the phrase "with pizzas" would not be confusing. The phrase serves to signal both the topic of the tweet and the audience who can benefit from it.

Next, Chloe elaborates on the topic by pointing out the methods used to achieve the learning objectives: justifying answers with evidence ("visual models") and learning from mistakes by examining and explaining them ("error analysis"). As in the previous phrase, Chloe uses concise phrasing, but words and phrases such as "justified," "visual models," and "error analysis" signify instructional practices that support deep student understanding (as opposed to memorizing algorithms to solve problems). Thus,

for the discourse community for whom her post is intended, the language she chooses highlights effective instruction in as few characters as possible.

After summarizing the learning activity, Chloe uses hashtags to attract appropriate readers, each tapping into different but overlapping communities of Twitter users that have formed around resources, from events to texts to accounts. These hashtags attract eyes to Chloe's post while also sending a message about her lesson's value in terms of, respectively, student engagement, math mastery, research-based educational practice, a well-designed classroom experience that engages and creates meaning, and an instructional idea other teachers can use. Through these hashtags, Chloe sends complex messages about what matters in education and how teaching should be done while also creating convenient, searchable "tags" that draw appropriate readers to her rhetorical artifact.

Next, Chloe adds a personal, casual comment about gathering teaching resources in an unconventional way–asking pizzerias to donate boxes; she furthers the casual tone of the addendum with the abbreviation "lol" for "laughing out loud" and three pizza slice emojis, as if to say, "we do ridiculous things to make a lesson great!" The lighthearted conclusion to the text portion of the tweet, along with the cheerful emoji early on, may counteract a self-satisfied tone that could be created by the fact that the tweet expresses pride in her work.

Finally, the photos show not only the lesson materials but also students engaging with them, bringing her academic language to life. The photos are colorful and have dynamic compositions thanks to their birdseye view (which also hides students' faces for privacy). Taken together, these characteristics allow the photos to add information about her lesson, show how the resources she's offering to share are used, and draw attention to her tweet as users scroll through their feeds.

Throughout this tweet, Chloe makes careful use of Twitter's affordances as she takes the rhetor role, determining what to communicate about her subject (important information about educational principles and a specific lesson) and about herself as a teacher. Her post offers PD to others who teach fraction decomposition or related topics, and Chloe fully embraces the rhetor role in order to provide that PD using the affordances offered by Twitter.

Sample Tweet Two: Chloe Shifts from Audience to Rhetor

In the second sample tweet, Chloe celebrates Twitter collaboration as she shares someone else's lesson inspired by Chloe's own ideas. Chloe uses only 84 of the 280 allowed characters, writing, "Twitter is so awesome! Love collaborating w Ts across the country. #PLN #EdChat #T2T." The abbreviation "Ts" stands for teachers, and a PLN is a professional learning network (including one that a teacher might build online via a platform like Twitter). The three specific hashtags she included signal

that the tweet has to do with Chloe's professional learning network, with conversations around educational practice, and with teachers sharing ideas. Following the language Chloe composed, this post includes another account's tweet showing a learning activity that a teacher created based on a lesson that Chloe shared on Twitter. That post reads, "[Teacher name]'s class made a yummy Valentine's Day treat today! First they had to simplify fractions to figure out the recipe! [other accounts tagged] (thanks for the idea [Chloe's account tagged])," followed by an emoji that appears to be licking its lips. The photos show two students (faces obscured by me) holding candy used in the lesson, as well as snacks and a worksheet used in the activity.

Figure 16: Chloe sample tweet two

In Tweet 2, Chloe uses the retweet with comment function, adding her own combination of text and hashtags to the original post's text, emoji, and photos. In the text portion, Chloe celebrates the collaboration that Twitter allows between far-flung educators. She uses the text portion of her tweet to create a celebratory tone, with an exclamation point and the words "awesome" and "love." The

hashtags, on the other hand, focus more on professional practice, especially teachers learning from one another. The first highlights Twitter's ability to build a teacher's professional learning network; the second is used for communications ("chats") between educators about educational practice; and the third grew from an account that facilitates teachers learning from one another. While the content of the original post highlights an effective lesson that Chloe created and shared, the language of her retweet with comment celebrates the value of collaboration (and Twitter's facilitation of it) in support of student learning–not her own great idea.

In this post, Chloe shifts from the audience role (as reader of the original post) to the rhetor role (as poster of the retweet with comment), while still sharing the rhetor role with the original account. The content Chloe created for this post is brief in comparison to the content of the original post, but by using the retweet with comment feature instead of the retweet feature, Chloe makes her own account appear in the more prominent rhetor role in terms of size and placement. Using retweet with comment instead of retweet also allows Chloe to frame the post as a celebration of collaboration, not a self-serving echo of another's praise of Chloe. By sharing the rhetor role with the original account (instead of taking it fully for herself or staying entirely in the audience), Chloe builds her own credibility by amplifying another's positive message about her. Twitter's affordances–particularly the ability to retweet with comment–allow for this.

Sample Tweet Three: Chloe Takes Audience and Rhetor Roles Simultaneously

In this set of tweets, Chloe participated in Mastery Chat, a PD event in which the Mastery Chat account, in this case controlled by a guest host from the educational software company Nearpod, posts a series of four questions ten minutes apart at a scheduled time. Chloe, like other participants, logged in to Twitter at the specified time for the purpose of participating in the chat by responding to the questions and interacting with other participants. The chat's theme is educational technology, a category that covers a broad range of topics, from access to technological equipment or hardware in the classroom to specific uses of software within students' learning experiences. The first question asked, "What does tech usage look like in your school/classroom?" to which Chloe responded, "A1: Luckily we are a 1:1 (in 4th and 5th grades) elementary school. This means technology is integrated on a daily basis. #MasteryChat #Blessed." The term "1:1" means that there is a laptop computer for every student in the school. The second question asked, "What is your favorite tech tool and why?" to which Chloe responded, "A2: @Nearpod (smiling emoji with open hands) @quizizz and most recently @gimkit !! Sooo fun and engaging. If you have not tried GIMKIT yet, it is a must!!!!! #MasteryChat #EdTech," followed by a gif of a woman taking a photo of herself using a digital camera (Both Quizizz and Gimkit

are digital teaching tools for engaging students). Question three asked, “How can technology in the classroom promote student choice and differentiation?” to which Chloe replied, “A3: Allllllllll the differentiation. Ts can only be in so many places at once. Technology = my lil assistant. It’s like me in 38 places at once.From interventions to class lessons, whole group to individually paced, shoutout to the tech of the classroom. #MicDrop #MasteryChat.” This reply includes a gif of actor Steve Carell, drink in hand, winking and pointing at the camera in a “here’s to you” gesture. Finally, question four asked, “What is one do and one don’t for a tech newbie? To which Chloe responded, “A4: Do- explore & tru our various methods to engage scholars. Don’t- Try to make everything technology based / try to force it where not necessary #MasteryChat.” The phrase “tru our” appears to be a typo for “try out.”

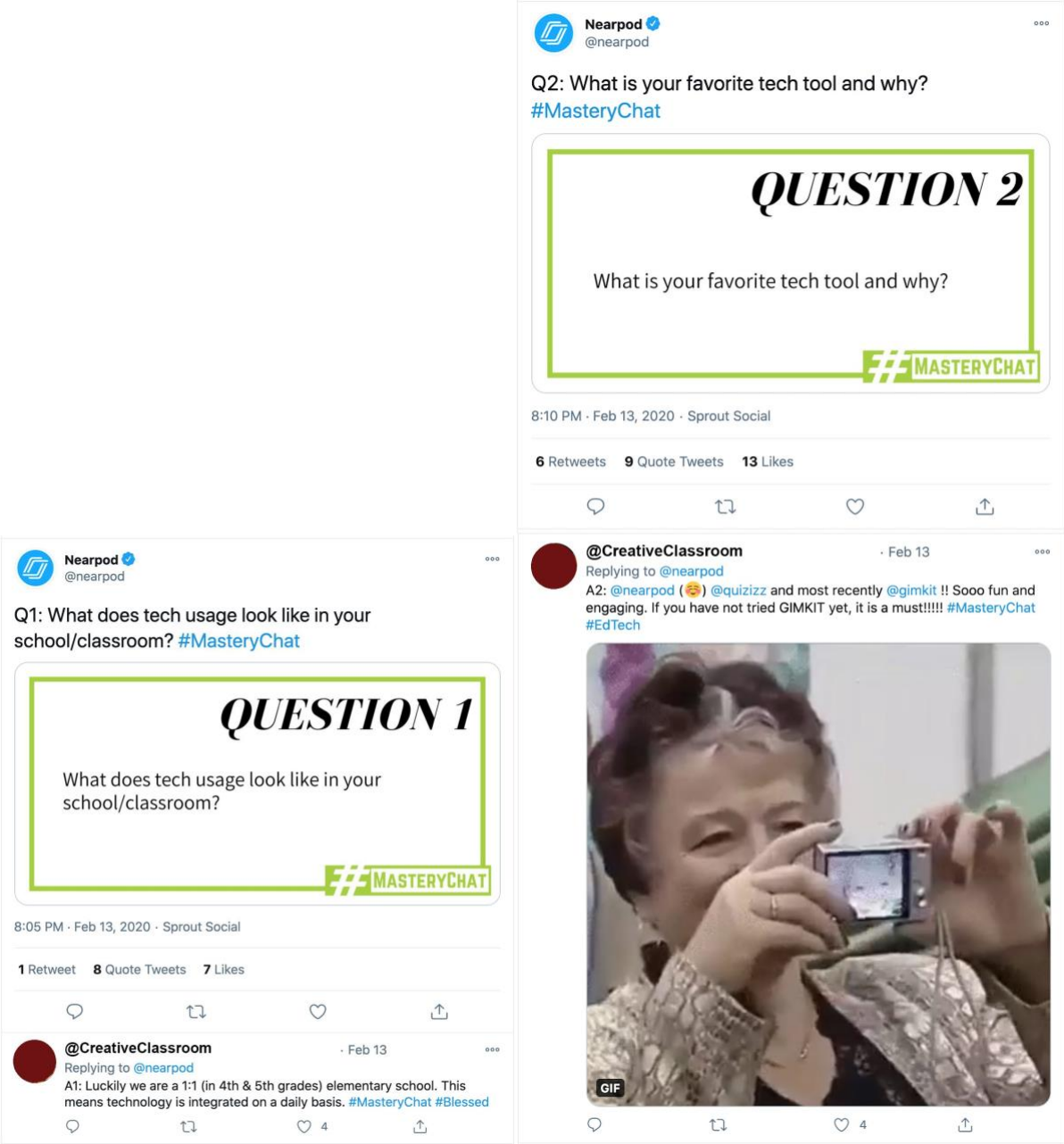

Figure 17: Chloe sample tweet three, part one

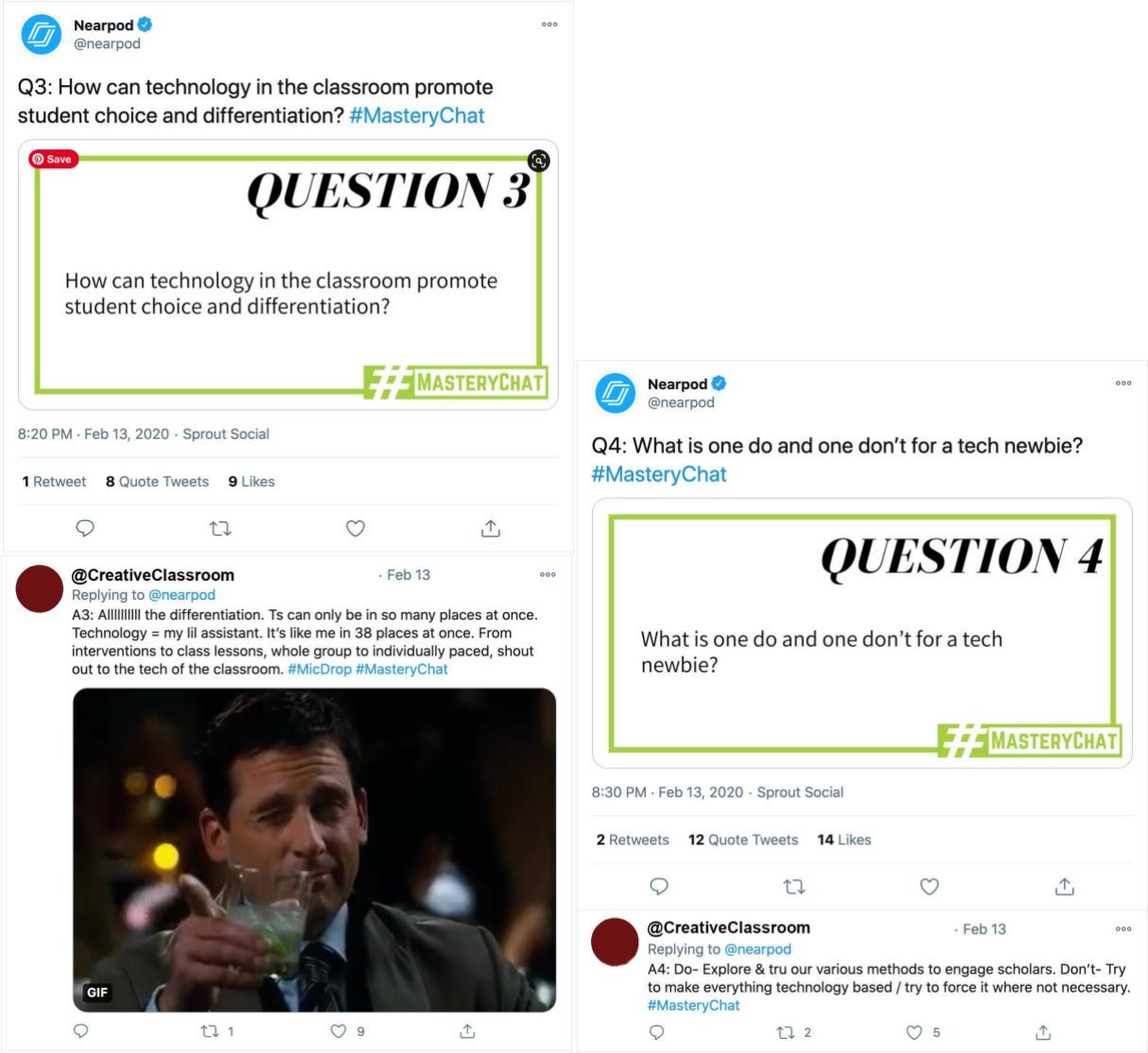

Figure 18: Chloe sample tweet three, part two

In this Mastery Chat event, Chloe makes a number of decisions in terms of Twitter affordances and rhetorical roles. Twitter affordances she takes advantage of here include the reply feature, hashtags, tagging other accounts, and including gifs. She uses these in order to take on aspects of the rhetor and audience roles at the same time.

In this case, two important affordances facilitate Chloe's participation in the chat. First, her use of the hashtag #MasteryChat ensures that her post will appear for anyone seeking to follow the evening's PD event by searching for the hashtag. Second, while hashtags offer one way of tagging and categorizing Twitter posts, a common convention of Twitter chats is even simpler: question posts include the the letter Q and the number of the question (Q1, Q2, etc.), and their corresponding

responses including the letter A and the number of the question (A1, A2, etc.), thus allowing chat participants to keep track of what topic each post relates to, no matter whether the response is shared through a reply, retweet with comment, or tweet. Chloe follows both of these conventions in order to ensure that her posts are navigable for Mastery Chat leaders and participants.

Several affordances of Twitter allow Chloe to compose intentionally as she takes on aspects of the rhetor role within the chat. The Twitter chat format involves a PD facilitator who selects the questions and their timing and pace, placing that facilitator in the rhetor role in several ways, but it also invites participants to take the rhetor role by selecting and sharing content for the edification of other participants (and facilitators). Chloe took advantage of the availability of that role by "taking the mike" and sharing several types of information through text, emojis, hashtags, and gifs in her replies. Because the chat's official topic was very broad, Chloe also influenced what content was included in the PD event as she composed her responses; for example, she chose to mention specific online tools for creating games that engage students and help them learn. In the rhetor role, Chloe determined what information about teaching practice, tools, and concepts would be worth sharing to benefit others.

Chloe also made use of Twitter affordances to address her multiple audiences. In her reply to question two, Chloe listed three online tools that allow teachers to create games for students. A representative of one of those companies was facilitating the chat that night, but Chloe wanted to mention two of its competitors, as well. In order to navigate this situation gracefully, Chloe listed that company first and added a parenthetical cheerful emoji, signaling appreciation for the brand before proceeding with her recommendations. Chloe recognized that while her primary audience was educators on Twitter seeking to learn from others, PD providers and brand representatives were also part of her audience, and she sought to build a positive rapport with them, as well.

Chloe also uses affordances of Twitter (and of online communication in general) to create a casual, enthusiastic tone, perhaps to connect with teachers who are engaging in informal, online PD. She uses informalities such as repeated letters (e.g., "Allllllllll the differentiation"), abbreviations (e.g., "my lil assistant"), punctuation (e.g., it is a must!!!!!"), and humorous gifs. Unlike some of her other posts, her chat replies include a few typos, showing that her engagement with the rhetor role here is perhaps more spontaneous and less careful.

While Chloe makes many of the choices of a rhetor, she also takes on aspects of the audience role. She decides what aspect of each question to focus on (for example, differentiation over choice in question three), but she does not stray beyond the bounds of the questions as they are posed by the

chat facilitators; thus Chloe leaves it to the facilitators to determine where to bracket the flow of events and determine the bounds of the subject of the rhetorical artifact, which are prerogatives of the rhetor.

Further, Chloe chooses to share her ideas by replying to each post (not retweeting with comment, for example), making her posts appear below each question as opposed to standing on their own. In this way, she visually places herself in an audience role, metaphorically answering from the auditorium's seats, not stepping onto the same or another stage. While anyone following the chat, exploring deeply in her Twitter account, or searching a hashtag might see her replies, they will not be among the most prominent of her Twitter activity. The choice to use Twitter affordances to embrace these aspects of the audience role may relate to her choice to write less carefully (and perhaps more quickly, following the timing of the chat) in her posts. Both choices may stem from her concept of herself as less fully in the rhetor role than when she composes tweets on topics she selects, posts them with timing she selects, and has them stand on their own as tweets or retweets with comment.

LAILA

Laila's Use of Twitter's Affordances for PD

Laila is an avid user of social media, which is "a place where I've built a community" as well as a source of "ideas" and "professional development." She uses Twitter, Instagram, and Facebook in her professional life, and Snapchat, Instagram, and Facebook in her personal life.

Laila sees her use of Twitter as professional development because of formal events such as Twitter chats and because of daily interactions that lead to growth. She believed that some might not see Twitter use as PD, but "there are ideas that I can...gain from looking at what other people are doing in their area,...whether it's classroom teachers or librarians, seeing what they bring to the table and how their students are interacting with the content," and "if you are growing from that, I consider that development." In particular, she saw value in the access provided by Twitter. "We can't always go to somebody else's school" or "have the funding to go to conferences or other events like that," she said, so Twitter offers "a great way to…build a community and see what other people are doing."

Laila feels that she both provides and receives PD on Twitter. She has provided PD in a formal way when she has "hosted or moderated Twitter chats," but no matter the situation, she is "always a learner" and thus receiving PD from other Twitter users "across town in my city" or "as far as Washington state."

Laila described three ways that her Twitter use might help others learn. First, she reads advance copies of books and tweets thoughts on them that would be "helpful for librarians…in terms of

collection development." Second, she shares the professional learning she experiences each day with her students: "I'm learning how middle schoolers are, what they like, what they don't like, how they might interact with the lesson that I have planned. I might feel like it's a good lesson and they might be like, 'Nope, you tanked that one!'" Sharing "successes and failures from different lessons" and other experiences gives others a window into her work. Third, she described using Twitter for advocacy, which provides learning for others through modeling. She shared an example of recently tweeting her legislators about a state-level funding issue affecting school libraries, and she felt that such advocacy not only pursued its primary goal but also taught others "how to advocate or who to advocate to." Laila feels that she has contributed to other people's learning on Twitter through these methods, because has twice been the finalist for an award given by American Association for School Librarians in recognition of social media contributions.

In considering how she influences the design of PD on Twitter, she described composing a tweet that is intended to inform others; instead of writing an assertion, she'll write a question "to get interaction started." Thus, she selects the topic of PD and designs a situation in which multiple perspectives or information sources can be shared and reflected upon. This seemed to have dual motivation–to invite others to reflect on the topic (and, perhaps, agree with her own perspective), and help her continue to be a learner on the topic despite already having a strong perspective. She said that she likes to ask questions because "I don't have the answer. And other people may not, but at least we can start the discussion and maybe that leads us to an answer or solution."

When asked about influencing PD leaders on Twitter, Laila explored the definition of such a leadership role: "From the Twitter perspective. I think we're all leaders and we're all learners. Just because a person is moderating what's happening on Twitter doesn't mean that they're not a learner. Just because a person is participating in a chat does not mean that they are not a leader." Laila felt that a leader is not necessarily "the person at the top," but might instead be any "person who's taking charge…who is contributing, offering new ideas, bringing forth an atmosphere where everybody is included in what's being said or what's being done." The implication of this commentary seemed to be that she and other Twitter users are all leaders and all influencing one another, thus all influencing PD leaders.

Laila felt a high level of choice in Twitter PD. She could decide whether to apply what she learns on Twitter, since "sometimes it may work for me, sometimes it may not." As in her other PD, Laila felt that she could choose when to leave a session, but Twitter offered an extra benefit: if, for example, she

leaves a Twitter chat, she "can always go back later" and "search the hashtag," demonstrating ways Twitter affordances contribute to PD use.

Laila described her behaviors as a receiver of Twitter PD as different from those in person. On Twitter, she "is behind a screen…relaxed and comfortable," which can keep her from fully focusing, whereas when she attends PD in person, she seeks to give the provider (or other attendees, if they are speaking) her full attention by "tracking the speaker…to make sure that they understand I'm giving them my respect and my attention." In other words, being seen by others helps her fully attend to the PD, which can keep her from gaining the full benefit of PD available on Twitter.

Laila's Twitter by the Numbers

Complete data regarding Laila's use of Twitter functions, rhetorical moves, and topics addressed appear in Appendix I. During the period of time studied, Laila's tweets are distributed across a broad range of topics, with five each on advocacy and teaching and learning resources, two each on professional development and professional practice, and one each on classroom experiences, teacher morale, student voice, and chat administration. Her advocacy tweets called attention to issues related to either library funding or racial equity. For example, she appealed to her district's senator to oppose funding cuts at the federal level in a tweet reading, "[Senator's username] our congressional district depends on libraries and libraries depend on federal funding. I urge you to publicly oppose cuts to @US_IMLS & the Library Services & Tech Act (LSTA) as well as the Innovative Approaches to Literacy (IAL) program. #FundLibraries." Posts about teaching and learning resources included links to a LibGuide she had created for public use, a link to a list of newly released children's book about Black children or by Black authors, and notice that a particular audiobook was available to listen to for free during January.

Laila only had one retweet with comment; the retweeted post about the need for a state-level librarian position to be reinstated, and wrote her own extensive (by Twitter standards) post on the topic, addressed to her state leaders by tagging their usernames. Laila's retweets were dominated by those sharing teaching and learning resources such as book recommendations and curriculum guides for using books in the classroom.

Laila posted more replies than she did tweets, retweets with comments, and retweets combined. These replies spanned six types of rhetorical move and ten topics, a wide range on both fronts. Many of the replies regarding teaching and learning resources, the most common reply topic, offered a link to a resource that would help the original poster, guidance on how to access a relevant resource, or suggested methods for finding resources. Those devoted to professional practice related to

librarian work, such as ensuring the school is properly abiding by copyright law in teachers' use of films in the classroom, or classroom instruction, such as whether homework is graded.

Laila liked posts far more often than she posted, with four times as many likes as posts of any kind. Of these liked posts, 39% were about teaching and learning resources, especially books that librarians might want to add to their collections. The next most frequently liked posts shared classroom experiences, such as library displays or anecdotes about funny or moving things students said and did.

Laila's Twitter use shows the most use of the like feature, followed by tweeting and replying, and it covered diverse topics, with teaching and learning resources emerging as the most frequent.

Laila's Sample Tweets: Affordance Use and Rhetorical Roles

Sample Tweet One: Laila Guides Through Replies

In this sample tweet, another Twitter user shares an online resource about the legalities of screening films in school with the 73-character message "Embarrassed to be learning this NOW and not at the beginning of my career," to which Laila replies several times. In the first reply, Laila writes, "I buy movie licensing every year, because CYA. I know Ts are showing movies in their classrooms so I feel an obligation to purchase. For us, it's a very small portion of my library budget considering we are part of a consortium so we get a reduced rate." The second reads, "I'll add that I make a point to email the link to [tagged account for licensed academic streaming company] to Ts so they can make sure the movie they're showing is on the list of licensed films." Another Twitter user asks whether Laila's approach to licensing "covers movies shown in the classroom," and she replies, "Yes, because technically, it's a public performance when they show it in the classroom if there is no assignment paired with it. So like [tagged account] mentioned, when it's used as an incentive, it's public performance."

"Ts," as with Chloe, stands for "teachers," and "CYA" is an abbreviation for "cover your ass," slang for ensuring that steps have been taken to avoid blame for rule violations–in this case, legal ramifications for an accidental violation of copyright. An incentive in schools is a reward for positive behavior, either in terms of academics or discipline.

Laila's text, and the rest of the conversation around this tweet, focuses on the distinction between viewing a film in class as part of an assignment (e.g., comparing and contrasting a film with the corresponding novel) and viewing one for other reasons (e.g., a reward for completing a reading challenge)—the latter requires a public viewing license, and librarians, as media specialists, are often the most cognizant of these rules.

Figure 19: Laila sample tweet one

Laila makes use of the reply feature to share her own professional practice in the area of movie licensing in schools, the topic selected by the original poster of this tweet. Doing so deepens the PD potential of the original tweet by giving an example of how the information can be put into practice. Using both text and account tagging, Laila not only offers additional information but also makes connections between and responds to questions and concerns of other Twitter users engaging with the post. As such, her use of the reply feature extends the PD potential of the post beyond what the original poster offered. Within her text, she confirms that she purchases licensed movie streaming, as mentioned in the first reply, and references the budget issues raised in the second reply, justifying her

use of library budget for licensing. She tags a company's account to highlight a resource that other librarians looking into film licensing for their schools may want to use, and tags the Twitter user who posted the first reply in order to connect with his examples of public performance of films in schools. Thus, Laila not only adds more information to the original post, expanding its PD potential, but also helps synthesize the ideas introduced in the tweet and its replies.

While Laila writes within the replies and does not create her own tweet on the subject, which maintains an audience position to some extent, her replies are composed to add information and explain how she addresses the topic in her own practice, taking on aspects of the rhetor role. Despite the informal syntax and tone in phrases such as "because CYA," Laila authoritatively offers the tweet's readers insight on how librarians can protect their schools and teachers from copyright infringement. Her replies are characterized by their concise communication of information and their use of affordances in service of the text's content for the sake of other users' edification, making the replies read as the work of a confident (if casual) PD provider–and rhetor.

Sample Tweet Two: Laila as Rhetor and Audience in One Tweet

In sample tweet two, Laila uses 148 characters to ask, "Middle school educators, do you deduct points on papers that aren't formatted correctly? Do the state writing tests even require students to format?" Six Twitter users (plus Laila) posted eight replies to the tweet. Five replies give answers to aspects of her question, while the other three address a separate question about grading homework. Laila's only reply is on that topic; it reads, "We grade homework. Idk is Ts chose to give 0/100 for not submitted vs submitted. But our district sorts grades as homework and summative."

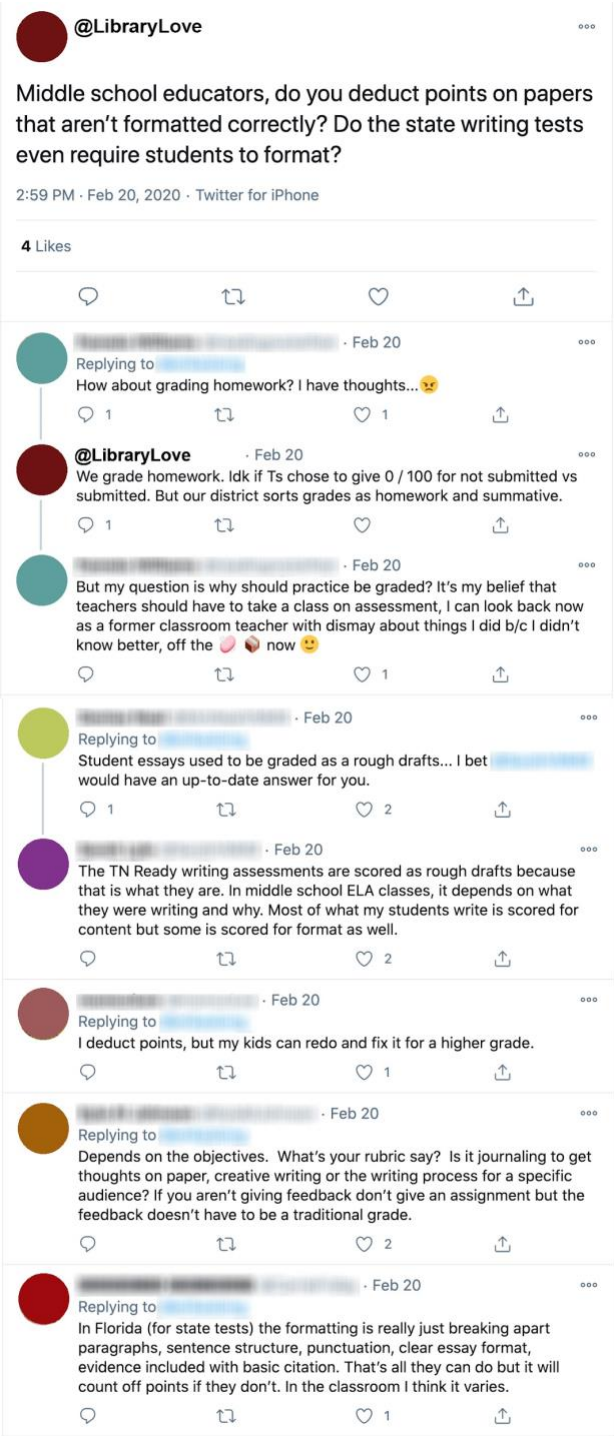

Figure 20: Laila sample tweet two

In this tweet, Laila uses both the tweet and reply affordances. Seeing a practice at her school that she questions (whether it's a wondering or a criticism is unclear), Laila accesses the broader audience of her Twitter followers to find out what happens in other schools and classrooms when

students fail to follow formatting instructions. She does not use emojis, tags, or hashtags–her post consists entirely of two questions, inviting others to provide the information, educating her on a topic.

In composing her tweet, Laila took on aspects of the rhetor role, such as selecting and bracketing the subject, selecting the forum, and crafting the text using available affordances. In terms of PD, however, she places herself in the role of learner, on the receiving end of information, which is conventionally associated with the audience role.

Laila's positioning as audience also appears in the reply section. The post seems to be primarily a data-gathering effort, since Laila likes the responses posted but does not reply to most of them. Laila does compose one reply, but it responds to a separate question posted by a Twitter user as an offshoot of her tweet, and Laila shares facts about her own school's practices.

While the composing choices (including the choice not to compose) place Laila in the rhetor and audience roles in these ways, this tweet also features more subtle aspects of these roles. First, the original tweet, despite being presented as a pair of questions, seems to have an underlying thesis along the lines of, "I've seen a practice of deducting points for formatting and it seems wrong to me," as well as an unstated assumption that if state tests will not require students to meet a particular expectation, the classroom teacher should not, either. The question format implies that Laila is not necessarily entrenched in these beliefs and seeks insight from others, but the tone does belie the question format. Put another way, the wording may place Laila in an audience role to some extent, but the tone keeps one foot in the rhetor camp.

Second, a vital part of the audience role is the power to act on the rhetor's message. A PD provider seeks to teach instructional methods to teachers, because teachers can put those methods to use with students; providing the same PD to, say, the school bookkeeper might have some benefit, but not enough to make her the primary audience, because she can't address the exigence directly. In this case, Laila does not receive or grade papers from students; she doesn't decide whether points are deducted for formatting. While she has cast herself as audience, and while she may be able to influence those who do grade papers, her lack of power to act on the exigence (and the fact that some of her Twitter followers *can* act on it), combined with her selection and framing of the topic, may keep her more firmly more rhetor than audience. In that case, what appears to be an attempt to gather data may in fact be undercover PD–raising a topic for other educational professionals to reflect upon in hopes of encouraging thoughtful grading practices.

Sample Tweet Three: Laila Creates and Shares a Teaching Resource

In the third sample tweet, Laila uses 44 characters to say, "I just published a LibGuide for JUST MERCY." followed by an external link to the LibGuide. A LibGuide is essentially a web site that organizes resources such as books, websites, articles, or videos about topics related to the book. School librarians often curate resources and create LibGuides to support teachers and students during study of a book. While the book Just Mercy had been published several years earlier, the movie was released less than two months before this tweet, causing a surge in interest in the book, including in classrooms.

Figure 21: Laila sample tweet three

Laila uses two affordances of Twitter in this tweet–posting a message and attaching a link to an external website–in order to provide a useful resource to educators. The text of the tweet names the resource (which Laila created), and the link leads the reader to that resource. While Laila could have used more text to attract attention to the tweet, she instead allows the capitalized book title and the graphic generated by the attached link to be the most prominent components.

Laila is fully in the rhetor role here (both as author of the tweet and as creator of the LibGuide she shares), and she elects to present her subject simply. Many in her audience, librarians and teachers alike, would already be aware of the timeliness of the LibGuide; thus, Laila may have felt that audience interest in support materials for teaching *Just Mercy* or providing extensions for interested students would make any additional framing (or attention-grabbing) superfluous. These kinds of judgments are

characteristic of the rhetor role (and the PD provider role), and Laila used Twitter to take both role through this straightforward tweet.

MARIA

Maria's Use of Twitter's Affordances for PD

Maria is a frequent Twitter user, checking her feed when she wakes up in the morning, during breaks in the school day, and after work. She has two Twitter accounts, one for math and teaching content, and another for following celebrities, sports and the like. She is also a regular user of other social media, including Facebook (personal use as well as participation in professional groups) and Instagram (personal only).

Even though she attends many conferences, Maria sees Twitter as one of her main sources of PD. She said that she gets ideas for her teaching from the platform, to the extent that "I don't know where I would be if I hadn't discovered Twitter. I would probably still be the teacher that I complain about down the hall who doesn't know her standards and doesn't know any way to engage children." She also notes that while within her diocese she is an expert at math instruction, Twitter shows how much she has yet to learn. She told a story of disagreeing with another teacher and texting a Twitter friend who is the math director for a county; the Twitter user cited the facts in the case "without even looking anything up," ending the argument and teaching both Maria and her colleague something new.

Maria said that she takes both the provider and receiver roles on Twitter, but receives more often, because she discovers resources, lessons, and teaching strategies, which she uses by applying them directly or having new ideas inspired by them. Maria said that in Twitter PD, compared to other PD, "I have more voice in what I want to learn about. I have more voice in responding, in what I want to be a part of, than, well, especially than my diocesan PD…I have no voice in that."

She said that she avoids the provider role in many cases, instead being "more of an asker than an answerer," which may be "a confidence thing." She is "hesitant to answer a question" because she might be wrong or have an unpopular opinion "and I don't want to get attacked if I say something that's not exactly right." Beyond the provider and receiver roles, Maria said that she is most often a connector on Twitter: "I may not always be able to give people answers, but I am really good at knowing who to connect them to, to get the answers" via a resource, a Twitter user with expertise, or a post from the past.

Maria did not feel that she affected the design or content of Twitter PD. She did share examples of affecting the learning of other users, including leaders, but she downplayed both. For example, she

said that she used to be a consistent and involved participant in a middle school math chat on Twitter, and she felt that although the chat had official leaders, participants “were all in it together…certainly there was learning from the leaders as well.” However, she struggled to say whether she had influenced the learning of PD leaders on Twitter because outside of chats, “I don't even know who I would think about as being the leaders of the PD” on Twitter.

Maria felt that she had total control over whether she accesses or applies PD content on Twitter. In some cases, she sees ideas that she applies right away, particularly instructional strategies that apply in any setting, such as methods of questioning. In other cases, she notes ideas that she might try weeks or months later. Other times, timing or relevance may prevent her from taking advantage of Twitter PD, as when Maria sees “an interesting article about quadratics, but I don't have time to read it right now. I’ll just keep scrolling,” or an idea that she makes note of to “put it in the back of my head, but I don't think it works for me right now.” She sees it as both an advantage and a disadvantage that “there's no one holding you to any of it,” because “there's so much, and you want to do it all but you can't do all of it, so then you end up not doing any of it.” While Twitter’s format makes it ideal for small, digestible ideas, the plethora of tweets makes them a bit less bite-size for Maria.

Maria reflected on the ways her Twitter activity has affected her professional life at school and in other PD experiences. A workshop called Twitter Math Camp solidified relationships she had made with other Twitter users over the previous couple of years. “Twitter math camp was such a family…so beyond being my math friend or my Twitter friend...they're just my real life friends.” These friendships are not only important to her personally, but they sustain her professionally. In her school, few others teach what she does, and although her colleagues feel that the school community is strong, Maria “never felt part of the community.” However, her community of math teachers on Twitter buoyed her: “I have many people to talk to...it could be three o'clock in the morning, my friends in Australia, they're going to respond to me because it's the middle of the day for them.” She takes comfort knowing that “I don't have to worry about the fact that I teach in this silo situation, because I have my people—they've got me and I've got them.”

Maria also credited her Twitter community with her forays into providing PD as a conference speaker: “About three years ago, everywhere I went, every session I sat in, every conversation over dinner or whatever, everyone's like, ‘[Maria], when are you going to start presenting?’ And I was like, ‘Well, that's not a thing that I do. Never.’” Maria was the sole teacher among her friend group of “[instructional] coaches, county people, and consultants,” so her peers felt her perspective should be shared more widely. Later that year, a professor asked Maria to present with him; he said his point

needed “to be supported by an actual classroom teacher, and it's clear that your voice is one that people want to hear,” so Maria agreed. She co-presented two more times after that, and at the time of our interview had been tapped as an invited speaker at an upcoming conference. Maria said that invitation “for me was a big deal...My Twitter community, without them this never would be something that I was interested in. And so, because they valued what I had to say and pushed me to do something that I wasn't really comfortable with, I have shifted into that role.”

Maria feels that she has greatly improved her work as an educator through her extensive professional development, and she wants others to strive for greater expertise, as well. Thus, when she has a colleague who, for example, “doesn't know her standards and she doesn't know anything about teaching math,” the knowledge gap frustrates Maria. Her frustration highlights the complexity of Maria’s self-perception at this point in her career. On one hand, she has gained expertise that, on Twitter, has earned some measure of credibility and respect; she described telling her vice principal, “Out in the Twitter world, I'm special. People know me and people think I have things to offer and I have this reputation” (although moments later she described herself as “small potatoes,” further emphasizing her ongoing shift in self-perception). On the other hand, she reported that at school her expertise is not recognized or valued, saying, “I come to school and nobody cares that I know all this stuff.”

Maria said that her own growth makes her want to offer PD at her school and to set ambitious goals for her school to be “the math school in the diocese.” But she compared these desires to “being a prophet in your own land,” because “I have so much to share…but nobody's willing to make time” for math PD in the school schedule, as reading and writing are prioritized. Maria concluded her description of her role in PD at her school this way: “That’s this major bone of contention for me right now because I'm just like, ‘Aaah, let me teach people something!’ My whole vision of myself and my role has really shifted. So even though I see myself more as a recipient, I now have pushed to have this desire to share and to be the one leading it.”

Maria’s Twitter By the Numbers

Complete data regarding Maria’s use of Twitter functions, rhetorical moves, and topics addressed appear in Appendix I. During the time period studied, Maria used the tweet function to share or tell information much more frequently than other rhetorical moves, and her tweets focused on community the most, followed by teaching and learning resources. Most tweets related to community vented or asked advice about tensions with other teachers and their professional practice, such as teaching inappropriate standards for the grade level or asking students to prioritize work for another class over Maria’s math class. A few expressed appreciation for a supportive administrator or a

professor who served as a mentor. Maria's tweets related to teaching and learning resources include both seeking and sharing resources. In some cases, she shares activities she has used in class, such as math debates, and links to media stories and even advertisements that could be used as fodder for classroom activities, sometimes with another user tagged in the post to bring it to their attention. In others she seeks a resources, as when she hoped someone would let her know of a project on systems of equations they could share, tweeting "If anyone has a killer systems of eqn project w a quick turn around lmk #desperatetohelptheirgrades."

Maria does not use the retweet with comment or retweet functions as frequently as the tweet function; retweet with comment is the most commonly used of the two. In these two post types, teaching and learning resources and community continue to be the most frequent topics. These express enthusiasm for a resource in the retweeted tweet or tag other Twitter users to alert them to the resource being shared. The three functions that appear in a user's profile—tweet, retweet with comment, and retweet—account for 8% of Maria's total Twitter activity. Within these three taken together, community and teaching and learning resources emerge as her two most frequent topics.

Maria posted 163 replies, almost four times as many as her tweets, retweets with comment, and retweets combined. Her replies included a wide variety of rhetorical moves, with answering, agreeing, sharing, and thanking the most prominent, but answering appearing four times as often as the next most common. Replies labeled as answers addressed a question or simply functioned entirely as a response, including posting gifs or emojis, instead of, for example, adding new information to the conversation (sharing/telling) or seconding the poster's point (agreeing). In some cases, several replies were posted to the same original tweet, as Maria and other Twitter users engaged in a conversation. Her replies were distributed across several topics, but community is far and away the most frequent, followed by PD. Replies related to community sometimes occurred as part of conversations prompted by her tweets, and thus were about tensions with other teachers in her school and how to deal with the situation—either adding more information or thanking others for their input. In other cases Maria commiserated with or offered support for another teacher on Twitter, so that her post itself built community; similarly, some posts simply included an emoji or gif that showed another teacher that Maria cared about the experiences noted in their posts. Maria's many replies about PD were not about the content or experiences within PD but conversations about upcoming or past conferences, invitations to dinner, encouragement for those presenting, and so on. Maria's replies about teaching and learning resources were often thanking others for the resources they had provided. Overall, the high number of replies on Maria's profile and the content within them highlights the ways she uses Twitter continually,

casually, and socially, with conversations—serious and frivolous—unfolding as they might in school workrooms and conference hallways among colleagues and friends.

Maria liked 334 posts distributed across a number of topics, most prominently teaching and learning resources, teacher morale, professional development, community, classroom experiences, and professional practice. Likes of teaching and learning resources show a somewhat broader range of content than other posts of the same content, encompassing posts on, for example, learned helplessness in the math classroom, a teacher's newsletter, a math instruction book, assessments for a particular math curriculum, and inspiring posters for classrooms. Her liked tweets about PD were primarily posted by attendees during in-person PD events. Those related to community were part of conversations following her own tweets, posts mourning a math teacher who passed away, and posts directed at Maria that focused on relationship-building, such as one hoping the poster would see Maria at a PD event in the future.

While posts on teaching and learning resources are the most common among Maria's Twitter use, emphasizing her use of the platform to enhance her teaching, the frequency of community- and teacher morale-related posts in Maria's Twitter activity is notable, especially in terms of the functions in which the user herself creates the content. Of Maria's tweets, retweets with comments, and replies, more than 45% are related to community and morale. If we include those about PD, which focused on fellow Twitter users connecting with one another at in-person PD events, that percentage rises to almost 60%. Maria's Twitter activity, particularly that in which she composes content, is heavily invested in building and maintaining relationships with other educators.

Maria's Sample Tweets: Affordance Use and Rhetorical Roles

Sample Tweet One: Maria as Rhetor and Stealth PD provider

In this relatively long tweet of 197 characters, Maria shares an experience from a faculty meeting in which she spoke out against an enrichment activity that she believes is harmful to students' growth in math. The tweet reads, "Stood on my soapbox about why we should take a stand against mental math bowl in our district and opt out. Agreement. I hope some heard my 'speed should never ever be associated with math brilliance' message loud and clear for their own classes," and includes a gif of a woman tapping her fingertips together and smirking as if hatching a plan or seeing one play out. A mental math bowl has students compete to find out which is the best (in both correctness and speed) at mentally solving math problems. The tweet garnered four replies: three agreeing or supporting Maria's action, and one spawning a conversation on the topic of academic competitions. The latter asks, "Is

there a group to come up with a better way of showcasing math learning? (Thinking of my Ss who say 'Only the athletes get awards around her.')." Maria responds, "For what it's worth, this is gr 1-5. In 6-8, there is an academic decathlon (which I still take issue with, but for plenty of other reasons). I don't know that in 1-5 there needs to be pressure on academic performance in that way" and "With that said, I'd love to find some way of having a math 'celebration' for those kids who want an outlet. This just can't be it. It's all about speed and memorization of things far above grade level. But like actual memorization-they get a study guide and use those exact problems."

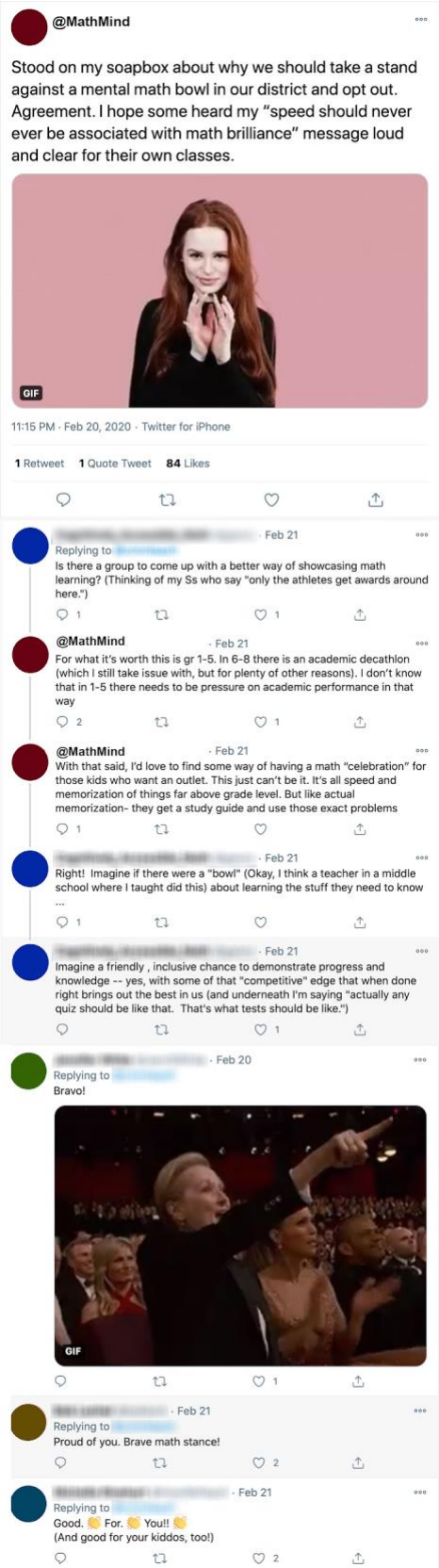

Figure 22: Maria sample tweet one

The primary affordances in use here include posting a message to be seen by a broad audience of followers, composing that message with up to 280 characters and an animated image called a gif, and receiving replies to the post and responding to them. In this tweet, she used these affordances to take a rhetor role; she identified a topic she deemed worthy of action, bracketed events within the flow of her school day, composed a text addressing that scope, and presented that text to achieve a purpose with her Twitter audience. In an extra layer of complexity, the text is about another rhetorical situation in which she also took the rhetor role. In many ways, she repurposes the text to achieve a related but distinct purpose with a similar but not identical audience. The distinction between the original rhetorical situation and the second one highlights the ways that Maria takes the rhetor role differently at school and on Twitter.

The tweet contains four parts within its text: two sentence fragments, a sentence, and a gif. The first two sentence fragments tell a story in which Maria "[s]tood on my soapbox" to "take a stand" against math bowl participation, speaking persuasively and forcefully to an audience of colleagues and leadership who have the power to opt in or out of the districtwide activity, gaining "[a]greement" from some or all of the attendees. In other words, they describe another rhetorical situation. These opening two sentence fragments are framed as the relating of an experience within Maria's professional life, one in which she may not have selected and bracketed the topic at hand (it may have been placed on the agenda by a department chair or administrator), but she did determine her own text (opposition to math bowl participation based on the emphasis on speed and memorization) and use it to move her audience to action to remedy the exigence (opt out of the math bowl). In this portion of the tweet, Maria's framing of the text as recounting a personal experience seems to invite an equally personal response from her Twitter audience, and three of the four replies to the tweet do validate both her opinion and her behavior in the rhetor role during the meeting.

The last sentence in the tweet makes a shift from recounting a story to revealing a subtext, a secondary goal within that original rhetorical situation. While the purported exigence was the decision to opt out of the district math bowl, Maria says in the tweet that she was delivering another message she hoped was "loud and clear" for colleagues who use similarly speed-based or memorization-based activities in their classrooms. Her explicit statement of what had previously been implicit reflects a different treatment of and assumption about her Twitter audience: that they, unlike her colleagues, will immediately see why speed- and memorization-based math activities do not support effective learning.

Finally, the tweet's gif contributes to the effect of her tweet in two ways. First, the gif's character appears neither threatening nor malignant, yet smirks and taps her fingers as if setting a plan

into motion, mirroring Maria's dual goals in taking the rhetor role in the faculty meeting: overtly leading her school to opt out of a practice she sees as harmful, and covertly seeking to influence colleagues who use ineffective practices in their classrooms. Second, the use of the gif, being both an image and an animation, catches the eye of a Twitter reader scrolling through a feed and adds a sense of intrigue to the post, both of which increase the likelihood that a follower might read and even engage with her post.

In composing the tweet, Maria's choices reveal some important aspects of her understanding of her audience. First, in some ways she is repurposing an existing text (her faculty meeting comments) for a new audience, and the new audience differs from the original in an important way: it does not have the power to address the primary exigence of the first rhetorical situation, since her Twitter followers have no influence on the use of math bowls in her district. But her Twitter audience does have power to take two other actions: validate Maria's (potentially divisive) rhetorical moves in faculty meetings, and decide whether students in other schools or classrooms across the world experience speed-based math activities or assessments. These are the purposes Maria pursues in her tweet through composing choices. She frames her text not as an assertion or exhortation, but as the sharing of a personal experience. Where she could have said, "Math bowls and other speed- and memorization-based competitions or activities do not support math learning," she instead tells a story about having "[s]tood on my soapbox."

In her interview, Maria expressed trepidation about taking a stand on Twitter because she might be wrong or might be attacked by others. Her move here may be an effort to deflect criticism that a bold assertion might invite. By the end of the tweet, she has still taken the provider role—by naming an improvement "some" at her school need to make. Her reference to such teachers in the third person reveals an assumption she has made about her Twitter audience: that her audience shares her valuing of mathematical understanding over speed or memorized processes and thus, like her, sees teachers who believe otherwise as in need of professional growth. The gif further communicates that Maria is carrying out a covert but not malignant plan. Her conspiratorial tone invites a comradeship from her Twitter readers as the Twitter math community unites against bad teaching practices. However, by broadcasting a message about improving math practices, Maria does offer PD for her followers, some of whom may, indeed, use speed drills or participate in math bowls. For those Twitter users, the fact that the message is aimed nominally at teachers at her school may be disarming, preempting a defensive reaction and perhaps prompting reflection. On the other hand, that same obliqueness could mean that her point fails to hit the mark at all.

In this tweet, Maria also makes use of the reply feature, an affordance that allows her to interact with individuals who engage with her text, primarily extending her role as rhetor. Three readers take a traditional audience role, reading her text and offering validation; in these cases, Maria uses the like feature to show appreciation for their engagement. When one of her followers asks if some other event could allow students to earn recognition for their math prowess, Maria answers the question (something like that exists in the middle grades), objects to an assumption on the part of this audience member (pressure to perform is inappropriate in the lower grades), and agrees with the principle of the reply (an appropriate celebration of math learning would be great). In these replies, she adds detail and nuance to her argument (particularly when she mentions that students memorize problems from a study guide) and reinforces her original point as she engages with her audience. The audience member then brainstorms in response to Maria, both imagining a more inclusive and constructive version of an academic bowl and proposing that all formative and summative assessments should have aspects of such games. Maria refrains from taking a rhetor role again in response to these assertions, and instead uses the like feature to acknowledge the reply. The follower who engaged in this back-and-forth has taken Maria's post as an opportunity to gain more information and to reflect on her concept of assessment from her own perspective, which may be somewhat different from Maria's; she has used Maria's post as an opportunity for PD by taking the audience role as a reader of and learner from the tweet, while also taking the rhetor role by raising questions and proposing ideas in the comments.

In this tweet, Maria has taken the rhetor role while also framing her argument obliquely, as a description of her actions in another setting—one in which Maria reports feeling more confident in her expertise compared to that of her audience. Twitter's affordances allow her to share her experience with a wider audience, and they allow her to craft her text however she likes within the technological affordances—in this case, in a way that accounts for the unpredictability of her Twitter audience compared to her colleagues at school.

Sample Tweet Two: Maria Takes the Mike in a Reply

In this sample tweet, another Twitter user uses only 70 characters to post guidance for math teachers: "Math teacher tip [extra line break] The [butterfly emoji] method is NOT appropriate [extra line break] #StrategiesMatter." The butterfly method is an algorithmic approach to comparing, ordering, adding, or subtracting fractions through cross-multiplication; it is decried by many math teachers because it allows students to solve problems without understanding the the concepts at work, how they relate to other mathematical concepts, or how to solve slightly different problems to which the algorithm does not apply. The hashtag #StrategiesMatter is used by math teachers (and some teachers

of other subjects) in reference to the need to explicitly teach students strategies for solving familiar and novel problems, as opposed to having them memorize a series of steps for solving formulaic problems.

Maria posted three replies to this tweet, using 279, 276, and 53 characters respectively to communicate her complete message despite the 280-character limit on Twitter posts. Taken together, her complete statement reads, "Here's my problem (I don't disagree w/ you). They do all this crap leading up to my class, then I spend 4 years w them telling them tricks aren't allowed (while they are hearing them from parents/ classmates in the other group), then they come back from hs telling me the tricks+ [new reply] were the only thing they didn't know- that they were killing it in adv courses, but were confused when talk of cross mult and foil cane up [facepalm emoji] then I get pushback from Ts down the hall that 'some kids just need tricks or they won't learn.' [extra line break] I'm exhausted of fighting the fight [facepalm emoji]. [new reply] (That's not to say I won't continue. I'm just tired.)" "Cross mult" is an abbreviation for the cross multiplying that occurs in the butterfly method, and "foil" (which stands for first, outer, inner, last) is an algorithm for multiplying two binomials–like the butterfly method, it cannot be transferred to slightly different problems and it does not deepen mathematical understanding.

The poster of the original tweet responds to Maria, as does another user. Both encourage Maria to continue avoiding 'tricks' in her classroom, to model for her colleagues how to teach for understanding (and to hold all students to high expectations, including those who take longer to build understanding), and to include problems for which the tricks don't work in order to help students see the limitations of those approaches.

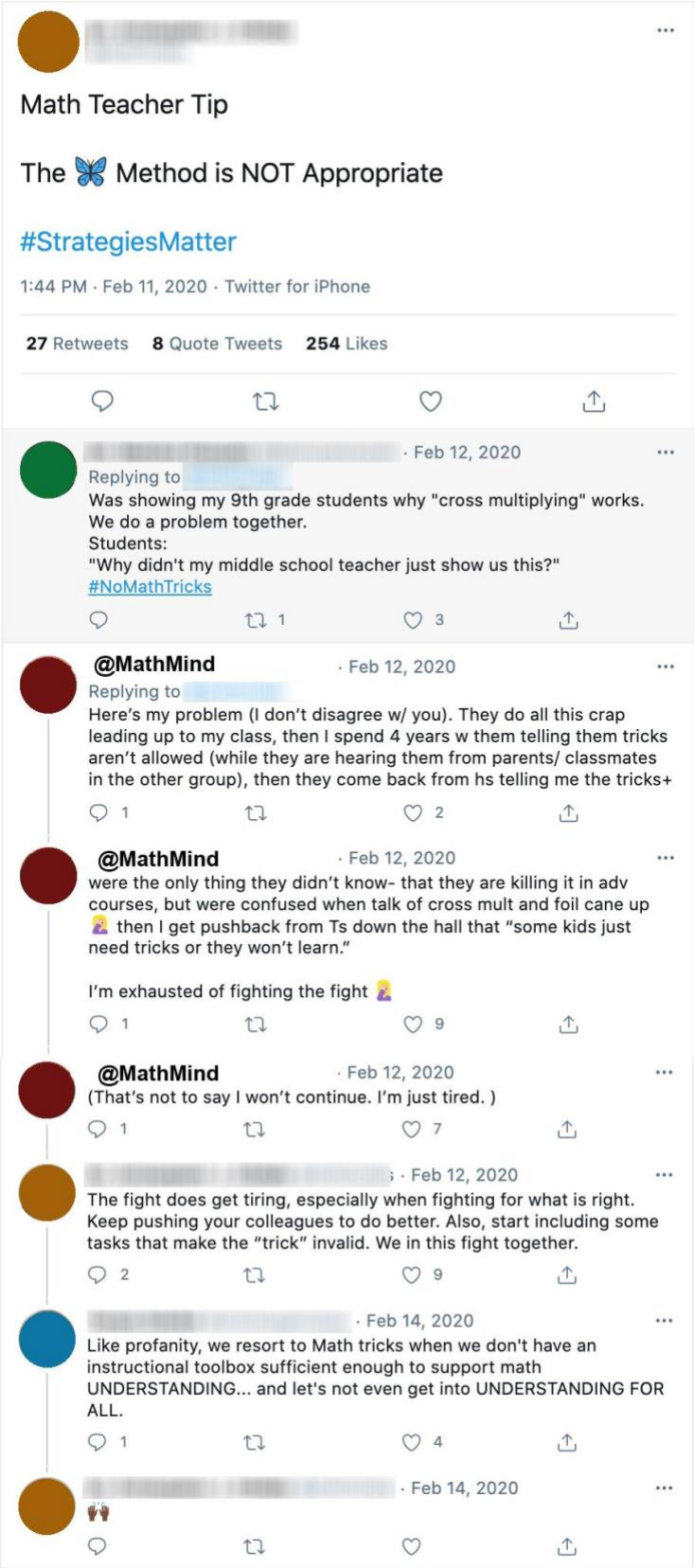

Figure 23: Maria sample tweet two

Maria takes advantage of the Twitter affordance that allows replying to tweets in order to share her own perspective on the original poster's exhortation. Her replies consist primarily of text, as well as two uses of an emoji. Using a conversational tone, Maria shares her personal experience at work, including her feelings about it, taking up as many characters (and thus separate replies) as needed, with a plus sign signaling where one continues into the next. The use of abbreviations, the facepalm emoji signaling frustration, and words such as "crap," "tricks," and "exhausted"—in addition to the overflowing length–giving her replies the feeling of a cathartic unloading of thoughts, not a curated, crafted response. In the tweet's replies, Maria's 608-character message (almost nine times as many as the original tweet) adds a layer of complexity to the content of the original tweet–while the butterfly method may not be good math instruction, a math teacher faces a more complicated choice than simply not teaching it.

Maria, reading the original tweet, took the audience role, and while she maintained aspects of the audience role by posting within the replies, she certainly re-bracketed the flow of events she deemed relevant to the topic at hand and crafted her own text as part of the PD experience of interacting with the tweet, both important aspects of the rhetor role.

Her use of the reply feature here is not unlike speaking up during an in-person PD session to question a provider's (over)simplified assertion. On Twitter, as in the PD session, the person in the provider role (and originally cast in the rhetor role) then needed to decide how to respond to this moment of "taking the mike." In this case, he incorporated Maria's point, providing validation and additional suggestions in response.

Maria's "it's not that simple–and I'm tired" message may serve several purposes in this rhetorical situation. For others struggling to do what they believe is right despite challenges in and outside their classrooms, Maria's acknowledgement of her realities may offer validation or encouragement. For herself, the chance to express her feelings and receive encouragement from like-minded educators may buoy her as she continues to fight the fight. Both of these occurred because the reply feature allowed Maria to come into conversation with the original tweet.

HOW DO EDUCATORS MAKE USE OF TWITTER'S AFFORDANCES DURING EVERYDAY PD-ORIENTED TWITTER USE?

All participants said that Twitter provided useful PD opportunities for them, echoing the findings of previous studies (Carpenter and Krutka; Lord and Lomicka; Visser et al.; Trust et al.; Greenhalgh and

Koehler; Veletsianos; Luo et al.; Rehm and Notten; Holmes et al.; Adjapong et al.). Their PD-related Twitter use comprised every type found in the literature, including

- Asking or answering questions (Risser; Visser et al.)
- Backchanneling during a conference or similar event (Carpenter and Krutka; Risser and Waddell; Reinhardt et al.)
- Building or contributing to the profession (Prestridge)
- Collaborating with other teachers (Carpenter and Krutka; O'Keeffe; Greenhalgh and Koehler)
- Emotional support or community-building (Carpenter and Krutka; Wright)
- Gathering and sharing resources (Carpenter and Krutka; Forte et al.; Greenhalgh and Koehler; O'Keeffe; Prestridge; Visser et al.)
- Participating in Twitter chats (Carpenter and Krutka; Adjapong et al.)
- Reflecting (Visser et al.; Prestridge)
- Sharing ideas or experiences from the classroom (Visser et al.; Prestridge; Greenhalgh and Koehler)

The breadth of their use and their reflections of how that use benefitted them confirmed the potential of Twitter to offer "boundless and self-generating on-demand learning" in which "teachers are generating the content" (Prestridge 144).

All participants used each of the main Twitter affordances when using Twitter for PD: tweet, retweet, retweet with comment, and like. Of these, all four participants used the like feature more than any other feature. This implies that they are frequently acting as recipients of PD, particularly because sharing or telling was the most frequent function of the posts the participants liked. While the patterns for frequency of affordance use are not as striking for other affordances as for the like feature, reply is the second most frequently used feature (by percentage) across the participants, emphasizing the social nature of Twitter, of which the participants took frequent advantage.

When the participants posted tweets, retweets, or retweets with comments (the three affordances that result in a post in the Twitter feeds of the participants' followers) as part of Twitter PD, sharing or telling was the most common function and the most common topic was teaching and learning resources. The participants used the ability to create or amplify posts in order to disseminate information and ideas for instruction.

Analysis of the participants' sample tweets revealed a wide range of other affordances used in sophisticated ways. They used text and punctuation not only to express a message and to craft its

diction and tone, but also to include hashtags and to tag accounts. Hashtags were used both to signal what kinds of Twitter users make up the intended audience (e.g., #iteachmath signals relevance to math teachers) and to attract readers interested in the topic at hand (e.g., people searching for or already following the hashtag #iteachmath). The participants tagged accounts to draw the attention of those accounts, to acknowledge those accounts, and to highlight connections with those accounts. The participants also included photos, links to external pages, emojis, and gifs as they created their posts. In some cases, photos or links constituted part of the substance of the post, such as a photo of a teaching tool in use or a link to an instructional resource. In other cases, photos, emojis, or gifs were used to catch users' eyes or add nuance to the tone of the post.

It is worth noting that the patterns of use seen among the participants in this study differed from those seen in studies by both O'Keefe and Prestridge. While some of O'Keefe's participants used only one or two affordances in their Twitter use, these four participants took full advantage of tweet, retweet, retweet with comment, and like functions. However, participants in this study, as in O'Keefe's, did blend aspects of both rhetor and audience in the ways they used those features, such as sharing of others' texts in order to achieve a rhetorical purpose, which will be addressed in chapter 7.

Prestridge grouped Twitter-using teachers into categories, ranging from not generating or sharing knowledge to amplifying/sharing others' knowledge to creating and sharing new knowledge. Her categories focused and placed value on creation of original knowledge, whereas PD in K-12 education focuses more on increasing expertise among all educators than on creation and contribution of new knowledge by each educator. Thus, it is not surprising that none of the participants in this study fit cleanly into any one of Prestridge's categories; instead, they all enacted each category to some extent.

HOW DO EDUCATORS USE THE AFFORDANCES OF TWITTER TO SHIFT THE RHETORICAL ROLES THEY ASSUME IN TWITTER-BASED PROFESSIONAL DEVELOPMENT ACTIVITIES?

Because each primary affordance of Twitter–tweet, retweet with comment, retweet, reply, and like–blends aspects of both the rhetor and audience roles, using Twitter allowed the participants to access both roles in a variety of ways. The participants uniformly used–and appreciated–Twitter for the full access it gives to all aspects of both the audience and rhetor roles, and for the lack of restriction in shifting between them.

On Twitter, they often assumed the audience role by reading posts, echoing their frequent audience role in other PD experiences. As audience, they determine what form and content is fitting for

a text, and they may choose whether to attend to the text or not. One way this choice was demonstrated was through the like feature, which all participants used extensively to show acknowledgement, appreciation, or agreement; at the same time, participants mentioned the ability to scroll past many other posts, choosing *not* to attend to those, thus fully exercising the audience's ability to determine what texts are fitting in form and content for the moment or situation. While other Twitter users may have exercised the rhetor's power to bracket and respond to a situation, the participants were, in the words of Garret and Xiao, the "active entity which is crucial in determining exigency, constraints, and the 'fittingness' of the rhetor's response" (30).

The participants' other PD sometimes allows or encourages them to take on some aspects of the rhetor role, such as choosing a session based on its topic or participating in a way that contributes to the text. Twitter created similar opportunities through use of the reply feature, through which the participants identified topics of importance and added to the discussion, sometimes by adding nuance, depth, or a complicating factor to the PD provided by the original post and thus co-creating the PD text encountered by subsequent readers.

While participants mentioned that more complete access to the rhetor role in person requires application and/or approval in their traditional PD experiences, anyone can post on Twitter, and they all accessed the rhetor role without barriers. When the participants saw situations in their own professional lives, including the complexities of instructional practices, students' individual needs, and school-specific demands, they were fully free to "discover what position to adopt by making sense of the situational incoherencies" (Consigny 177) and to craft a text accordingly. The exigences they identified were highly varied, ranging from specific instructional strategies to moments of frustration with poor practices to celebrating time spent in community with other professionals. Further, all participants used a combination of text, images, links, and other affordances and composing strategies in hopes of educating, enriching or inspiring other educational professionals in aspects of the job.

With access to the rhetor role comes a rhetor's concerns, such as building ethos with an audience. As participants engaged with Twitter as rhetors, they put to use techniques for building ethos, such as carefully selecting a Twitter username, publicizing successes, demonstrating expertise, and highlighting alliances with respected groups or individuals. In these ways, the initial anonymity the participants experienced when they joined Twitter offered a literal model of Biesecker's argument that rhetors and audiences bring no pre-existing identity into a rhetorical situation, but instead the situation "makes possible the production of identities and social relations" (126). While Twitter use over time does create online identities and relations, which each participant in turn brought into each interaction

and situation, the vastness and fluidity of the population of Twitter users, as well as the online nature of it, supported the participants' ability to—to some extent—create their identities as they crafted their texts in each new rhetorical situation. In any case, these identities and relations were certainly invented anew in subtle ways in response to the topic and players at hand. In particular, the participants' Twitter posts often included specific composing choices that injected humility, humor, or relatability, thus building ethos with their audience of fellow educators.

The participants' Twitter use showed wide-ranging and subtle fulfillment of rhetorical roles. Some Twitter use showed the rhetor's ability to bracket events, select a topic worth communicating, compose a text, and so on. Other posts mixed aspects of the audience and rhetor roles. In some cases, they did this through questioning, which entailed bracketing events and identifying exigence, but then inviting others to develop the content while the participant attended to and chose whether to act upon the ensuing responses. In other cases, this occurred through the reply feature as the participant worked within the original poster's scope or pushed against it while making additional points. Finally, in some posts, rather than combining or shifting between roles, participants ostensibly took one role while partially or fully retaining aspects of the other. This occurred, for instance, when a participant composed questions that seemed to invite others to educate the participant but in fact communicated an underlying thesis–a thesis regarding an exigence that the participant could not act on, thus placing her squarely outside the audience role for the text.

Several participants described positive feedback they had received from other users on the quality of their Twitter activity, which in turn influenced their self-perception as providers of PD. All participants implied a self-perpetuating cycle in which fulfilling the rhetor role on Twitter led them to take themselves seriously as PD contributors and expand their activity in that role, which in turn further built their ethos in the Twitter world. This cycle offered a clear demonstration of Phelps' observation that all nodes in the network of a rhetorical situation are "mutually defining and transactive" (32)–the effects are not limited to the mind and behavior of an audience. In fact, that ethos then spilled over into their "real lives," where they experienced an increased desire to take the rhetor role in PD, confirming Gorrell's assertion that change occurs "in the rhetor as well as in the audience through engagement in the rhetorical situation" (401). The only exception to this cycle is Laila, but only because she had already had more experience as a PD provider than the other participants and thus had more thoroughly shifted her self-perception in regard to the rhetor role. In short, as Twitter provided access to the rhetor role without barriers, that access seemed to create a self-perpetuating cycle of embodiment of the rhetor role on and off of Twitter.

CHAPTER VI

EMBRACING, RESISTING, AND SHIFTING RHETORICAL ROLES IN EDUCATOR PD

INTRODUCTION

Interviews with the study participants provided a variety of descriptions and narratives regarding participants' roles in PD they had experienced. Examination of these roles–both how they are designed and how the participants engaged with them–is necessary because of the complexity of role-taking and role-shifting within the rhetorical situation. The ecology of a rhetorical situation is defined by interactions between the nodes of one or more rhetors, audiences, texts, exigences, constraints, and so on, which are inextricably linked to one another and defined by those relationships. If interactions define the network, then those interactions can also redefine the nodes, and thus roles may shift, hence the need to examine how the participants embrace, resist, or shift between them.

For example, if a rhetor identifies exigence and seeks to influence audience to address it, but the audience sees another exigence in the same occurrences, some member of that group may emerge as a second rhetor entering the same context to address a different exigence and treating the original rhetor as audience, capable of acting to resolve the second exigence. While a new rhetor, audience, and exigence have emerged, to treat the occurrence as a separate rhetorical situation from the first would be as artificial as drawing a boundary through a functioning ecology. Instead, we should acknowledge that rhetor and audience are functions, not people, and though we may attach the same noun or proper name to both when we talk about "the rhetor" or "the audience" (e.g., 'the PD provider' might be referred to as 'the rhetor'), what we mean is the rhetor *in this moment when viewed from this perspective*. Thus, to name a node (e.g., rhetor, audience, exigence, etc.) is to point to whoever or whatever fills that role from a particular perspective on the rhetorical situation at a particular time. It is not to imply that the title has been assigned for the duration of the occurrence. In this way, participants in this study may have, within the same PD event, fulfilled an audience role, a rhetor role, and/or multiple shades between the two.

Based on this understanding of a rhetorical situation, we must carefully delineate differences between roles being discussed here. Consider them in two sets: roles created by the design of the PD, and roles in the rhetorical situation. Roles created by the design of a PD are labels attached to individuals, and the labels generally do not change, even if the behavior of the individuals does. For

example, the leader of a workshop would continue to be labeled “provider” and the teacher attending the workshop would continue being labeled “receiver” or “attendee” even if the teacher introduced topics or explained information that taught the provider something new. The design of the PD did not change, and the labels are simply used for tracking the players at hand. However, when the workshop is considered through the lens of rhetorical situation, the individuals who, according to the PD’s design, are provider and receiver of PD may fulfill various or multiple rhetorical roles. The provider may fulfill the role of rhetor while providing instruction, and the receiver might eagerly listen, process information, and consider how to apply it, taking the role of audience. The receiver might, however, check emails, tune out the rhetor, and refuse to fulfill the role of audience. The receiver might also develop an idea in response to the rhetor’s message that he shares with other receivers, putting him in the role of rhetor. In short, the roles of “provider” and “attendee” or “receiver” are durable labels for the sake of convenient identification of individuals, whereas the roles of “rhetor” and “audience” are functions that depend on individuals’ actions and the perspective from which a rhetorical situation is viewed.

Based on that understanding of the various roles at play in PD as viewed through a rhetorical lens, the data presented below serves to pursue the research question, “How do teachers embrace, resist, or otherwise respond to the roles they are given in the professional development they experience, both using Twitter and in other settings?”

AL

How Al Embraces, Resists, or Otherwise Responds to the Roles He Is Given in the Professional Development He Experiences

Al described having taken on both audience and rhetor roles, having been frequently in the position of attendee in PD sessions, and recently having begun providing PD in the use of an educational technology tool for math teachers.

Audience Roles in Non-Twitter PD

Al reported most frequently being cast as audience by taking a conventional receiver role; in Al’s words, “a lot of the PDs you go to, like I said, you're being talked at or information's being presented to you.” In particular, “when the district brings in people or whatever, there are times I feel like I'm being talked at, and I'm not a big fan of that.” Al’s frequent phrase “talked at” seemed to mean being cast as a passive recipient with no mechanisms for interacting with the speaker or other participants. When in this situation, Al said that he uses a notebook to “copy down key ideas” while listening. Al gave an

example of listening to a keynote speaker at a recent conference, which he described this way: “All four hundred of us were just watching and listening. And although the speaker was dynamic, there was not much interaction with him or with one another…it was another middle school level educator who had some really creative ideas and was really an innovative teacher. I have a handful of notes from that, but obviously it's sort of hard to participate when he's probably presenting to 400-plus people in an auditorium. You know he was a very entertaining presenter—definitely some laughs and stuff like that…Although I did get some ideas, the type of connections were ehh, you know— it was just a handful of ideas.” Al’s descriptions of events designed in this way revealed that he felt he learned more when he could interact with the leader and attendees by sharing his own ideas through some access to a rhetor role.

Al also associated these kinds of events–when a speaker presents to the audience (including Al) in a one-way flow of information–with the kind of sage-on-the-stage teaching that is discouraged in the classroom. He said that he has “had PDs where the presenter just reads off slides,” and Al thought to himself, “Oh man, if an administrator watched me read off slides, I would get the worst review.” Beyond the obvious irony, this situation also highlights the audience’s prerogative to determine the rhetor’s credibility, a prerogative that Al referenced a number of times in his interview, as he mentioned characteristics that make a PD provider more or less credible as a source of guidance for improved teaching.

In reflecting on his experiences when he was cast in an audience role, Al did not think he had influence over the format of PD. For example, in a conference with a keynote speaker followed by sessions whose titles and room assignments were posted ahead of time, Al said, the designers had already put in a lot of work; “When you put that much planning, I don't think you're willing to change things on the fly. And…I couldn't even have told them what to do to make it better on the fly.” He did not mention any other formats of PD for which he affected the design without being cast as rhetor. It was unclear whether this was an example of respectfully embracing the audience role and relegating the design of the situation to the rhetor, who has thoughtfully planned it to support effective communication of the text, or submissively (or even resignedly) accepting an audience role that has little power to affect how things unfold.

What Al did feel he had control over when cast as audience was his own behavior, which he said he had become very intentional about, especially in small-group sessions. He said, “in the past I was more of a just sit-and-listen type of attendee to PD, but now as I give my own PDs, I understand that for the person to achieve their goal, they need more of an active participant.” He described a session led by

another teacher in which he “really wanted to just sit back and watch” but thought, “That’s not fair to them. So let me do my best to be an active learner, because that's probably what they planned on.” Having experienced the provider side of PD, Al began to “try to be more open to PDs” and “to give these presenters that fair opportunity.” Even if he is tired or doesn’t feel like engaging actively, he says, “you know it's integral to their success to be an active participant. So I try to go above and beyond and just like, you really gotta psych yourself up to try to help this person succeed in their goal.” Taking on the provider (and rhetor) role in some PD sessions had led Al to recognize just how much power the audience has in the rhetorical situation. As such, Al began consciously working to advance (or at least not hinder) the provider’s plans for the PD session. In other words, he became aware of and careful about how he used his power as audience–at least during the session. Whether he changed how often he acted on his learning from PD sessions is unknown.

His experiences providing PD also built empathy for the rhetor, who, after putting in time preparing a PD session, relies on the audience to help the event unfold as intended and fulfill its purpose. As a result, when cast as audience, Al now tries to enter a PD session with goodwill for the provider. Al compared his own recipient role to the roles his students take during his lessons. He noted, “In a classroom, you can build rapport with your students. There's some days my students don't want to work, and I feel like my rapport with them sometimes convinces them. They feel like, ‘I should do this for Mr. [Al]’ type of thing.” Seeing himself in the role of the student, Al said, “I give almost an assumed rapport [to the PD provider] because we're colleagues, basically, as being educators…When it's other teachers, just trying to give them the benefit of the doubt because it's really hard. It's much different than a classroom.” However, when he and the provider are not colleagues in his mind, this dynamic shifts; Al mentioned PD sessions led by “administrators or people who give PDs as a profession” as being in a different category, exempt from a need to make that extra effort. Presenters are vulnerable to the engagement of their recipients due to the audience’s power to play along with the design of the session, sit by passively, or actively disengage, and Al’s decisions about how he wielded his power as audience depended on the credibility of the rhetor–particularly their credibility as a classroom teacher.

Audience Roles in Twitter PD

Al embraced being a receiver of PD–and taking on many aspects of the audience role–in Twitter PD. In one example, his school had identified grading procedures as an area for improvement, with a focus on standards-based grading. Al said, “a great example of how I'm receiving [PD via Twitter] is I threw out there, ‘Who's got great ideas about standards-based grading?’...and the amount of resources I got was unbelievable. As I started to collect those resources, I shared them with administration, and

they were shocked that in a short amount of time, without me needing to read any textbook, any articles, that I had the shared ideas of a bunch of teachers who were actually using these ideas. They weren't just theories. They were these ideas in application. And not only that, they were giving me…ideas of tweaking what they are already using to make it better." Al saw himself primarily in an audience role in this situation, as he received information and advice from other professionals who he found credible because he saw them as not just talking about ideas but also applying them successfully. Of course, Al had determined the content of this PD, set the boundaries of it, and identified the timing with which it should occur, so he took on important aspects of the rhetor role in this situation, but as a receiver willing to act on the exigence, he seemed to see himself primarily as audience.

Shifting and Blending of Audience and Rhetor Roles

This blending of the rhetor's ability to identify the topic and timing with the audience's ability to choose whether to listen and, further, whether to act, was valuable to Al. He expressed approval for "conferences where you get to choose a handful of sessions to attend" based on interest and relevance. This applied both to regional and national conferences and to internal PD days within his district, when "half of the day is some mandated training, and then the other half of the day is a little bit of choice." While the PD provider maintains ultimate power over the subject at hand, considering that a menu of options is provided, Al valued having some access to the rhetor's ability to identify exigence and the subject of the text.

Al described situations in which aspects of the audience and rhetor roles were blended further, in which he, as a PD attendee, had the opportunity to contribute to the text by sharing information or perspective during the PD session. He clearly valued those opportunities. Al described several sessions that were designed for providers to share information with receivers, but the small size allowed for interaction between attendees and the provider. He described one session with "eight people in it, so it was very personal. It was like every person got to participate. A lot of going back and forth with ideas…ways of making connections with middle school learners." In another session, Al said, "a couple of the ideas that came up, people had questions about…so I talked about how I did something similar in my own classroom, and we shared little stories, and we bounced ideas off each other." Al expressed strong approval of sessions that unfold in this way, because "other people in the presentation get to use that idea and see if that's something they feel comfortable with, which is just as important as the presenter at that time." Al described yet another session in which a provider explained a teaching method to the attendees. Al used a similar method in his own classroom "half a notch up from what they are doing, like I put a little twist on it" for higher level learners. When Al shared his own way of

using the method, the presenter said, “Oh that is really cool,” and “the back and forth” of their conversation helped the PD provider and the other attendees learn, as well. Al clearly appreciated the ability to help others learn by contributing to the content of a PD session, shifting into the rhetor role while in the position of PD attendee.

In another situation, Al had shifted between audience and rhetor roles in a different way, when he influenced what PD provider gained access to the rhetor role in a situation where Al would be a receiver. Al said that the school’s administrators, in selecting math PD, planned to bring in “somebody from the textbook company, which to me usually is not the most effective professional development.” Al said that he and his colleagues prefer “ideas that I can use in the classroom right now,” rather “than a textbook company saying 'turn to page 247. Look at what we have in the textbooks.’” Al exasperatedly said, “Yeah, we know what's in the textbook. We've been using it for five years. Don't tell me what's already there. Give me new ideas.” Thus, Al said, “I went to our curriculum coordinator and just threw an idea out there. I said, ‘Hey, I know you have already put time and effort into selecting some candidates, but that to me is not the most effective type of PD….There's people out there who give like the mini ideas which you can use in your classroom,’” and Al suggested someone he knew of who could lead a PD session focused on methods that can be incorporated into lessons right away. When the curriculum coordinator followed his suggestion, Al felt that his “opinion was valued,” especially when she “shared with the other math teachers that this was my idea.” Further, his colleagues in the math department “really, really enjoyed the professional development that was offered.” Al felt there were two reasons for his colleagues' appreciation. One was simply that “they were excited because it wasn't somebody from the textbook company to tell us what we know already,” but the second was that it was clear that Al, a colleague, had recommended the presenter, and, according to Al, “people know my depth of knowledge for mathematics and stuff like that. The respect they had for me, it maybe even gave [the presenter] a better chance because it was a recommendation from a colleague and from somebody we work with.” Al’s demeanor in telling this story communicated his pride in having made a contribution that his colleagues found valuable—and that had been possible because his administrators had respect for him and saw value in his suggestion. Al’s influence over who had access to the metaphorical dais, as well as his influence over the topic and exigence addressed by the rhetor, led him–and, according to him, his colleagues–to embrace the audience role more enthusiastically in terms of paying heed to the text and being open to act upon it.

The shifting between rhetorical roles was characteristic of Al’s description of his use of Twitter for PD. Al gave an example from the day of our interview in which “somebody was asking how to do

something," and Al, reading their post, asked for more detail about their situation and the exigence they had identified and then explained a method of accomplishing their goal. Al shifted between audience and rhetor roles in the interaction, allowing him to share "a little bit of insight or the little bit of expertise that they need to go the next step." Al saw himself squarely in the position of provider, but he took both audience and rhetor roles in order to most effectively to help another teacher learn.

Rhetor Roles

While Al reflected extensively on the variety of ways he embraces the audience role–and the subtle ways it can be combined with the rhetor role–he also expressed enthusiasm for the ways he has accessed the rhetor role as a PD provider. Al was chosen to be part of a cohort of teachers who represent the company that created an educational technology tool he uses frequently. This allowed him access to "exclusive training" in use of the tool as well as how to give professional development" on its use. Because of that training, Al said, "I was lucky enough to be able to present something I've learned in detail and help other educators learn, which is…a new thing in my career." That role has led to other opportunities outside the educational technology company, such as being selected to lead conference sessions and being contracted to offer training in other districts.

When Al has full access to the rhetor role and controls the design of the rhetorical situation of the PD session, he equates his behavior to another rhetor role he is regularly cast in: classroom teacher aiming to "maximize learning." In a recent PD session, he said "I basically introduced myself, set the goals for the session, and because it was a short 50-minute session—I'm used to presenting at three-plus hours—I let the participants take the role of a learner" while he gave "some tips about how to use the tool and create what I call discourse in the mathematics classroom. And then at the end, the last couple of minutes we had a question and answer session." He found that the 50-minute timeframe meant he needed to "put a lot of planning and effort into it and try to answer as many questions and give as much insight as I could….As a teacher, if you have 50 minutes, you're probably hitting one standard, and as a presenter you're trying to hit like 20 topics in 50 minutes! It's really challenging to me." In the rhetor role, Al identified an exigence (or many!) that math teachers could address using this tool, selected information he felt would be useful as they did so, and crafted a text that he felt would best equip them to take action. The constraints of the situation–particularly in terms of time–made him feel that he had little choice but to use direct instruction through, essentially, a lecture format. In his discussion of his engagement with the audience role, Al had expressed disdain for this format (at least when audiences couldn't interact with the presenter or each other during the lecture), but had also described consciously trying to be an active listener when teachers led similar sessions. Navigating the

difficult choice of how to communicate a lot of information to adults in a limited time may be the kind of challenge that led Al to try to be a more engaged attendee when he is a PD attendee.

Al also takes advantage of the access Twitter gives him to the rhetor role. Al said, “I try to support as many educators as I can on my own, and I'm always trying to give ideas…I try to be an active role in helping others if I have some insight or some expertise to give out.” As rhetor on Twitter, Al shares his own teaching ideas in the form of descriptions, photos, and video tutorials. Al also takes on aspects of the rhetor role by retweeting good ideas shared by others and by agreeing to facilitate Twitter chats. Further, he said, “there's the one account, @teacher2teacher who, when people have questions, they try to share out the questions and let other educators answer it.” Al said that this account tags him frequently with questions arise for which he has expertise, and “when people have questions, I try to give my insight into what works in my classroom, and just ideas,…trying to help other educators out.” In each of these moves, as Al seeks to provide informal PD to Twitter users in a variety of ways, Al takes on aspects of the rhetor role, particularly by crafting a text that offers the audience a way to act on the exigence, whether that exigence was identified by Al, his audience, or a third party. His impulse to take these roles comes from Al’s own experience in the audience role: “because Twitter has made me a better teacher, I want to try to help others out there.”

Al’s conception of himself as provider both at in-person PD sessions and on Twitter was made evident by the way he bridges the two. In describing the 50-minute session in which he had struggled as provider to cover all the information he would have liked, he said, “After my session, I shared my Twitter handles. Some of [the attendees] followed me [on Twitter].” Al tagged those users on Twitter, asking if he could help further, and several responded with questions via Twitter. Al provided additional resources through the platform, essentially extending the rhetorical situation from their on-campus session to Twitter, where he continued to develop his text as rhetor.

Access to PD

Al brought up access not only to the roles of provider, receiver, rhetor, and audience, but also access to PD itself. Most PD events cost money, so funding is one barrier to access. Al found that shifting into the position of providing PD also gave him greater access to receiving it: “Recently since I've flipped and started actually being one of the presenters, usually they waive the fee for you to attend conferences…Because you're presenting, it doesn't cost your school any money, so they just need a substitute for the day. So it has allowed me to attend more professional developments.” If that “flip” hadn’t occurred, Al would continue to depend on district funding for PD events (or his willingness to pay out of pocket), which happened infrequently aside from in-district PD.

Access to Twitter PD, as with other PD, also depends on decisions made by administrators at his school. Al told a story in which the school had decided to block access to social media at school, even for teachers, because it was seen as a distraction. Al said, “I asked administration, ‘Can we unblock it for teachers?...and they're like, ‘Well, it's social media. We think it should be blocked.’ I had to defend my ideas because basically a couple times throughout the day I will check my tweet deck and just see what's going on and share ideas. Once I defended myself for about 5 or 10 minutes, administration within minutes had it unblocked. And now I get to basically check in on it throughout the day when I need to.” As Al saw it, part of gaining access to aspects of both audience and rhetor role depended not only on the design of the PD environment but also on being allowed by his district to enter the environment at all.

“Undesigned” PD

Al described in positive terms PD opportunities that were not designed–that arose naturally in the course of teacher life. For example, Al said, “Some of the best PD or learning experiences to me is just getting insight into other teachers' classrooms…one of my favorite lines is 'stealing teacher moves,'” seeing what other teachers “do that you feel comfortable incorporating into your own classroom.” He described two ways to gain this knowledge: observation and conversation. Al felt that teachers would grow a lot by seeing each other teach: “we could get a lot better educators just by observing each other” in the classroom. Second, as he reflected on learning he had gained inside his own building and during his attendance at conferences, Al said, “something educators need sometimes is just to talk” about their work, their experimentation, how they’d helped students learn, and what challenges they would like to overcome. Al cited Twitter as one of several places this kind of conversation can occur, because “it's really cool how people value each other's opinions and need each other's insight” on Twitter. Undesigned PD, in Al’s perspective, allows teachers to shift between roles as they speak and listen, bring up topics relevant to them at the moment, and reflect on the work they have done and hope to do. These situations are particularly characterized by the ways participants shift between rhetor and audience roles.

Community and Role-Shifting on Twitter

Al described a variety of ways he embraced different rhetorical roles in his efforts to build community among math teachers on Twitter. He mentioned crafting his own texts (primarily rhetor), reading others’ texts and selecting those he will amplify (both audience and rhetor), and using the like feature (primarily audience), to build community among teachers who seek PD on Twitter.

In discussing community on twitter, Al described ways Twitter allows for unintended and unexpected connections with audience in a way in-person PD sessions do not. “When you're actually in

a live PD in person," he said, "outside people can't really jump in" to the conversation, so the "people in the room are the people in the room, and you don't get outside influences." On Twitter, on the other hand, "unless you have a private account, which I don't, almost anybody can see your responses and anybody can jump in. So sometimes even people that you don't expect to jump in, other experts, can actually jump in the conversation to support it...And it's funny that sometimes like an author of a book who has something to do with it will jump in a [Twitter] conversation—you're like, 'Dude, that was cool!'" He was also plainly pleased that his voice as rhetor could be heard by people he respected who chose to take an audience role.

This encouragement of dialogue is Twitter's greatest affordance, according to Al. He said, "The interesting thing about Twitter is, sadly enough, compared to most professional development, it's a dialogue between people," he said. "And it's weird that social media and something that's electronic-based actually has more of an open conversation than a lot of the PDs I go to, you know what I mean? A lot of the PDs you go to, you're being talked at or information's being presented to you, but it seems like the Twitter chats and even when people tag me in stuff, it's a nice little dialogue back and forth between people." Without the ability to shift between rhetor and audience roles, Al believes Twitter's value as a PD resource would be diminished.

Ethos on Twitter

One theme that emerged throughout Al's discussion of his PD was the importance of ethos, both his own and others'. When it comes to formal PD sessions, Al perceived PD providers much more positively if they were current or recent classroom teachers than if they were textbook representatives, administrators, or full-time PD providers far removed from the classroom. Recent, in-depth classroom teaching led Al to accept a PD provider as understanding the realities of the classroom, from practical opportunities and constraints to the social and emotional components of engaging young adolescents with course material. He saw his own ethos as an important reason his colleagues accepted his guidance and ideas, and he described multiple instances when he embraced or rejected aspects of the audience role based on the ethos of the rhetor.

Ethos was of equal importance to Al online. Al told a story of beginning his engagement with Twitter under a different username that was intended to be funny; "I followed mostly athletes and all this stuff," he said, "and I started seeing some entertaining stuff about math education, so I started following that. Then people started following me and I actually had a colleague who was like, 'Um, what's up with your handle?' And I'm like, 'What?' and he's like, 'Do you want to be valued as a professional?'...So that's why I changed my handle to [@AlgebraAficianado] and started doing more of a

professional thing, interacting with other math teachers, other educators and stuff like that." Once he became a representative of the education technology company, Al started another Twitter account, as well, specific to that aspect of his identity; while both focus on math instruction, this one is specific to supporting teachers in using the tool. In both of his accounts—his renamed personal account and his account focused on the ed tech tool—Al has crafted a professional persona with the goal of being seen as a professional in the world of math education. The intended result of building his ethos in this way is to add credibility to his activity on Twitter (particularly in the rhetor role) and to contribute to his credibility in person as he engaged with the education community and shares his username in that arena.

The ethos Al built on Twitter contributed to his confidence as a professional, as well. He felt gratified that the ed tech company had received positive feedback from Twitter users who thought that Al's tool-specific account was run by the company itself. He also said, "It's pretty cool, too, when people direct message me about how [my Twitter activity] is really helping them throughout the school year and giving them ideas. It's a really cool thing to be supporting others in education." Similarly, his growing prominence in the community of math teachers on Twitter led him to express both pride and dismay as he sought to reconcile conflicting aspects of his self-image. "I made a post not too long ago about how I teach something, and that led to somebody in Europe putting me on some list, and now I have a bunch of followers from all over the place and now these people are asking me insight, and I'm like, 'I'm not— I don't have a master's. I'm not this kind of person!'" His ethos–as a voice on Twitter and a classroom teacher–had gained him a far-flung audience that respected him as rhetor and was eager to engage with his text(s), and while this pleased him, and while he had worked hard to build that ethos, he was still surprised to have that kind of access to the rhetor role without credentials conventionally valued in his workplace.

Similar instances occurred as the ethos Al built on Twitter followed him to in-person events. Al found that when he attended conferences, more and more strangers began greeting him by name. "In the math community," he said, "especially with this tool, I'm a pretty active person, so a lot of people follow me, and just so I don't keep my [Twitter feed] too busy...I don't follow all of them back, so I don't necessarily know all of them by name, but a lot of them knew me." Once again, while Al had conspicuously built his ethos by presenting himself professionally and consistently using Twitter's affordances to offer PD, he was surprised by the recognition he gained. It is likely that that positive feedback from the math teaching community arose at least partly because of the ways Al embraced a variety of roles on in person and on Twitter as he crafted and shared texts that addressed exigences,

amplified others' texts that did the same, sought to understand new concepts that could help himself or others, engaged with others' texts to which he felt he could contribute, and expressed support for texts he found valuable to his own practice or that of others.

CHLOE

How Chloe Embraces, Resists, or Otherwise Responds to the Roles She Is Given in the Professional Development She Experiences

Audience Roles in Non-Twitter PD

Chloe said that in most of the professional development she attends—that provided by her district or school—the event design casts her as a receiver of knowledge transmitted by a presenter; in other words, Chloe is frequently placed in the role of rhetorical audience. Chloe generally embraces the role of audience, engaging with it actively and with a critical eye, and varying her engagement depending on the rhetorical situation.

Reflecting on professional development in general, Chloe showed enthusiasm for taking an audience role. Chloe described eagerly learning from the PD provider throughout her first year of teaching and at several summer workshops she chose for herself, almost all of which cast her as audience. No matter the PD situation, Chloe said that she is "trying to get...useful takeaways" by understanding the text and, potentially, being persuaded to take action.

She also saw the audience role as an active one that is important to the progression of a PD event, which can stall if the audience is not responsive to the PD provider. She said, "I'm the kind of teacher who always speaks up when people don't want to, when they're awkward and uncomfortable. I'm always first to raise my hand." Chloe also showed awareness of the audience's role in the rhetor's achievement of purpose, and she described adapting her behavior to fit the rhetor's design of the rhetorical situation in order to support that purpose. She said that during PD at her school, "People will just sit there. That's the thing that bothers me. Everyone just sits there, and they're staring, and time's passing, and [the PD providers are] asking questions, they want you to interact with them, but everyone's just so burnt out, or in a bad mood, or thinking about their [students] or whatever it is. So I'm like, 'Okay, it's this. It's that.' I feel bad for them, the presenters. I mean they're here, and we're just sitting like bumps on a log. So I'll try to help move it along. I'll try to offer what I know and interact with them." The PD providers have designed these rhetorical situations, but the audience plays a major role

in how they unfold; Chloe recognized the audience's role in deciding whether or how to engage, and she was willing to embrace that role according to the rhetors' goals.

The audience role includes a range of choices and prerogatives, and Chloe's engagement with the role demonstrated that range. She said that as she has moved further into her career, she has turned a more critical eye on the PD she experiences: "I am a lifelong learner and I love to learn and challenge myself. And I don't think I'm perfect at all, and I don't want to have this attitude, but I can't help but feel— I sit in these trainings that are required from the whole staff and I'm like, 'Oh my gosh, I could lead this training so much better than this person.'" As she has gained expertise herself, she has found herself more often questioning the fittingness of the text and the credibility of the rhetor in each PD situation.

In these cases, she exercises all aspects of the audience role within the situation, from responding to questioning to disengaging. For example, "Sometimes I'll just ask a question like, 'Oh, okay, why does this matter? Why is it important?' Not to be a smart aleck, but you know I want to know, what's the importance of this? What's the significance that's going to impact my teaching? And if I don't see it, then I'm not afraid to ask a question." This questioning behavior was limited to certain situations, depending on the extent of her learning goals and the impact of her audience behavior. She said, "I usually won't be like that if it's a...required PD, because then I don't want the meeting to run over and you see all those meetings [run over because of that] one person who asked the question. But if...it ends at five o'clock anyways, then I'll ask." Similarly, Chloe sometimes exercises the prerogative to disengage, or partially engage. Sometimes, her administrators say, "Oh, remember, respect our technology," meaning that teachers should keep their computers and phones put away, and Chloe thinks, "I swear I'm listening to you, but I need to type this email." This seemed to be her response primarily when she did not deem the PD highly valuable and thought, "Oh, I could be doing so much right now."

Audience Roles in Twitter PD

While Chloe initially joined Twitter in order to take a rhetor role by sharing ideas from her classroom, she quickly "discovered, 'Wow, Twitter has a lot of really good PD on here,'" such as Mastery Chat. As Chloe described her discovery of the PD uses of Twitter, she explained, "Now I share with more frequency, but I also learn from others and gain other ideas...I can think of many, many things that I found on Twitter that I've implemented." Just as in person, Chloe embraced all parts of the audience role on Twitter, especially as she has progressed beyond her first years in the profession: "Before I would just say, 'Oh, I have a lot of great ideas. Let me just talk your ear off and share all my ideas.' As I have completed this [educational] leadership program and become an actual leader, now I'm like, 'Okay,

I want to soak up like a sponge from everyone around me. I want to hear what you have to say, because I don't know that. I already know everything in my head, but I don't know what you have to say.'"

As she looks to take that audience role on Twitter, she continues to exercise all parts of the rhetorical audience role, from choosing whether to engage to determining fittingness of the text to taking action (or not). She said that "it's 100% up to you" what to learn and how to respond on the platform: "I mean, there are things that I find that I'm like, 'Wow, this is trash.' ...Or other times I'll see something that I really like and I'm like, 'Oh my gosh. I'm going to implement this, I'm just going to tweak it a little for my kids. It's going to be great.' So I would say, yeah, 100%, take it or leave it, use it or lose it, you know, whatever I like, I'm going to take it." These choices are especially influenced by the lack of gatekeeping or vetting as people take the provider or rhetor role; tweets are "people saying what they think, so I'm going to take it with a grain of salt. You have to consider [that] this is not always data driven or research proven or it's not always black and white. It is someone's opinion that they're sharing." Thus, the audience's power to choose is an important part of ensuring that Twitter PD is valuable.

Rhetor Roles in Non-Twitter PD

Chloe expressed interest in taking the rhetor role and described taking the role when it was available to her in person. In some cases, PD events have cast her in the role of audience, but she has asked questions or made points in such a way that she enacted aspects of the rhetor role by addressing an exigence that she identified during the session. For example, Chloe describes a time when a PD's topic turned to games featured within an educational technology platform, which other attendees complained were distractions in class. Chloe, frustrated that the presenter was not fully addressing their comments, said, "'Okay. Well guys, you can switch these off,' because they were all like, 'Oh my kids didn't make their minutes because they were playing games,' and I'm like, 'Have them turn it off.'" The text she composed in the moment addressed an exigency related to use of the software in the classroom.

This method of ad hoc engagement with the rhetor role is only sometimes effective, Chloe said, because most of the PD she has experienced has been "just so presenter driven." Reflecting on a range of situations like that one, Chloe said, "It depends on the presenter. Some of them are like, 'Oh yeah, yeah, you're absolutely right.' Or some of them are like, [dismissively] 'Uh-huh yeah, we'll get to that.'" while others try to "reel back in, draw back in the reins" or "shut it down." Chloe's experience has been that while recipients have some ability to influence the direction of PD events, especially the text of the

rhetorical situation, the presenter has the power to grant or withhold attendees' access to that aspect of the rhetor role.

In other cases, Chloe was placed partially in the rhetor role, and she embraced that role to the extent that she had access. At one two-day conference, Chloe said, "I had a few things to say about Twitter and chats that some of the facilitators did not know, and they said they would like for me to share that" in a breakout session at the end of the conference, which the leaders attended. Similarly, Chloe was asked to contribute to a PD event on behavior management organized by school administrators, in which teachers did mini-presentations at stations while their colleagues circulated around the room; she said, "our behavior coach walked around, and she was like, 'Wow, that was really good. I never knew that.'" In both cases, Chloe did not have full control over the scope or setting of her text, but she did otherwise fulfill the rhetor role, and in both cases the PD providers for the larger event took the audience role in several ways, from influencing Chloe's composing to determining the fittingness of the text. Chloe embraced this mini-conference model of PD and had suggested it to administrators in different settings because she appreciated the access it gave her as a teacher to many aspects of the rhetor role.

Finally, Chloe has taken the rhetor role for a PD experience at her school. Her principal, pleased with her students' scores on state standardized tests, asked her to explain her math intervention practices, put together a list of ideas, and "get everyone on board with the most effective data-backed practices." Chloe felt that the session went well and provided good PD for the 20 to 30 attendees. Chloe is eager for more opportunities like this. "I feel like I want to take initiative," she said, but in most cases she does not have the authority to do so, as she did when teaching math intervention at the behest of her principal.

Chloe has tried in a few different instances to design and offer PD, taking on various additional aspects of the rhetor role. She has sought to offer PD in person within her school, a session on number talks that would have supported the school improvement plan, but chose not to pursue it because of red tape. She has also tried to persuade two different principals to hold a mini-conference at school, with teachers leading sessions on topics within their expertise, which Chloe believes is a more effective PD design: "I want to, you know, swap ideas. It's more a level playing field instead of sit and get. Sit and get is just a waste of time." From composing the text to crafting the forum in which PD occurs, Chloe is eager to take on aspects of the rhetor role within her district PD, but so far access has been an issue.

Chloe's access to the rhetor role has been much easier on Twitter, which does not present the same barriers. She said, "I would say definitely I give a lot more ideas online than ever in person...I try to

split it. But I definitely share a lot more there," because "I feel like I have a lot to say, so I like to put it out there." She does this by sharing resources and ideas and by answering questions: "I do answer as many of the questions that I think I have a good answer for that might benefit someone." Chloe even described a time she saw a teacher who was teaching the wrong standard for her grade level, and Chloe took a passive-aggressive approach to try to help the teacher discover her mistake. Chloe said, "The other day this math coach presented this long division lesson for fourth grade, and I knew long division is a sixth grade standard, doing it the standard way. So I reached out. I was like, 'Hey, I noticed that you taught it like this. And in my state, that's the sixth grade standard.' And so she reached back out and was like, 'Yeah, here's the standard' and linked it. And it was exactly like the [fourth-grade] standard I was talking about!" The math coach later deleted the post from Twitter—she may have realized her mistake as a result of her interaction with Chloe.

While Twitter's affordances give her essentially complete access to a rhetor role, she still regulates her own fulfillment of the role in response to internalized structures. Chloe told this story about a previous district event on Twitter: "last year my district's math department did a math chat and it was, it was literally three people. It was the facilitator, me and another teacher, because not a lot of teachers from my real life are on Twitter. So I can think of me impacting the design because I reached back out to the head of the math department. I was like, 'We need more Twitter chats. We need to get more teachers on this. I will initiate it. I will do it if you want.' And he was kind of like, 'Whoa, relax. We Had three people.' But he was like, 'Oh yeah, I'll keep you in mind. I'll keep you in the loop.'" Although Chloe could easily hold a chat for her district's math teachers on Twitter, she mentioned no thought of proceeding without the blessing of district leadership. Presumably this is because she considers her actions governed by her department's head's decisions when it comes to PD events for the department.

When in the rhetor role, Chloe showed high awareness of how both intended and unintended audiences perceive her text. Reflecting on her audiences at in-person PD events versus on Twitter, Chloe said, "I have to remember, too, if I say it out loud in front of a staff of 50 people, it's not like— no one wrote that down. It's not on the internet forever...So I would say that's something to be cognizant of more so online than in-person PD." While those online audiences include many other teachers looking to learn from Chloe's posts, Chloe specifically mentioned other audience members she is also cognizant of. PD leaders are one group; as an example, she mentioned the three originators of Mastery Chat who learned from her posts in the chat, saying, "I know I've sent out tweets out there, where they'll favorite it and they'll retweet it, and they'll be like, 'Oh my gosh, this is a great, [Chloe].'" In another example, she mentioned that her school administrators see her Twitter activity: "There's been a time or two

where I've said something like in a little chat, not even on my profile, and a principal will...bring it up. And I'm like, 'Oh my gosh. You saw that?' I mean, nothing bad, but they want you to know that they're watching you, you know?" Similarly, Chloe's math department head follows her account on Twitter, and she is highly aware of how he uses Twitter's affordances in his role as audience to her tweets. Chloe said, "Another thing that's interesting, too, is the value of a favorite versus the value of a retweet....Like my math department [head]— I'll tweet out what's happening in my classroom, and sometimes they'll like it, and I'm like 'Damn it. That was only a like,' and other times...they'll retweet it and I'm like, 'Yes, validation! They liked what I did.'" Chloe said that because this audience feedback came from the department head, "when something is liked or something is retweeted, it's a big deal, you know?" Chloe's reflection on intended and unintended audiences for her texts—and the power held by her audience by nature of the audience role itself as well as the individuals' roles in her professional life—highlight the complexities of the rhetorical situation of PD experiences.

Shifting between Audience and Rhetor Roles

Not only did Chloe embrace both the audience and rhetor roles in PD experiences, but she also described instances in which she shifted between the two roles readily within the same forum, particularly experiences in which Twitter was a primary or secondary forum. For example, she said, "I do answer as many of the questions [in Twitter posts] that I think I have a good answer for that might benefit someone, but I also do scroll through and read everyone's responses and try to see how their thinking compares to mine. And I love when someone can say something in a Twitter chat, where someone can change my mind about something. Either make me think differently or change my mind. That is fascinating to me. I love that." In other words, when she encounters a post seeking PD from other Twitter users, Chloe embraces the rhetor role by creating a text that provides that PD, and also embraces the audience role, learning from others' replies, as well—and being persuaded by those she finds credible.

Chloe also shifts between the roles of audience in in-person PD sessions and rhetor on Twitter as part of the same PD event. She noted that some "of the 'with it,' more of the 'now,' modern" PD presenters will ask attendees to tweet their thoughts during or after the session, saying, "This is our hashtag. If you want to tweet us out, send out your takeaways," which Chloe likes because she can "share out what's important to" her as a way to stay engaged. She finds this valuable because, she says, "I'm just sitting there, my mind's running a million miles per minute and I'm kind of bored." Being invited to create her own related tweets—taking the rhetor role by forming her own texts about the same topic—seems to give her a way to engage more actively with the in-person PD's content by taking

her own stance. Chloe also mentioned that when she shares “pictures of events and things like that during an actual PD,” those facilitators who see the event’s hashtag might “retweet...what you tweeted or they'll favorite it,’ taking on aspects of the audience role to Chloe as rhetor. Even when the event’s facilitators do not invite Twitter participation, Chloe sometimes takes the in-person audience role and the online rhetor role at the same time: “When I attend PD in person, I'll take a picture of my takeaways that I wrote down, and I'll post it on Twitter.” Whether encouraged or not, Twitter use during in-person PD offers Chloe access to a rhetor role, and she takes advantage of that access.

Working in the other direction, Chloe sometimes sees valuable information or ideas on Twitter that she considers beneficial to her in-person colleagues. “If I notice something good,” she says, “I'll even screenshot it and share it with my team, or share with my intern, or share it with someone who I think would benefit from it within the school,” shifting from an audience role on Twitter to taking on aspects of the rhetor role by sharing the ideas with other audiences who would not otherwise access the texts.

Finally, in describing her participation in Twitter chats, Chloe revealed ways that she embraces both the audience and rhetor roles. She pointed out that chat participants have many choices available for both composing and publishing their texts, such as a choice of how to interpret the question, where and how to post a response (using the reply, retweet, or tweet functions), and what media to use within the response. Chloe provided an example of the latter: “If no one's used a GIF in a while, I'll reply with a GIF, and then people will like it and they'll respond with their own GIFs and we'll go back and forth” communicating through GIFs, as opposed to expressing their thoughts in prose or other options commonly used on Twitter, such as hashtags or emojis. She also observed “different conversations branching off” and “different interpretations of the questions” as chat participants decided for themselves where to take the PD event in terms of content and point of view. Chloe felt that “people influence each other a lot more” when the participants in the PD (‘audience’ in a traditional PD event) have such influence on the direction of the event and the information and perspectives shared.

LAILA

How Laila Embraces, Resists, or Otherwise Responds to the Roles She Is Given in the Professional Development She Experiences

Laila made it clear that no matter what her position in a PD event–whether presenter or attendee–she takes on at least some aspects of the audience role. In many cases, she is seeking to learn from the event by attending it as a PD receiver and hoping to gain new information or ideas. However,

Laila said, “Even if I'm presenting, I'm still learning from others.” In many cases, as with her favorite PD event, the School Library Journal Leadership Summit, the design casts attendees as receivers of learning, and although Laila sometimes leads sessions, she said, “I don't want to be the one who's always up front speaking,” because she values learning from others. Laila seeks opportunities to take an audience role to texts that have something valuable to convey, whether regarding an exigence she’s already aware of or one she hasn’t yet discovered.

Audience Roles

When she is a PD event attendee, Laila embraces the audience role in order to hear not only from the PD provider cast as rhetor in the event’s design, but also from others who may take on the rhetor role or some aspect of it. Laila summarized things this way: “I honestly think it depends on the mindset of the people in attendance. From what I can say, I feel like about 90% of the sessions that I have been in, we've all been open minded to learning from everybody that's in the room.” She elaborated, “I've always found that there's something that the ‘presenter’ [making air quotes] may not have thought of, or it may not have been a situation that they've been in to be able to offer certain advice or expertise, but somebody else who's sitting behind me in that session has that expertise and they can share that.….I've taken away things from people in a session [whose] name wasn't on the program.” In other words, she happily takes on the audience role to whatever rhetors bring a valuable text to the dais, whether that is the PD presenter or another attendee.

She also embraces taking on an audience role when the event’s design casts her, as PD presenter, in a rhetor role. She crafts her presentation to ensure that she is not the only voice being hear in her session; she feels that developing a text promotes growth, so developing her own text promotes her own growth, and inviting attendee participation promotes their growth; in short, “the person doing the most talking is also the person who's learning.” Crafting her PD presentation in this way also ensures that she hears from others and gains insight from them.

Laila also reported choosing to take an audience role in informal settings where she could gain PD. Whether interacting with colleagues in her district or with other users on Twitter, Laila said that she looks for “ideas that I can gain from looking at what other people are doing in their area. So, whether it's classroom teachers or librarians, seeing what they bring to the table and how their students are interacting with the content is something that I'm like, ‘Oh, that's really cool.’” Laila eagerly embraced her opportunity to learn from others by serving as audience to their rhetor.

Laila embraced the audience role in many settings, but she felt she did so in different ways according to the rhetorical situation. At in-person PD sessions, she said, “I'm tracking the speaker,

whether it's the person who began the session or if it's the person sitting next to me at that point, I'm a lot more intentional because the people can see me. So I want to make sure that they understand, I'm giving them my respect and my attention." She described these behaviors as a signal to presenters that she is embracing the audience role and respecting the value of what they have to offer as rhetors. On the other hand, when she is reading her Twitter feed, seeking PD informally but still embracing the audience role, her behaviors differ: when she is "behind a screen and not in front of somebody, I feel a...little more kind of relaxed and comfortable, and that could sometimes lead to not being fully focused." It seems that those attentive-attendee behaviors may do more than support the rhetor; they may also help Laila embrace the audience role and get more out of the rhetor's text. That attention is important in an in-person session that she may be able to revisit only through handouts or notes, but Laila notes that she can afford to be relaxed when acting as audience on Twitter, because she can return to material she passed up the first time: "the best part of that is…if I want to, I can always go back later because all I have to do is just search the hashtag." When in the audience role, Laila described herself as adapting her behavior to the setting (including the people within it, who can or cannot see her, depending on the venue) and to how vital her attention is to her ability to access the information or concepts.

When cast in the audience role, Laila valued having access to some aspects of the rhetor role, especially selection of topic or identification of exigence. Many in-person PD events Laila had attended allowed attendees some choice in what they learned. For example, she described PD events within her district that included a range of sessions, so "you can think about what it is that you need–professionally, for your library, just for you…Whether it be the mental aspects, or the goal-setting aspect, having the freedom to choose those things is very important." While she couldn't compose the text itself, she could determine what subject the text should address in order to address an exigence relevant to her growth at a certain point in the school year and in her professional journey.

Similarly, Laila embraced the audience's prerogative *not* to attend to a rhetor, feeling that she was not judged if she deems a session "not really what you thought it would be, or…you're ready to go make it to the next one because it may not be offered at another time." Laila described exercising the same decision-making power on Twitter, using an example from the night before our interview; she had participated in the first several questions of a twitter chat, hoping to learn from the variety of Twitter users engaging with the topic, but then she thought, "Okay, it's time to bow out….There's nothing more that's happening that I can pull from this." Both in person and online, she embraced not only the

audience's role in taking in information from a rhetor, but also the audience's prerogative to decide whether to engage (or not) and whether to apply the information gained (or not).

While Laila did not feel that she affected the design of any structured event in progress, she did share an example of influencing event designers during the process of developing the event, or, in rhetorical terms, composing the text. For most of her PD experiences, especially annual conferences she participates in, surveys have invited participants to provide feedback on individual sessions and the conference as a whole. She reported that such surveys include questions such as "What did you gain most? What would you have liked to see different?" She did feel that feedback had had an influence: "I think there have been some times when…the design was changed because there was consistent feedback." She gave a specific example of a case in which a national organization's conference was "more focused on creating strands of content where they hadn't before. And I think that's something that came out of the previous [year's survey] because we had just learned about our standards and finding ways to really hone in on those, so [the next year's conference] was very focused on that." In this way, while the rhetor maintained the power to create the text, those cast in the audience role were invited to influence that creation process.

Rhetor Roles

Laila felt that she had access to the rhetor role in a variety of settings. She attended conference-style PD events that were "designed where I could be the deliverer or the receiver…It's open for you to submit an idea and say, 'Hey, I'd like to present.' There's always a call for people to present, even at our district level." She also felt that access to the rhetor role on Twitter: "From the Twitter perspective, I think we're all leaders. I think we're all leaders and we're all learners…Just because a person is moderating what's happening on Twitter doesn't mean that they're not a learner. Just because a person is participating in a chat does not mean that they are not a leader. I feel like sometimes we get caught up on the leader being the person at the top, and I'm using my air quotes here. But for me a leader is a person who's taking charge, for lack of a better way to put it, someone who is contributing, offering new ideas, bringing forth an atmosphere where everybody is included in what's being said or what's being done."

While Laila has led a number of in-person PD sessions, as well as a podcast, she did not describe her engagement as a rhetor in those roles. She did, however, discuss the many ways she embraces the rhetor role on Twitter as she seeks to provide professional learning for others. She had been asked to lead Twitter chats before, for example. Laila also described three areas in which she provides PD for others in Twitter through her tweets. First, she said, "some of it, from a librarian perspective, is more

collection-development-related, where people gain insight on what's happening, what books would be good, what's coming out. Especially since I get a lot of ARCs [advanced reader copies of new books]...So putting that information out there is something that's helpful for librarians in doing their job, in terms of collection development." In this case, she exercised the rhetor's ability to identify an exigence worth addressing (the need to grow a library's collection with newly published books) and crafted a text that encouraged her audience–followers who are librarians or have influence on librarians–to act on that exigence.

Second, she says, "The other aspect of what I put out there is what I'm learning each day in working with my students. And I say learning because while they're learning, they're still teaching me too. I'm learning how middle schoolers are, what they like, what they don't like, how they might interact with the lesson that I have planned. I might feel like it's a good lesson and they might be like, 'Nope, you tanked that one!' so sharing those successes and failures from different lessons" helps others grow. Here, she brackets the flow of events in her daily life as a school librarian and pulls out narratives that might serve as models (positive or negative) for her audience, which in this case might include Twitter users who interact with students in a variety of ways, from teachers to counselors, depending on the story she chooses to tell.

Finally, Laila models advocacy for other educators to show them how to become advocates. She said, "I recently tweeted to legislators because there's a need for our budget to remain the same at the federal level, because if we cut that budget, then we lose some funding in libraries, not only in schools but in the public as well. So I feel like awareness and advocacy are things that I share that help others." Her goal is for her use of Twitter for advocacy to help other professionals gain skills in this area; she said, "Advocacy is really important because a lot of people hear it, but they don't necessarily know how to advocate or who to advocate to." When they see, for example, what she tweets, to whom she addresses the tweet (@), who else she tags (@), and what hashtags she uses (#), the modeling can help others learn to advocate, as well, so her tweet does double-duty as both advocacy and PD.

In addition to modeling, Laila uses the posing of questions as a strategy to help both herself and others grow. She said that when something has happened at school or in her district that made her wonder about an issue, she will pose a question on Twitter about the topic, "because I don't have the answer, and other people may not, but at least we can start the discussion and maybe that leads us to an answer or solution." This framing of asking questions as a way of providing PD connects to Laila's belief that "a leader is a person who's taking charge," and "bringing forth an atmosphere where everybody is included," even if that leader is seeking to learn and is not speaking authoritatively on the

topic at hand. When she composes her tweets in this way, Laila does take on the rhetor role by determining what subject needs to be addressed and framing it for the audience, but she invites other users to contribute to the fuller development of the text that will provide PD; she is both leader and learner, in her terms. Even though she composed and published the tweet, then she reads others' responses to the question and decides what ideas she finds valuable, relevant, or worth acting on, she embraces the audience role.

Access to PD and Rhetorical Roles

Laila noted that funding can have a significant influence on the PD she and other educators can pursue. She said, "A lot of things I pursue on my own, so I spend a lot of time and money at conferences within our state and outside of the state." Thanks to the limited funding available for teacher PD (and thus the need to spend money out of pocket or look for other paths to professional learning), Laila cited the value of Twitter PD because of its accessibility. Laila said that "a lot of people may not feel [that Twitter] is professional development," but Twitter provides access to what others are doing in their schools. As such, Twitter can help fill the access gap, "especially because we can't always go to somebody else's school" or "have the funding to go to conferences or other events like that–[Twitter] is a great way to...see what other people are doing. And if you are growing from that, I consider that development." From Laila's point of view, part of seeking PD is not just deciding what to attend or whether or not to apply the learning, but gaining access to the rhetorical situation at all. Laila felt that some educators are eager to embrace the audience role, but hard-pressed to find an opportunity.

Laila said that she frequently sees teachers cast in audience roles without having full access to the role. She said that neighboring districts require an "astronomical number" of hours of PD, so "some people are looking for professional development because their district says they have to have this many hours." If extensive, relevant PD isn't offered and teachers have trouble obtaining funding for outside events, leave time to attend them, or both, teachers may attend whatever PD they can find, even if it is not "meaningful to [their] practice" and therefore "useless" because "if you're not taking it and putting it into practice within the next week, you're not going to ever do it because you've forgotten about it." Thus, teachers attending irrelevant PD ostensibly take an audience role while not actually being in a position to act on the exigence.

MARIA

How Maria Embraces, Resists, or Otherwise Responds to the Roles She Is Given in the Professional Development She Experiences

Audience Roles in Non-Twitter PD

The design of most of the PD Maria has attended has cast her in the audience role, with the PD provider as the rhetor. She described her role in PD experiences as "on the receiving end" of a transaction where information or ideas flow in one direction, from rhetor to audience. This is the case at "all the big conferences" and "anything that's within the diocese."

Rhetorical audience has the power to address the exigence, a concept that becomes complicated in the case of mandatory PD within Maria's school or district. While she may be cast in a receiver role, Maria described being required to apply the learning within PD mandated by her diocese, whether she agrees with it or not (not *deciding* whether to act on the exigence), because it is intended to bring "system-wide change." She gave an example in which the diocese brought in presenters to train the diocese's faculty on the use of Marzano's instructional strategies and proficiency scales. "I don't feel like I have any control over that, and I'm *for* that, I'm *for* the idea of standards grading and stuff like that," she said, "but I still think it's been terrible PD, and I still think we haven't really gotten what we should from it." While the concepts are ones Maria does want to apply in her classroom, the methods and accountability measures from the required PD have not met her expectations or aligned with her professional opinion. In other words, Maria has taken on the role of rhetorical audience in which she agrees with the exigence and wants to act to address it, but she rejects the validity of the text, specifically the way it proposes to address the exigence. However, she must act upon it, because her standing within her workplace depends on her doing so. Thus the design of the PD, including requirements placed on attendees, restricts Maria to fulfilling some aspects of the rhetorical audience role—specifically those related to an audience's power of choice. This limitation was highlighted by the contrast she mentioned in her description of how she uses Twitter for PD; on Twitter "I have more voice in responding, in what I want to be a part of, than, well, especially than my diocesan PD...I have no voice in that."

In contrast, Maria noted that when she has attended conferences that she paid for herself—not required or overseen by her district—she more completely fulfilled the rhetorical role of audience. For example, she chose what rhetors she would attend to, saying, "I'm choosing the sessions that I'm interested in and nobody else knows, you know what I mean?" This allowed her to select rhetorical texts

that addressed an exigence she saw in her own practice, as well as rhetors that she found credible. As rhetors all over a conference building present texts addressing exigences they have identified, Maria decides where and when to take on the audience role. Once there, she determines the fittingness of each text and whether to act on it. She sees this aspect of the audience role as both beneficial and detrimental to her development as a professional, since it can allow her blind spots to persist: "I think the problem with conferencing, too, is that you go to things that are interesting to you, but if you go to things that are interesting to you, you've probably already heard them and that's why they're interesting to you. So I'm trying to challenge myself to go— I teach accelerated kids, but I'm trying to challenge myself to go to more disability and equity, you know, things like that, that are outside my comfort zone." In this way, she is making conscious choices about which rhetors merit space on the metaphorical dais. Further, since she may be outside the discourse communities of presenters such as special educators or diversity, equity, and inclusion practitioners, she may encounter texts, exigences, and even language conventions that were not on her radar before entering the rhetorical situation created by the conference session.

Across all conference sessions, Maria also showed that she had the rhetorical audience's ability to choose what aspects of the texts to accept or reject, and how to apply the information in her classroom (or not): "My principal doesn't care what I do. He doesn't know anything that I'm experiencing. And so, you know, if I bring it back, I bring it back, if I don't [shrugs]." It is notable that when discussing her power to choose what to enact, Maria invokes her principal who, as her supervisor, typically controls what she applies from school-provided PD. She seems to embrace the power that lies in the role of rhetorical audience while seeing it as an exception to the rule of the more constrained audience role she fulfills in the other PD she experiences.

While the designs of conference settings allowed Maria full access to the rhetorical role of audience, they made it difficult for her to fulfill a rhetor role; she rarely provided learning for others at the conference because she was not cast in the role of PD provider. In discussing conferences, she said, "you go to so many sessions and sometimes you're interacting with other people...but if I'm with strangers I have a hard time kind of interacting with them." When the design of the event cast her as audience and she did not have social connections to open a path into another role, she found it difficult to be a rhetor. She reported that an exception occurs when she sits at a table with friends during a conference, in which case they discuss the topic at her table and Maria shares ideas that may lead to others' learning. Social connections seem to be able to counteract the event design's limitations on her roles to some extent.

Rhetor Roles in Non-Twitter PD

When a PD design did not explicitly place anyone in the rhetor role, Maria did take on aspects of the rhetor role. Maria saw herself in a version of the rhetor role within a PD experience underway at her school, where teachers met in small groups based on grade level and applied the knowledge they are learning through a larger PD program. While Maria did not make the initial choices by bracketing events and identifying exigence, within the small group setting she did contribute to the text: "I feel like I contribute only because we're working on proficiency scales and in our small group...we've had really productive conversations and some people who don't know the standards as well [as I do], I think they've taken a lot [from what I have to say]." The small group setting and absence of a PD-provider allowed for an ecosystem in which roles shifted fluidly and thus Maria frequently took the role of rhetor in order to share her expertise and ideas. Her perception is that her colleagues embraced the audience role in these instances, seeing her as a credible rhetor and accepting her text. As she described this situation, however, she emphasized that the audience in this rhetorical situation is "such a limited group of people," so she perceived her impact in the rhetor role as narrow.

Maria has participated in some events where she fulfilled the rhetor role as PD provider transmitting ideas to attendees. In these instances, the extent to which she has fulfilled aspects of the role has varied. In a few recent cases, she has made the choice to fill that role by proposing and leading PD sessions, as she had recently "started presenting a little bit...at the NCTM national [conference] twice, and another conference once." She said that on these occasions "there haven't been big crowds. And so I think I've shared and had an impact on a very small number, but hopefully that number at least got something from it." In these cases, Maria fulfilled all aspects of the rhetor role, from bracketing events and concepts and identifying exigence to composing the text for the purpose of moving the audience to action. It is unclear whether she is unsure of her impact because of lack of feedback from those in the audience role or because she lacks confidence as a rhetor or as a PD provider.

Maria also described times when the design of the PD event cast her ostensibly as rhetor in the sense that she was the provider in a conventionally designed PD, but she did not have full access to all aspects of the role. In these instances, she was asked to "be the presenter," which she said using air quotes, when some principals had attended a math workshop and were to deliver the content to their teachers, but Maria had attended the same workshop, paying for it herself, and, as a math teacher, understood the material better than the principals. Maria said, "My principal was the one who was supposed to present about it, and he was like, 'You know this more than I do. So can you do these slides?'" Maria had not made any of the preceding choices, from identifying exigence to composing the

text. “I kind of changed it a little bit,” she said, “but this is what I had to say and this is what I had to talk about...which has been a point of contention for me.” She also did not have the prerogative of choosing the time or setting for providing this PD, and in one case therefore shared this math instruction guidance with a group of people who only partially suited the role of rhetorical audience. In that situation, the attendees included all of the school’s teachers in grades K through 8, a portion of which did not teach math, were unable to act on the exigence, and thus did not fully fulfill the rhetorical role of audience. In another case, Maria simply felt that the text was not effective; “I'm not sure anyone got anything from it,” she said, “because I don't even think I got anything from it. And that was something I was interested in!” For Maria, having access to the provider role without being able to make the choices of a rhetor led not to empowerment or an opportunity to make a positive impact but to resentment and frustration over the choices she felt she could have made better if she’d been allowed.

The Power of Design in PD

In Maria’s experience, the design of the PD event had a significant impact on the roles she could fulfill and the extent to which she could fulfill them. She tacitly accepted that in most cases the rhetor had power over the design of the formal rhetorical situation, presumably because of the history and conventions of PD events. Thus the roles she could take or felt comfortable taking were limited by the rhetor’s choices in the design of the event. This was true even in the small group discussions she described, since they were a component of a larger PD program that was designed by the PD provider and prominently featured sessions in which the PD provider acted as rhetor and delivered ideas and information to teachers who were cast as an audience of passive recipients—recipients who then entered small group discussions about how to apply the information they had received. PD event design determined to a great extent what rhetorical roles Maria could or would fulfill.

When Maria talked about some of her most enriching experiences at conferences, she highlighted the impact of design when she discussed the impact of dinner conversation in which conference-goers share perspectives with one another, consider one another’s views, and examine their own thinking and experiences in light of those perspectives, shifting fluidly between rhetor and audience roles. While Maria felt that she had plenty of PD on and resources for developing great lessons, she found this fluid, interactive dinner-table PD a valuable opportunity for “reflecting on your role as a teacher or your role of, how you're caring for your students,” Maria finds this learning to be harder to come by, and its greater value seems to arise at least partly thanks to these organic settings where rhetors and audiences emerge without having been placed into roles by design.

Design, Twitter, and Rhetorical Roles

On Twitter, PD experiences are designed differently, and frequently not designed at all, as Maria reflected when she mused, “I don't even know who I would think about as being the leaders of the PD.” This variation in design affected the roles that Maria took in Twitter PD. As in traditional PD, she saw the audience role as her most frequently adopted. On Twitter, she took the audience role as she opened herself up to the ideas and information available from other users, ideas she could apply to solve problems or achieve greater success in her own teaching. In this role, she had found and applied so much PD that she said, “Anything that I do know is because somebody on Twitter...or somebody I met through Twitter told it to me...I mean honestly I don't know where I would be if I hadn't discovered Twitter. I would probably be the teacher that I complain about down the hall who doesn't know her standards and doesn't know any way to engage children.”

Because of the lack of design, Maria was able to use the choice-making power of rhetorical audience in a very broad way on Twitter. She could engage with rhetors who address exigences relevant to her work and choose to apply their texts immediately or keep them in mind for later: “I see a great idea, maybe I want to implement it...sometimes it's a resource...sometimes it's a lesson...And so sometimes you see something and you're like, ‘Oh yeah, I'm definitely going to do this right away.’ And sometimes you're like, ‘Well, maybe I'll try it next month.’ And sometimes there'll be like, ‘I'm just gonna put it in the back of my head, but I don't think it works for me right now.’” She can also enact the audience role by deciding not to engage at all: “There's also a lot of just scrolling by and you know, ‘Oh, there's an interesting article about quadratics but I don't have time to read it right now. I’ll just keep scrolling,’” an option Maria has because “there's no one holding you to any of it.” On Twitter, Maria has access to a full range of choices about how she takes the role of rhetorical audience, from not entering the rhetorical situation as audience at all, to engaging with the text but choosing not to act on it, to acting on it immediately or at another time. Maria sees this sense of choice as mostly positive, although she acknowledges that “sometimes it's like there's so much that you want to do it all, but you can't do all of it, so then you end up not doing any of it.”

While Maria readily identified provider and receiver roles she had taken in in-person PD, whose design made them clear to her (and which mapped readily onto rhetor and audience roles thanks to the transactional design), she described her Twitter participation in other ways. Maria said that when it comes to Twitter PD, she will sometimes answer people’s questions “when I feel like I know what I'm talking about” (in other words when she deems *herself* a credible rhetor) but her “main role is the connector” between nodes in the ecosystem of the rhetorical situation. She elaborated, saying, “I may

not always be able to give people answers, but I am really good at knowing who to connect them to, to get the answers...I'm pretty good at remembering when somebody posts something, who posted it. And so two weeks later when someone's like, 'Who posted that thing about whatever?' I'm usually, 'Oh, it was so and so, here it is.'" In some cases, she takes on aspects of an audience role by reading tweets and understanding how they address an exigence, and she later takes on aspects of a rhetor role by providing (another rhetor's) text that addresses an exigence to an audience in a position to act on it. In other cases, she connects audience not to text but to rhetor, letting Twitter users know who has recently offered messages that address their needs. This role as connector highlights the usefulness of an ecosystem model of rhetorical situation, as the connections between many nodes are highlighted as vital to the way the situation plays out.

Another complex way that Maria takes un-designed rhetorical roles on Twitter is by asking questions to spur discussion. She said, "I don't know if it's a confidence thing, but...I'm much more willing to ask questions and put them out there that then people can discuss around" than to post statements or claims for others' edification. Posting questions and seeking other Twitter users' responses could be seen as primarily taking an audience role, in the sense that ideas and information will be received, considered, and acted upon (or not). However, by identifying, bracketing, and framing an issue in which she sees an exigence, Maria is taking on an important aspect of the role of rhetor. Further, if her purpose is at least partly to introduce an idea "that people can discuss," then she may be acting as a rhetor whose text is framed as a question as much as she is acting as audience seeking needed input. Maria implied as much, saying that she is "more of an asker than an answerer" but that "'there's learning in that" for other Twitter users.

Maria did describe a period of time when she more often took on what could be identified as a rhetor role. At earlier points in her use of Twitter, she was "super, super involved with middle school math chat." Maria saw the organizers of the chat, who selected the topic each week and framed it within the preselected questions, as being in the position of PD provider, but she described herself as "a very constant participant in it." The organizers "could count on" her to participate in the chat by answering the questions they posted and engaging with other Twitter users on the chat. As a participant in the chat, Maria did not have a rhetor's prerogative to bracket particularities in order to frame an exigence, but she did take on some aspects of the role by determining what information was both relevant and important within the given scope and posting her own ideas on what might solve a problem or take advantage of an opportunity. Maria said that despite the chat leaders' role as PD providers, "we were kind of like all in it together" and "certainly there was learning from the leaders as

well" as they interacted with tweets posted by Maria and other participants on the topics they introduced, placing themselves into audience roles.

Maria also took on aspects of the rhetor role on Twitter simply by explicitly seeking to build her ethos. She said that she created a Twitter profile specifically for professional use (in addition to her personal account, in which she follows celebrities and athletes), for which she selected a teaching-related username, profile photo, and profile text. Maria intentionally crafted this Twitter profile to represent her as a professional educator, an identity that accompanies each post she makes and influences how she is seen by other Twitter users, particularly those who know her only on Twitter, of which there are many, according to Maria.

Rhetor Roles and Self-Concept

Maria described complex relationships with the rhetor role in different settings: in school-provided PD, in conference-style PD, and in Twitter PD. These differences lie along rhetorical fault lines that come down to the role of the audience within the rhetorical situation, whether by design or by lack of design.

First, consider Maria's experience as an emerging rhetor in conference and other non-school, in-person PD settings. In some ways, it offers a microcosm of the field view of rhetorical audience, in which the audience influences the rhetor's conception of what is worthy of saying and how it ought to be said. After she had attended math conferences regularly and established a presence in the math community on Twitter, people started asking when she herself would present, but Maria rejected the rhetor role because she had neither exigence nor text; nor did she grant herself space on the metaphorical dais based on her perception of her own ethos. A key part of her initial resistance to the role seems to be that she perceives her identity as a teacher to be separate from those that often act as PD providers, but that identity meant something different for her friends on the conference circuit—something that lends her credibility as a rhetor. She said, "Most of my friends are [instructional] coaches, county people, consultants, whatever, and so as the token classroom teacher among our friend group, everyone's like, 'No, everyone needs to hear what you have to say, [Maria].'" Later that year, a professor she knew from Twitter and Twitter math camp invited her to speak with him, saying "'I think what I have to say needs to be supported by an actual classroom teacher, and it's clear that your voice is one that people want to hear.'" While the personal interest in Maria as a presenter does not have particular implications from a rhetorical perspective, the fact that he chose to include a classroom perspective in addition to his research perspective because of his audience's values does demonstrate how audience may influence the crafting of a text.

Maria reported that the event “was terrifying” and didn’t go particularly well, but it did lead Maria to apply to present on her own at future conferences. Since then, Maria has presented with others (although not yet alone). As such, she has gone through the process of identifying an exigence, preparing a text, and leading conference sessions, stepping into the traditional rhetor role within the design of traditional PD. When Maria shared that she would be an invited speaker at an upcoming conference, she said that it “was a big deal” for her, and for her it seemed to validate her appropriateness for the rhetor role, no matter how she perceives herself.

The journey she took from seeing herself firmly in an audience role within conventionally designed PD to having something to say as a rhetor highlights the role that others in her group of conference and Twitter peers played. As she put it, “My Twitter community, without them this never would be something that I was interested in. And so, because they valued what I had to say and pushed me to do something that I wasn't really comfortable with, I have shifted into that role.” They determined what information and perspective was valuable to them, and they explicitly influenced Maria to see that value, as well. As a result, Maria came to view her perspective as a math teacher as worth sharing, and ultimately she identified exigence, crafted texts, and shared that perspective within the role of rhetor to an audience of conference peers. While the field view of audience focuses on the sharing of ideas and establishment of values and conventions within forums, not in conference rooms, across bars, and around dinner tables among specific groups of peers, Maria’s experience does give a window into how audience as a field influences a rhetor in a variety of ways, not only in the composing of a text but also in the fulfillment of the rhetor role at all.

Maria’s experience with the rhetor role in her other two settings—on Twitter and within her school diocese—had been more constrained because of aspects of the rhetorical situation in each. Maria had a complex view of her own credibility on Twitter. On one hand, she reported saying the following to her vice principal: “‘Look, out in the Twitter world, I'm special. People know me and people think I have things to offer and I have this reputation, and then I come to school and nobody cares that I know all this stuff.’” At another time in her interview, Maria said almost the opposite: “Within my school and within my district, I'm the math expert, whereas when I'm on Twitter, I feel like I don't know anything.” Further, she expressed trepidation about audience response to any text she might share in a rhetor role on Twitter, saying, “I don't know if I'm right or if my opinion is the right opinion to share and I don't want to get attacked if I say something that's not exactly right.” While the design of traditional PD might lead an audience to embody (at least outwardly) a fairly passive role as receivers of information, Maria seemed to feel that in Twitter PD, with its lack of design and broad reach, the (unpredictable)

audience was more likely to shift into a rhetor role and contradict or criticize her text, in turn shifting her (unwillingly) into an audience role for critical messaging. For these combined reasons—concern over credibility and unpredictable rhetorical roles—she generally shied away from making assertions, instead taking more nuanced versions of the rhetor role through questioning, relating personal experiences, or sharing resources.

Within Maria's school diocese, unlike in either of the other settings, she has full confidence in her potential credibility were she to act as rhetor in professional development situations. She described herself as "small potatoes" in the Twitter and conference world but asserted that the knowledge she had gained had brought her "to the point where I wish that I could do PD at my school because I have so much to share and I want people— I want to be the math school in the diocese!" Thanks to Maria's own growth as a teacher thanks to effective PD, she had become more invested in making good PD available to others; Maria said, "My whole vision of myself and my role has really shifted. So even though I see myself more as a recipient, I now have pushed to have this desire to share and to be the one, you know, leading it." She had identified an exigence (improving math instruction in her school and, in turn, district) and felt that she had a text to share (knowledge gained through self-funded and Twitter PD), but in this setting, the rhetor role was out of her reach; "I don't have any opportunities to do that," she said, because teachers aren't "willing to make time, and the principal's not willing to make time in our PLC schedule" because he prioritizes reading and writing, "and I'm just like, 'Aaah, let me teach people something!'" In other words, the audience who could address the exigence, from classroom teachers to school-level administrators, was not willing to give her space on the metaphorical dais. The rhetor role that she generally resisted on Twitter (where she defined her own roles) and had slowly begun to embrace at conferences (where peers have assured her that she had something to say) was denied her at school thanks to the power of audience. Maria's "Aaah" moment provides a perfect example of a rhetorical situation in which "all parts are not only interdependent but mutually defining" (Phelps 32); Maria's lack of willing audience kept her from taking a rhetor role at school.

Maria's varying and complex engagement with rhetorical roles, especially that of rhetor, was intertwined with her evolving sense of herself as a professional in her field. Simultaneously she felt like a neophyte compared to others on Twitter, a valued and valuable contributor on Twitter, an attendee of PD who would never be a presenter, a teacher in a world of administrators who perhaps *does* have a perspective to present, and an educator whose expertise is outpacing the rest of her district. In turn, this sense of self influenced Maria's response to PD experience design. When the design of PD kept Maria from accessing all the behaviors of rhetorical audience or from accessing the rhetor role at all, she felt

stifled. At the same time, the lack of design in Twitter PD made Maria hesitant to act as rhetor thanks to her inability to predict how her audience may shift roles at any moment, unlike the comparative predictability of rhetorical roles at traditional PD events. Overall, Maria's willingness to engage and ways of engaging with rhetorical roles were both influenced by the design of the PD experience (or lack thereof) and her perception of herself within the rhetorical situation.

HOW DO TEACHERS EMBRACE, RESIST, OR OTHERWISE RESPOND TO THE ROLES THEY ARE GIVEN IN THE PROFESSIONAL DEVELOPMENT THEY EXPERIENCE, BOTH USING TWITTER AND IN OTHER SETTINGS?

Although case studies cannot be used to make generalizations about populations (e.g., teachers), they can offer insight on similar situations. In other words, this study cannot reveal how all teachers respond to the rhetorical roles available to them in PD. However, observing patterns among these four participants can give insight on what kinds of responses might be evoked by this type of situation (i.e., PD-inclined teachers entering a variety of PD-related rhetorical situations).

All four participants had experienced a variety of roles in PD, both in person and on Twitter. The participants responded to these roles in a wide variety of ways that seemed to depend on both the content and the context of their PD. The fluid and shifting ways the participants enacted these roles is in line with the view of a rhetorical situation as an ecosystem, with roles not being fixed based on design so much as functions that can be carried out in shifting or layered ways.

All four participants embraced the role of receiving PD on general principle because all are eager to grow as professionals, and thus had embraced the audience role in in-person PD on many occasions, perhaps demonstrating Burke's assertion that the audience may of its own accord seek identification with the rhetor and the text. In most in-person experiences, the participants were cast as audience in events that were designed based on rhetor-centered concepts of rhetorical situations, with the rhetor crafting the text to influence the audience, and conceiving of the audience as receivers of the text and its influence. The predominance of this model in the participants' experience included many instances in which they had chosen to engage with non-required PD in an audience role. Further, several described specific behaviors of attentiveness and purposeful learning, such as giving non-verbal feedback to the speaker, taking notes, and identifying ideas that could be put to use in their classrooms. Their participation in the audience role in these ways may be an example of Bitzer's assertion that the discourse tradition of a field perpetuates itself; because the participants have frequently experienced the audience role in a certain way–on the receiving end of a transaction–they expect to experience it

that way again and thus find it fitting when they do. Viewed through another lens, the participants' description of behaving in ways that would help the rhetor achieve his or her purpose may be seen as examples of Black's implied auditor or Iser's related implied reader, as the PD attendees take cues from the PD design and seek to fulfill the role that would best serve the PD's successful execution.

At the same time, all described times or ways they had resisted or sought to shape the way in which the audience role was designed to play out. If, as McGee articulates, the rhetor's text presents not only an exigence in need of addressing but also a vision of a united audience who also sees that exigence, the individual educators in a PD experience are expected to share an ideological connection oriented toward the addressing of that exigence. However, the participants described times when they spoke up to question the rhetor's text or contribute to it or when they rejected the text by leaving low-value sessions or tending to other work tasks during a session. As audience, they (not the occasion itself, as Bitzer proposed) were the determiners of whether a text was fitting, and as nodes in the ecosystem of the rhetorical situation, they responded by shifting out of the audience role to some extent. These choices call into question (or at least highlight an exception to) Park's assertion that the rhetor "carefully defines a public attitude or state of knowledge in the way that best creates an exigence for the argument to follow…and generally readers tolerate these fictions" (253). On the contrary, these participants stepped out of the audience role to whatever extent they could, by either shifting into a rhetor role, not attending to the text, or abandoning the situation.

While the rhetor has the power to bracket a topic and craft and present content, the audience has the power to attend (or not) and to act on the exigence (or not). All participants pointed out that their district or school had the power to determine whether they attended PD sessions, because leaders had the power to (or not to) offer, require, fund, or provide time off for PD experiences. While the participants did not have full access to the audience's prerogative to attend, several did note their ability to choose whether to attend *to* a session. For the most part, participants also felt they had the choice whether or how to put the content of their in-person PD into action, demonstrating Guskey's finding that teachers decide whether to continue practices that work for them or abandon ineffective ones for new methods. However, Chloe and Maria noted a significant exception: PD related to district- or school-mandated instructional or curricular programs. While both certainly did not embrace the removal of an audience's power to choose whether to act on the exigence, their response was nuanced by an appreciation for some aspect of the text in each case.

The nature of rhetorical situations is organic, with functions such as 'rhetor' and 'audience' defined by relationships that may shift as the situation unfolds. The participants described PD events in

which this shifting was built into the design. For example, the design sometimes invited attendees to take on some aspects of the rhetor role, such as choosing what sessions to attend and therefore selecting a topic from a menu or having an opportunity within the larger event to teach other attendees and therefore help create the text of the event. All participants embraced these opportunities to access aspects of the rhetor role while cast in the audience role, whether because they craved that access and usually faced barriers, because they found these kinds of participation more engaging than a conventional audience role, or because they valued the social connection provided by this expansion of the audience role (or a combination of these). Either way, all participants found these types of participation more rewarding, engaging, and empowering than simply listening to the presenter. What was unclear from their descriptions of these sessions, however, was whether these moments of exercising choice or sharing expertise were designed as ways to invite the participants into the rhetor role or simply as ways to better prime the audience to receive the message crafted by the rhetor in designing the event. Similarly, it is unclear whether the concept of implied audience influenced these outcomes–in other words, whether the participants' behaviors when given access to aspects of the rhetor role fit the expectations of the rhetor inherent in the event design, or deviated from them.

All four participants had gained some access to the rhetor role and generally embraced that access. They most fully embraced the role when they had a rhetor's full ability to identify and bracket topics of value and craft and deliver a text that could benefit others. While no participant described ways they resist the rhetor role, some did chafe against having strictly limited access to the role, such as presenting a topic or text crafted by someone else or being assigned an exigence along with an audience who could not act on it. In reflecting on the rhetor role, all participants also emphasized that those in the rhetor role in PD can take on aspects of the audience role by seeking to learn from those around them, which highlights the layered nature of rhetorical roles within the ecosystem of rhetorical situation.

On Twitter, all participants embraced both the rhetor and audience role, and all pointed out that these roles are fluid and that, since their Twitter activity is voluntary, they do not enact any role they do not choose for themselves. The fact that the participants used the like affordance so much more often than any other highlights the fact that receiving PD is, if not their primary purpose in using Twitter for PD, certainly their most frequent role. Further, although both the like and reply functions do include some aspects of the rhetor role, in that they achieve a purpose with an audience, the preponderance of likes and replies among these four educators implies that they embrace the audience role in the sense

that they read others' posts and demonstrate their attendance to them by clicking the like button or expressing thoughts in response to what they have attended to.

The combination of sharing or telling as the most common function of tweets, retweets, and retweets with comment and teaching and learning resources as the most common topic implies that when the participants post to Twitter for their followers' viewing, they are often taking the role of PD provider. While tweets, retweets, and retweets with comment occur within a social network, where the participants are likely highly influenced and perhaps responding to posts to which they serve as audience, these affordances feature the rhetor role most prominently, and the participants embraced the rhetor role by selecting valuable information and crafting a text to influence the audience's thought or action. This embracing of the rhetor role is further demonstrated by the sophistication with which the participants crafted their tweets using a wide range of affordances.

On Twitter, where all participation is by choice, there was no evidence of participants resisting the rhetor role. However, in some cases they did craft their messages in nuanced ways that downplayed their prominence as the rhetor, such as by retweeting (with or without comment) others' posts using methods that foregrounded the other Twitter user. In this way, even as they accessed the role of rhetor, they also amplified another rhetor, often as a way of achieving their own rhetorical ends, such as sharing positive messages about themselves without undermining their ethos by bragging.

Finally, over time, experiencing PD on Twitter reshaped participants' expectations about the preferred characteristics of a rhetorical situation of PD. In PD as in all rhetorical situations, "communicative acts simultaneously depend upon and reconstruct existing contexts" (Branham and Pearce 19). Here, a continual need to improve and hone instructional practices through PD (context) was influenced by repeated experience of Twitter-based PD in which the participants identified relevant, important topics and either sought or offered PD accordingly. Thus, instead of simply reinforcing their expectations for future PD, as a conference might, their Twitter PD led them to see such aspects as identifying relevance or crafting and sharing their own texts as key features that should characterize effective PD in the future, thus reconstructing the context in which future rhetorical situations of PD would occur.

CHAPTER VII

CONCLUSION

INTRODUCTION

Most research on the professional development of educators takes the perspective of the PD provider, school district, or school administrator seeking to change teachers' behaviors in terms of instruction or classroom practice. In doing so, it most frequently theorizes PD as a linear process in which the PD provider transmits learning to PD receivers, who then enact the learning in their professional practice. Even when best practices such as interactive activities and reflection are included to boost engagement and internalization of the new knowledge, this conceptualization is often still in place.

In this study, I examined whether applying a different lens and a different conceptualization of PD events or experiences would give useful insight on the professional development of educators. I conceived of PD experiences as rhetorical situations and examined the rhetorical roles the participants were cast in or took for themselves in both in-person PD and PD on social media. My goal was to discover how using the lens of rhetoric to study teacher PD could add dimension to a field characterized by a pursuit of effectiveness in positivistic terms. In taking this approach, both the research and this resulting document have straddled the fields of education and rhetoric in terms of methods, language, perspective, and audience, with the hope of speaking to and being useful to both rhetoricians and educators.

SUMMARY

Through a set of four case studies of individual educational professionals, I sought to understand how educators perceive their roles in the in-person professional development they have experienced; how they make use of Twitter's affordances for the purpose of PD; how they embrace, resist, or otherwise respond to the roles they are given in the professional development they experience; and how they use the affordances of Twitter to shift between rhetorical roles during PD-oriented Twitter use. I carried out a collective instrumental case study with a holistic design structure. Within each case, I used two data types: 1) semi-structured interviews to gain insight on the participants' perceptions and lived

experiences regarding professional development and Twitter, and 2) digital micro-blog activity on Twitter to gain insight on the ways participants used Twitter's affordances and took rhetorical roles.

MAJOR FINDINGS

While the results of this set of case studies are not generalizable to all educators, they do have implications for similar situations, particularly for educators motivated to pursue PD on their own and interested in social media, and for educational leaders or PD providers offering or influencing PD events that serve educators who, like the participants in this study, bring their own experiences, expertise, and perceptions that affect their engagement with PD events. The findings, including answers to the research questions as well as the aspects of rhetorical theory that emerged as most valuable in using rhetoric as a lens for educator PD, are specific to these cases but can also point toward the kinds of questions or look-fors that might inform additional research on the topic. Furthermore, the recommendations provided here are not definitive characteristics of good PD, but a set of reflection points or perspectives to consider in making choices related to PD.

This study pursued four research questions regarding educators' professional development and the roles they take within it:

- How do educators perceive their roles in the in-person professional development they have experienced?
- How do educators make use of Twitter's affordances during everyday PD-oriented Twitter use?
- How do educators embrace, resist, or otherwise respond to the roles they are given in the professional development they experience, both using Twitter and in other settings?
- How do educators use the affordances of Twitter to shift the rhetorical roles they assume in Twitter-based professional development activities?

Within the scope of this interview- and Twitter post-based study, these questions allowed for a layered look at the "what" and the "how" of the participants' engagement with rhetorical roles in PD.

The participants had all engaged with extensive PD, most often as receivers of the learning, but to some extent as providers. Themes of their perceptions of these roles focused on the relevance of the learning to their practice, the credibility of the provider, the amount of choice the participants had in the content and application of the PD, and access to both PD itself and roles within it.

All four participants used Twitter as a tool for receiving and providing PD, making use of a variety of affordances to do so. All four participants used the like feature extensively, placing themselves frequently in the receiver role, but all also put the tweet, retweet, retweet with comment,

and reply features to use as they composed and amplified texts for a variety of purposes on a variety of topics. The most prominent purposes and topics varied by participant, but sharing information such as teaching and learning resources or educational practices was prominent among them, demonstrating the participants' willingness to provide PD on Twitter.

The participants' descriptions of their engagement with PD demonstrated a complex relationship with the rhetorical roles in which they are cast in PD, as well as varied enactments of those roles. For example, the participants embraced the audience role in PD because they were all eager to grow as professionals by gaining valuable knowledge and learning new methods based on current research. They also embraced the audience's prerogative to choose whether or not to give attention to a text, as they described leaving sessions or checking email during them. Similarly, the participants embraced the rhetor role, as all were eager to compose and share texts that would help other educators grow. That said, all participants expressed frustration with being cast in a rhetorical role to which they did not have full access, such as not having the audience's prerogative to decide whether to act on the exigence, or not having the rhetor's full power to determine the content and form of the text being composed and presented.

Finally, the participants used Twitter's affordances in complex ways to fulfill a variety of nuanced rhetorical roles. These included clear rhetor and audience roles as they provided or sought PD, as well as uses that combined aspects of rhetor and audience or shift between the roles during an interaction. They took these roles in varied ways across the Twitter functions (tweet, retweet with comment, retweet, reply, like), and while these functions lent themselves to particular roles, the participants' use of them did not map cleanly from one to another (for example, tweets did not solely demonstrate a rhetor role and replies did not solely demonstrate an audience role). The composing tools of Twitter, from text and punctuation to emojis and gifs, were used not only to communicate a message but also to influence the audience's perception of the participant. Taken together, the participants' use of the affordances of Twitter revealed complex engagement with aspects of the rhetor and audience roles–engagement the participants chose on their own terms as they selected what aspects of each role to embrace.

RHETORIC AS A LENS FOR TEACHER PD

The rhetorical lens as applied here, using an ecological understanding of rhetorical situation as a conceptual framework, proved very useful. It revealed that the participants in this study engage with PD in complex ways that may not have been apparent when studied through a different lens, or

atheoretically, as in most PD literature. Viewing PD as a rhetorical situation operating like an ecology, with a variety of nodes and connections influencing one another, brought to light the prerogatives that lie with the functions of rhetor and audience, and the way those prerogatives might be accessed in varying combinations by individuals when they encounter PD. While power may seem to rest in one node, the interdependent nature of an ecology means that shifts in any one area affect the extent to which another node achieves its goals, as when participants cast as audience determined a text not fitting and chose not to attend to it or act on the exigence, thus preventing the rhetor from achieving their goal. Applying the rhetorical lens not only recognized that such an action might take place, but also allowed those choices to be interpreted in a way that centers on the audience role, as opposed to, for example, centering on the PD provider and viewing the behavior as unwillingness to learn and grow as a professional.

The greatest challenge in applying the lens of rhetoric to two different data sources across four participants in this study lay in the complexity of the rhetorical theory related to rhetorical situation and, beyond that, the vastness and depth of the theory that underpins it. The study called for a tool for applying that theory accurately, consistently, and through a manageable process. The taxonomy created for the purpose in this study could be used to examine the shifting rhetorical roles of rhetor and audience in other rhetorical situations. The taxonomy succinctly expresses a set of “look-fors” that put into practice the work of a number of theorists in a way that can be flexibly applied to a complex, indeterminate set of events without losing the theoretical focus. This taxonomy appears in Table 4.

Table 4: Prerogatives of the rhetor and audience as nodes within an ecological understanding of the rhetorical situation

The "rhetor" and "audience" roles are not labels for individual participants but functions within the ecology of rhetorical situation. The characteristics of each may be fulfilled or abandoned independently as a situation unfolds. The roles are not defined by individual identity or event design, but by how the aspects of each emerge, fade, and combine. The prerogatives of each role are as follows:	
In a rhetorical situation, the rhetor	encounters an indeterminate landscape of events, people, texts, and so on
	observes particularities of events occurring
	chooses how to punctuate or bracket them in a way the rhetor perceives as a coherent whole
	identifies exigence from their perspective
	is influenced by discourse community(ies) and, potentially, audience needs or expectations
	creates a text that aims to respond to the exigence by compelling the audience to make the decision or take the action that addresses the exigence.
In a rhetorical situation, the audience	includes those who have the ability to respond to the exigence by taking action to solve the problem, remove the obstacle, or perfect the defect that is the impetus for the creation of the rhetorical text.
	determines whether the rhetor is sufficiently credible to be granted space on the metaphorical dais.
	may see different exigences in the same particularities or bracket events differently than the rhetor does.
	determines fittingness of a text.
	is influenced by discourse tradition, which affects audience's expectations and judgment; the audience may deem that tradition appropriate to follow or break.
	ultimately responds to constraints and decides to act (or not) to address the exigence.

The power of rhetoric lies in the way it can elucidate (or sometimes complicate) communicative interactions that unfold every day. Capturing the powerful theory of the field in tools that can facilitate application through research (and even everyday work, such as planning a PD event) helps the field fulfill its potential.

RECOMMENDATIONS

Recommendations for Educators Using Social Media for PD

The participants' use of Twitter in this study can act as a window on the use of social media in general for PD. All four have found the practice enriching and rewarding in their professional lives and for their growth. While specific platforms may come and go over time, social media outlets are likely to be good sources of growth for other educators. Based on the participants' use of Twitter affordances,

educators seeking to grow professionally through the use of social media should consider the following ideas.

- A social media identity is often an extension of an in-person identity. Consider how username, feature use, language, images, and other choices contribute to your professional identity, in both your own eyes and others'.
- In order to build a community of learners, use the platform's affordances (e.g., Twitter's tagging and hashtag features) to connect with other users with similar interests or goals.
- In order to compose messages both efficiently and creatively, use the platform's affordances (e.g., Twitter's text, emojis, images, gifs, hashtags) to communicate in a variety of ways.
- Social media gives everyone the microphone. Use it by thinking of yourself as an expert providing PD to others. Your expertise and experience can be of value to others, no matter the length of your career.
- At the same time, think of yourself as a continual learner seeking PD from others. No matter your expertise or experience, there is always more to learn.
- Social media gives everyone the microphone. Critically consider all PD-related content, as it is more likely to be based on individual experience than on research.
- Seek opportunities to join conversations (e.g., Twitter chats). PD-oriented conversations on social media can provide new ideas, form new relationships, and provide opportunities to reflect on your own professional experience.
- Social media often offers opportunities that are less accessible within one's school building, such as sharing or accessing resources, forming far-flung professional relationships, developing and exercising your voice as an expert in a particular area, contributing to larger projects, or discovering emerging practices. Look for these or other opportunities that are specific to the affordances of social media.

Recommendations for Educational Leaders and PD Providers

As Guskey noted, it can be difficult to make recommendations regarding PD because "the differences in communities of school administrators, teachers, and students uniquely affect professional development processes," including what makes it effective and what attendees find meaningful and applicable (16), not to mention widely varying infrastructures for selecting and providing PD. This study's findings, however, provide points of reflections that can be of use in varying structures and levels of PD provision or policy-making.

- Attendees of PD likely bring a range of knowledge on the topic at hand. In approaching PD design, consider the provider's role as not only "I have something important to teach you" but also "We all have something that we can learn from each other." To that end, consider including opportunities for educators to share their own expertise and experiences, using strategies such as turn-and-talk moments, discussion groups, design thinking protocols, or impromptu mini-sessions.
- Extended direct instruction in lecture format may be off-putting for educators who avoid such practices in their own instructional design. Look for opportunities for attendees to interact with one another or the PD provider or to spend time in reflection through such strategies as questioning, scenarios, application, discussion, quick writes, or other interactive methods.
- While there are obvious benefits of inviting educators to share their own areas of strength with others, one unanticipated benefit may be the shift in their self-perception. When they contribute meaningfully to others' growth, educators may experience a positive shift in their self-perception that results in increased interest in both receiving and providing PD. In designing or facilitating PD opportunities, consider ways it can help attendees take themselves seriously not only as learners but as facilitators of other professionals' learning.
- Some educators, particularly those with more experience with PD, may value the ability to select topics of relevance to their practice. Consider incorporating the choice of what sessions to attend, the form or mode of learning, methods of contributing to the event, or ways of disseminating learning to others.
- Even when educators are required to attend a PD event, they have the power to decide whether to attend *to* the event. Whether making decisions about PD requirements or providing PD that is required of the attendees, take this reality into account. Other recommendations in this list suggest methods that may increase educators' likelihood of intentionally engaging as receivers of PD.
- Similarly, when PD is required, educators are often also required to take action on the PD they receive by applying specific methods or programs in their classrooms. In these cases, educators still retain significant power in how they do so, which they may wield differently from one another based on their individual experience and expertise. Account for this reality (and increase buy-in) by encouraging teachers to reflect on their specific students and teaching styles and to be intentional about how they, as individuals or teams, will enact the PD and its accompanying required practices.

- School leaders hold significant power when it comes to an educators' PD opportunities, including selection of PD topics and providers, requirement of specific PD or of numbers of PD hours, funding of self-selected PD, and even internet filters that block certain websites for educators, including social media platforms. School leaders should be cognizant of that power, and consider looking for ways to invite input from faculty and staff on how PD policies and decisions fit with educators' own goals and preferences regarding their professional growth.
- Some educators are eager to provide PD to others on a small or large scale and flourish with given the opportunity. Look for opportunities for interested and qualified educators to do so in genuine ways, including having a significant role in selecting and crafting content as well as presenting it. Strictly limited access to the role of provider may backfire by causing the educator to resent the narrow constraints, thus reducing the benefits to the educator providing the PD– and potentially other colleagues.
- Even educators who are eager to help others grow by providing PD may hesitate to present themselves as experts compared to their colleagues. When creating opportunities for educators to metaphorically take the microphone in PD, frame the opportunity carefully, such as by emphasizing that all faculty can benefit from one another's areas of strength. In other words, create a path to the microphone that is not (and does not appear to be) paved with self-satisfaction or boastfulness. Normalizing and celebrating willingness to help others grow may help educators build their self-concept as professionals exercising power for the good of the students. In turn, that confidence may also help them think of themselves as continuous learners who are willing to examine their growth areas.
- Educators may experience as much professional growth from "undesigned" experiences, such as unstructured conversations with or observation of other educators, as they do from structured PD. PD providers can take advantage of this by building in downtime or facilitating unstructured interaction during an event. School leaders can use both space and time to promote undesigned PD opportunities, such as peer-to-peer observations (e.g., instructional rounds or pineapple charts), shared teacher workspaces, or duty-free lunch periods.
- Social media offers a variety of opportunities for PD, from interaction during an in-person event to organized online chats or bulletin boards, to the building of online professional learning communities. In designing PD, setting PD-related policies, or otherwise influencing PD for educators, consider ways the social media can augment other methods.

LIMITATIONS

The primary limitations of this case study fall into two categories: selection of participants and the role of the researcher.

Participants in this study responded to social media posts about the research, whether by the researcher or by acquaintance through snowball sampling. Such posts were more likely to be seen by and responded to by active users of social media who were interested in its use for PD. Educators who rarely use social media, who use it only for personal relationship, or who read others' posts but do not interact online were unlikely to respond. Not surprisingly, all four participants were active users of social media for PD.

The participants in this study represented both public and private schools, a range of locations in the US, differing student populations, and various number of years in the education profession, but all work in elementary or middle schools. It is possible that including an educator working in preschool or high school may have led to different outcomes.

In addition to simple counts of types of Twitter use, the data analysis in this study included interview coding and textual analysis of tweets, both of which depend highly on the researcher's decisions. While the methods and methodology were carefully designed to be systematic and consistent, the specific identity of the researcher can affect the analysis. Further, social narratives and constructs can affect the stories participants tell and the posts they compose in addition to the ways the researcher analyzes both of these. Due to these limitations, I viewed the interview data as representative of a good-faith effort on the part of participants to articulate their own experiences and perceptions, not as a window on the PD experiences they described. Similarly, I treated the Twitter activity I analyzed as composed artifacts of moments of PD, not as a window on the moments themselves.

SUGGESTIONS FOR FUTURE RESEARCH

Viewing teacher PD through the lens of rhetorical audience yielded rich insight on these educators' attitudes toward PD, experiences as receivers and providers of PD, and, particularly, professional evolution as a result of accessing a variety of rhetorical roles within PD. Taking a deep dive into the individual experiences of these four participants raises several questions that may be worth pursuing through future research.

Data collection on Twitter occurred during a specific period of time, and two significant events have occurred between data collection and publication: a global pandemic that influenced how many

people, including teachers, engaged with online platforms, and the purchase of Twitter by Elon Musk, who has made policy changes that may have changed how users, including educators, use Twitter. Repeating the study after these events might reveal different patterns of online PD use.

This research highlighted significant alignment between the participants' desire to grow as effective educators and the education field's accepted belief that increased teacher effectiveness is vital to increased student learning. At the same time, the findings also highlight a misalignment between a transactional model of PD (provider delivers information that teachers consume and enact) and what the participants find actually improves their practice (PD experiences in which they make choices, contribute, and adapt the content for their circumstances). Future research on professional development should be conducted using rhetoric or other theoretical lenses to move the understanding of PD away from linear, transactional models toward models that invite co-creation or otherwise recognize the needs and perspectives of educators as invested individuals–not "educators" as an imagined, monolithic group.

In this study, all participants emphasized the benefits of accessing varied roles in PD. Future research could reveal the specific ways PD design allows or invites attendees to access aspects of the rhetor role and providers to access aspects of the audience role. For example, future case studies might examine individual PD events through a rhetorical lens to discover the effects of each component of the event's design. Such a study might examine how attendees access aspects of the rhetor role, whether because of or in resistance to the design of the specific event. Conversely, such a study could examine how providers do or do not take on aspects of the audience role during the PD event, and how those choices do or do not influence the unfolding of the PD event. Insight in these areas may inform the field of education by revealing how PD design can be adapted to build engagement and agency in educators attending PD and/or how it can increase providers' understanding of the specific experiences and educational responsibilities of their audience members. Alternatively, it could inform the field of rhetoric by contributing to theories of rhetor and audience roles within complex rhetorical situations. In this case, it would be interesting to examine whether aspects of the event design that do invite the audience to shift roles do so in ways that give access to an array of the rhetor's prerogatives, or in simply as a way to better prime the audience to receive the message crafted by the rhetor in designing the event.

Previous research has found that surveys of PD attendees are ineffective in assessing the quality of PD events. A participant in this study praised surveys for allowing attendees to influence the content of future conferences. This finding raises the question of whether surveys of PD attendees could be

used to improve future events by inviting audience input on exigences or on the fittingness of form and content. Future research could pursue greater understanding of how best to allow audiences to co-author PD through the use of surveys.

Finally, while this study was not conducive to building an understanding of how the discourse community for which a rhetor composes influences the rhetorical act, the use of Twitter for education PD is well-suited to examining that topic. Future research could examine how educators' composing strategies in Twitter PD are influenced by those used by other teachers on Twitter. In other words, does the field of Twitter-using educators co-author the tweets of educators using Twitter for PD, as implied by the work of Porter and others?

CONCLUSION

As someone who studies rhetoric, I suppose I am by definition a rhetorician, but as a teacher cum school leader who has never been a full-time graduate student or scholar, I have always held what feels like an insider-outsider perspective on the field. Perhaps due to this position, the study of rhetoric has always seemed most valuable for its practical application. Since almost every human communication is rhetoric in action, the field is useful for making sense of these interactions, from lessons and essay feedback when I was a teacher to parent meetings and teacher evaluations now that I am a principal.

Continual growth is vital for all of us in education, especially as we face new challenges with each generational and societal shift. It felt natural to me that the field of rhetoric could offer insight on how we pursue that growth. While this study approached only one way of viewing educator professional development rhetorically, it confirmed that feeling. Just as we must continually seek better ways to help students learn, we must also continually consider how best to support teachers as they grow professionally. Vital to that support is recognizing the agency and action with which teachers engage in that growth, not in imaginary linear processes but in real, nuanced, complex ways. As it does for so many moments of human communication, the lens of rhetorical theory illuminates what is really going on in teacher PD.

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APPENDIX I

TWITTER FUNCTIONS, RHETORICAL MOVES, AND TOPICS OF TWITTER USE

AL'S TWITTER FUNCTION USE AND RHETORICAL MOVES: MAIN ACCOUNT

Appendix I Table 1: Number and Percent of Al's Twitter function uses organized by rhetorical move

	Share/tell	Celebrate/ affirm	Thank/ support	Agree	Disagree	Answer/ respond	Question	Promote	Total
Tweet	3 (37.5%)	3 (37.5%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	2 (25.0%)	8
Retweet with Comment	1 (25.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	3 (75.0%)	4
Retweet	9 (81.8%)	1 (9.1%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (9.1%)	0 (0.0%)	0 (0.0%)	11
Reply	6 (25.0%)	0 (0.0%)	9 (37.5%)	5 (20.8%)	0 (0.0%)	3 (12.5%)	1 (4.2%)	0 (0.0%)	24
Like	316 (52.5%)	79 (13.1%)	50 (8.3%)	23 (3.8%)	1 (0.2%)	52 (8.6%)	27 (4.5%)	54 (9.0%)	602
Total	335	83	59	28	1	56	28	59	649

Appendix I Table 2: Number and Percent of AI's Twitter function uses organized by topic

	Advocacy	Community	Career	Chat	Classroom	Leadership	Morale	Practice, processes, principles	PD	Profession	Teaching and learning resource	School functioning	Student voice	Total
Tweet	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (12.5%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	4 (50.0%)	0 (0.0%)	3 (37.5%)	0 (0.0%)	0 (0.0%)	8
Retweet with Comment	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	3 (75.0%)	0 (0.0%)	1 (25.0%)	0 (0.0%)	0 (0.0%)	4
Retweet	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	3 (27.3%)	0 (0.0%)	8 (72.7%)	0 (0.0%)	0 (0.0%)	11
Reply	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	2 (8.3%)	4 (16.7%)	0 (0.0%)	18 (75.0%)	0 (0.0%)	0 (0.0%)	24
Like	1 (0.2%)	35 (5.8%)	7 (1.2%)	2 (0.3%)	49 (8.1%)	0 (0.0%)	20 (3.3%)	41 (6.8%)	133 (22.1%)	5 (0.8%)	290 (48.2%)	19 (3.2%)	0 (0.0%)	602
Total	1	35	7	3	49	0	20	43	147	5	320	19	0	649

Appendix I Table 3: Number and Percent of AI's rhetorical move uses organized by topic

	Advocacy	Community	Career	Chat	Classroom	Leadership	Morale	Practice, processes, principles	PD	Profession	Teaching and learning resource	School functioning	Student voice	Total
Share/tell	1 (0.3%)	17 (5.1%)	3 (0.9%)	0 (0.0%)	40 (11.9%)	0 (0.0%)	15 (4.5%)	28 (8.4%)	44 (13.1%)	4 (1.2%)	172 (51.3%)	11 (3.3%)	0 (0.0%)	335
Celebrate/ affirm	0 (0.0%)	7 (8.3%)	4 (4.8%)	0 (0.0%)	4 (4.8%)	0 (0.0%)	1 (1.2%)	1 (1.2%)	39 (46.4%)	0 (0.0%)	22 (26.2%)	6 (7.1%)	0 (0.0%)	84
Thank/ support	0 (0.0%)	1 (1.7%)	0 (0.0%)	1 (1.7%)	2 (3.4%)	0 (0.0%)	0 (0.0%)	2 (3.4%)	10 (16.9%)	0 (0.0%)	42 (71.2%)	1 (1.7%)	0 (0.0%)	59
Agree	0 (0.0%)	1 (3.6%)	0 (0.0%)	0 (0.0%)	1 (3.6%)	0 (0.0%)	2 (7.1%)	5 (17.9%)	0 (0.0%)	1 (3.6%)	18 (64.3%)	0 (0.0%)	0 (0.0%)	28
Disagree	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (100.0%)	0 (0.0%)	0 (0.0%)	1
Answer/ respond	0 (0.0%)	8 (14.3%)	0 (0.0%)	0 (0.0%)	1 (1.8%)	0 (0.0%)	0 (0.0%)	5 (8.9%)	7 (12.5%)	0 (0.0%)	35 (62.5%)	0 (0.0%)	0 (0.0%)	56
Question	0 (0.0%)	1 (3.6%)	0 (0.0%)	0 (0.0%)	1 (3.6%)	0 (0.0%)	2 (7.1%(	2 (7.1%)	1 (3.6%)	0 (0.0%)	21 (75.0%)	0 (0.0%)	0 (0.0%)	28
Promote	0 (0.0%)	0 (0.0%)	0 (0.0%)	2 (3.4%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	46 (78.0%)	0 (0.0%)	10 (16.9%)	1 (1.7%)	0 (0.0%)	59
Total	1	35	7	3	49	0	20	43	147	5	320	19	0	649

AL'S TWITTER FUNCTION USE AND RHETORICAL MOVES: TOOL-SPECIFIC ACCOUNT

Appendix I Table 4: Number and Percent of Al's Twitter function uses in his tool-specific account organized by rhetorical move

	Share/tell	Celebrate/ affirm	Thank/ support	Agree	Disagree	Answer/ respond	Question	Promote	Total
Tweet	1 (50.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (50.0%)	2
Retweet with Comment	17 (73.9%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	3 (13.0%)	3 (13.0%)	23
Retweet	53 (85.5%)	3 (4.8%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (1.6%)	0 (0.0%)	5 (8.1%)	62
Reply	2 (11.1%)	2 (11.1%)	3 (16.7%)	3 (16.7%)	0 (0.0%)	8 (44.4%)	0 (0.0%)	0 (0.0%)	18
Like	105 (63.6%)	16 (9.7%)	11 (6.7%)	0 (0.0%)	0 (0.0%)	12 (7.3%)	4 (2.4%)	17 (10.3%)	165
Total	178	21	14	3	0	21	7	26	270

Appendix I Table 5: Number and percent of Al's Twitter function uses in his tool-specific account organized by topic

	Advocacy	Community	Career	Chat	Classroom	Leadership	Morale	Practice, processes, principles	PD	Profession	Teaching and learning resource	School functioning	Student voice	Total
Tweet	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (50.0%)	0 (0.0%)	1 (50.0%)	0 (0.0%)	0 (0.0%)	2
Retweet with Comment	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	3 (13.0%)	0 (0.0%)	20 (87.0%)	0 (0.0%)	0 (0.0%)	23
Retweet	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	2 (3.2%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	8 (12.9%)	0 (0.0%)	52 (83.9%)	0 (0.0%)	0 (0.0%)	62
Reply	0 (0.0%)	3 (16.7%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	2 (11.1%)	0 (0.0%)	0 (0.0%)	13 (72.2%)	0 (0.0%)	0 (0.0%)	18
Like	0 (0.0%)	1 (0.6%)	0 (0.0%)	2 (1.2%)	5 (3.0%)	0 (0.0%)	1 (0.6%)	2 (1.2%)	16 (9.7%)	0 (0.0%)	138 (83.6%)	0 (0.0%)	0 (0.0%)	165
Total	0	4	0	2	7	0	1	4	28	0	224	0	0	270

Appendix I Table 6: Number and percent of Al's rhetorical move uses in his tool-specific account organized by topic

	Advocacy	Community	Career	Chat	Classroom	Leadership	Morale	Practice, processes, principles	PD	Profession	Teaching and learning resource	School functioning	Student voice	Total
Share/tell	0 (0.0%)	0 (0.0%)	0 (0.0%)	2 (1.1%)	6 (3.4%)	0 (0.0%)	1 (0.6%)	1 (0.6%)	2 (1.1%)	0 (0.0%)	166 (93.3%)	0 (0.0%)	0 (0.0%)	178
Celebrate/ affirm	0 (0.0%)	0 (0.0%)	1 (4.8%)	0 (0.0%)	1 (4.8%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	6 (28.6%)	0 (0.0%)	13 (61.9%)	0 (0.0%)	0 (0.0%)	21
Thank/ support	0 (0.0%)	1 (7.1%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	13 (92.9%)	0 (0.0%)	0 (0.0%)	14
Agree	0 (0.0%)	1 (33.3%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	2 (66.7%)	0 (0.0%)	0 (0.0%)	3
Disagree	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0
Answer/ respond	0 (0.0%)	1 (4.8%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	3 (14.3%)	0 (0.0%)	0 (0.0%)	17 (81.0%)	0 (0.0%)	0 (0.0%)	21
Question	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (14.3%)	0 (0.0%)	6 (85.7%)	0 (0.0%)	0 (0.0%)	7
Promote	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	19 (73.1%)	0 (0.0%)	7 (26.9%)	0 (0.0%)	0 (0.0%)	26
Total	0	4	0	2	7	0	1	4	28	0	224	0	0	270

CHLOE'S TWITTER FUNCTION USE AND RHETORICAL MOVES

Appendix I Table 7: Number and percent of Chloe's Twitter function uses organized by rhetorical move

	Share/tell	Celebrate /affirm	Thank/ support	Agree	Disagree	Answer/ respond	Question	Promote	Total
Tweet	14 (66.7%)	5 (23.8%)	1 (4.8%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (4.8%)	0 (0.0%)	21
Retweet with Comment	3 (75.0%)	1 (25.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	4
Retweet	16 (84.2%)	0 (0.0%)	0 (0.0%)	1 (5.3%)	0 (0.0%)	0 (0.0%)	2 (10.5%)	0 (0.0%)	19
Reply	1 (11.1%)	0 (0.0%)	2 (22.2%)	3 (33.3%)	0 (0.0%)	3 (33.3%)	0 (0.0%)	0 (0.0%)	9
Like	174 (47.7%)	41 (11.2%)	18 (4.9%)	11 (3.0%)	0 (0.0%)	73 (20.0%)	42 (11.5%)	6 (1.6%)	365
Total	208	47	21	15	0	76	45	6	418

Appendix I Table 8: Number and percent of Chloe's Twitter function uses organized by topic

	Advocacy	Community	Career	Chat	Classroom	Leadership	Morale	Practice, processes, principles	PD	Profession	Teaching and learning resource	School functioning	Student voice	Total
Tweet	0 (0.0%)	5 (23.8%)	0 (0.0%)	0 (0.0%)	2 (9.5%)	0 (0.0%)	0 (0.0%)	6 (28.6%)	1 (4.8%)	0 (0.0%)	7 (33.3%)	0 (0.0%)	0 (0.0%)	21
Retweet with Comment	0 (0.0%)	1 (25.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (25.0%)	0 (0.0%)	0 (0.0%)	2 (50.0%)	0 (0.0%)	0 (0.0%)	4
Retweet	0 (0.0%)	1 (5.3%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	3 (15.8%)	0 (0.0%)	0 (0.0%)	2 (10.5%)	0 (0.0%)	12 (63.2%)	0 (0.0%)	1 (5.3%)	19
Reply	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	2 (22.2%)	0 (0.0%)	0 (0.0%)	6 (66.7%)	0 (0.0%)	1 (11.1%)	9
Like	0 (0.0%)	40 (11.0%)	6 (1.6%)	24 (6.6%)	25 (6.8%)	8 (2.2%)	20 (5.5%)	52 (14.2%)	40 (11.0%)	0 (0.0%)	121 (33.2%)	26 (7.1%)	3 (0.8%)	365
	0	47	6	24	27	11	20	61	43	0	148	26	5	418

Appendix I Table 9: Number and percent of Chloe's rhetorical move uses organized by topic

	Advocacy	Community	Career	Chat	Classroom	Leadership	Morale	Practice, processes, principles	PD	Profession	Teaching and learning resource	School functioning	Student voice	Total
Share/tell	0 (0.0%)	9 (4.3%)	1 (0.5%)	11 (5.3%)	20 (9.6%)	8 (3.8%)	14 (6.7%)	23 (11.1%)	28 (13.5%)	0 (0.0%)	82 (39.4%)	12 (5.8%)	0 (0.0%)	208
Celebrate/ affirm	0 (0.0%)	11 (23.4%)	3 (6.4%)	1 (2.1%)	5 (10.6%)	0 (0.0%)	2 (4.3%)	4 (8.5%)	6 (12.8%)	0 (0.0%)	1 (2.1%)	13 (27.7%)	1 (2.1%)	47
Thank/ support	0 (0.0%)	6 (28.6%)	1 (4.8%)	5 (23.8%)	1 (4.8%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (4.8%)	0 (0.0%)	7 (33.3%)	0 (0.0%)	0 (0.0%)	21
Agree	0 (0.0%)	3 (20.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	9 (60.0%)	0 (0.0%)	0 (0.0%)	1 (6.7%)	0 (0.0%)	2 (13.3%)	15
Disagree	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0
Answer/ respond	0 (0.0%)	13 (17.1%)	0 (0.0%)	0 (0.0%)	1 (1.3%)	1 (1.3%)	3 (3.9%)	16 (21.1%)	4 (5.3%)	0 (0.0%)	37 (48.7%)	0 (0.0%)	1 (1.3%)	76
Question	0 (0.0%)	5 (11.1%)	1 (2.2%)	4 (8.9%)	1 (2.2%)	1 (2.2%)	1 (2.2%)	9 (20.0%)	2 (4.4%)	0 (0.0%)	20 (44.4%)	0 (0.0%)	1 (2.2%)	45
Promote	0 (0.0%)	0 (0.0%)	0 (0.0%)	2 (33.3%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	2 (33.3%)	0 (0.0%)	1 (16.7%)	1 (16.7%)	0 (0.0%)	6

LAILA'S TWITTER FUNCTION USE AND RHETORICAL MOVES

Appendix I Table 10: Number and percent of Laila's Twitter function uses organized by rhetorical move

	Share/ tell	Celebrate/ affirm	Thank/ support	Agree	Disagree	Answer/ respond	Question	Promote	Total
Tweet	9 (52.9%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	4 (23.5%)	2 (11.8%)	2 (11.8%)	17
Retweet with Comment	1 (100%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1
Retweet	6 (85.7%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (14.3%)	0 (0.0%)	7
Reply	12 (31.6%)	0 (0.0%)	9 (23.7%)	7 (18.4%)	0 (0.0%)	6 (15.8%)	2 (5.3%)	2 (5.3%)	38
Like	150 (59.8%)	42 (16.7%)	18 (7.2%)	4 (1.6%)	2 (0.8%)	4 (1.6%)	5 (2.0%)	26 (10.4%)	251
	178	42	27	11	2	14	10	30	314

Appendix I Table 11: Number and percent of Laila's Twitter function uses organized by topic

	Advocacy	Community	Career	Chat	Classroom	Leadership	Morale	Practice, processes, principles	PD	Profession	Teaching and learning resource	School functioning	Student voice	Total
Tweet	5 (27.8%)	0 (0.0%)	0 (0.0%)	1 (5.6%)	1 (5.6%)		1 (5.6%)	2 (11.1%)	2 (11.1%)	0 (0.0%)	5 (27.8%)	0 (0.0%)	1 (5.6%)	18
Retweet with Comment	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0
Retweet	1 (14.3%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (14.3%)	5 (71.4%)	0 (0.0%)	0 (0.0%)	7
Reply	4 (10.5%)	1 (2.6%)	2 (5.3%)	3 (7.9%)	1 (2.6%)	1 (2.6%)	5 (13.2%)	7 (18.4%)	5 (13.2%)	0 (0.0%)	9 (23.7%)	0 (0.0%)	0 (0.0%)	38
Like	16 (6.4%)	11 (4.4%)	4 (1.6%)	4 (1.6%)	41 (16.3%)	0 (0.0%)	19 (7.6%)	24 (9.6%)	20 (8.0%)	1 (0.4%)	99 (39.4%)	12 (4.8%)	0 (0.0%)	251
	26	12	6	8	43	1	25	33	27	2	118	12	1	314

Appendix I Table 12: Number and percent of Laila's rhetorical move uses organized by topic

	Advocacy	Community	Career	Chat	Classroom	Leadership	Morale	Practice, processes, principles	PD	Profession	Teaching and learning resource	School functioning	Student voice	Total
Share/tell	19 (10.7%)	7 (3.9%)	1 (0.6%)	1 (0.6%)	35 (19.7%)	0 (0.0%)	18 (10.1%)	19 (10.7%)	12 (6.7%)	0 (0.0%)	63 (35.4%)	3 (1.7%)	0 (0.0%)	178
Celebrate/ affirm	0 (0.0%)	3 (7.1%)	3 (7.1%)	2 (4.8%)	7 (16.7%)	0 (0.0%)	2 (4.8%)	1 (2.4%)	3 (7.1%)	0 (0.0%)	14 (33.3%)	7 (16.7%)	0 (0.0%)	42
Thank/ support	2 (7.4%)	2 (7.4%)	1 (3.7%)	3 (11.1%)	1 (3.7%)	1 (3.7%)	3 (11.1%)	2 (7.4%)	2 (7.4%)	0 (0.0%)	10 (37.0%)	0 (0.0%)	0 (0.0%)	27
Agree	2 (18.2%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	2 (18.2%)	2 (18.2%)	0 (0.0%)	0 (0.0%)	5 (45.5%)	0 (0.0%)	0 (0.0%)	11
Disagree	2 (100.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	2
Answer/ respond	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (7.1%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	6 (42.9%)	0 (0.0%)	0 (0.0%)	6 (42.9%)	0 (0.0%)	1 (7.1%)	14
Question	1 (10.0%)	0 (0.0%)	1 (10.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	3 (30.0%)	1 (10.0%)	2 (20.0%)	2 (20.0%)	0 (0.0%)	0 (0.0%)	10
Promote	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (3.3%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	9 (30.0%)	0 (0.0%)	18 (60.0%)	2 (6.7%)	0 (0.0%)	30

MARIA'S TWITTER FUNCTION USE AND RHETORICAL MOVES

Appendix I Table 13: Number and percent of Maria's Twitter function uses organized by rhetorical move

	Share/tell	Celebrate/ affirm	Thank/ support	Agree	Disagree	Answer/ respond	Question	Promote	Total
Tweet	20 (58.8%)	7 (20.6%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	7 (20.6%)	0 (0.0%)	34
Retweet with Comment	5 (71.4%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (14.3%)	1 (14.3%)	0 (0.0%)	7
Retweet	2 (100.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	2
Reply	19 (11.7%)	12 (7.4%)	19 (11.7%)	21 (12.9%)	1 (0.6%)	87 (53.4%)	4 (2.5%)	0 (0.0%)	163
Like	166 (49.7%)	34 (10.2%)	38 (11.4%)	16 (4.8%)	0 (0.0%)	50 (15.0%)	10 (3.0%)	20 (6.0%)	334
Total	212	53	57	37	1	138	22	20	540

Appendix I Table 14: Number and percent of Maria's Twitter function uses organized by topic

	Advocacy	Community	Career	Chat	Classroom	Leadership	Morale	Practice, processes, principles	PD	Profession	Teaching and learning resource	School functioning	Student voice	Total
Tweet	0 (0.0%)	12 (35.3%)	0 (0.0%)	0 (0.0%)	3 (8.8%)	0 (0.0%)	3 (8.8%)	2 (5.9%)	3 (8.8%)	0 (0.0%)	9 (26.5%)	2 (5.9%)	0 (0.0%)	34
Retweet with Comment	0 (0.0%)	3 (42.9%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (14.3%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	3 (42.9%)	0 (0.0%)	0 (0.0%)	7
Retweet	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (50.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (50.0%)	0 (0.0%)	0 (0.0%)	2
Reply	0 (0.0%)	58 (35.6%)	4 (2.5%)	0 (0.0%)	16 (9.8%)	0 (0.0%)	16 (9.8%)	18 (11.0%)	25 (15.3%)	0 (0.0%)	26 (16.0%)	0 (0.0%)	0 (0.0%)	163
Like	0 (0.0%)	44 (13.2%)	4 (1.2%)	0 (0.0%)	34 (10.2%)	0 (0.0%)	70 (21.0%)	28 (8.4%)	38 (11.4%)	10 (3.0%)	102 (30.5%)	4 (1.2%)	0 (0.0%)	334
Total	0	117	8	0	53	0	91	48	66	10	141	6	0 (0.0%)	540

Appendix I Table 15: Number and percent of Maria's rhetorical move uses organized by topic

	Advocacy	Community	Career	Chat	Classroom	Leadership	Morale	Practice, processes, principles	PD	Profession	Teaching and learning resource	School functioning	Student voice	Total
Share/tell	0 (0.0%)	19 (8.6%)	2 (0.9%)	0 (0.0%)	10 (4.5%)	0 (0.0%)	54 (24.3%)	28 (12.6%)	14 (6.3%)	10 (4.5%)	81 (36.5%)	4 (1.8%)	0 (0.0%)	222
Celebrate/ affirm	0 (0.0%)	25 (47.2%)	3 (5.7%)	0 (0.0%)	5 (9.4%)	0 (0.0%)	5 (9.4%)	2 (3.8%)	7 (13.2%)	0 (0.0%)	6 (11.3%)	0 (0.0%)	0 (0.0%)	53
Thank/ support	0 (0.0%)	15 (26.3%)	0 (0.0%)	0 (0.0%)	14 (24.6%)	0 (0.0%)	5 (8.8%)	2 (3.5%)	6 (10.5%)	0 (0.0%)	15 (26.3%)	0 (0.0%)	0 (0.0%)	57
Agree	0 (0.0%)	6 (16.2%)	0 (0.0%)	0 (0.0%)	2 (5.4%)	0 (0.0%)	14 (37.8%)	5 (13.5%)	3 (8.1%)	2 (5.4%)	5 (13.5%)	0 (0.0%)	0 (0.0%)	37
Disagree	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (100.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1
Answer/ respond	0 (0.0%)	45 (32.1%)	1 (0.7%)	0 (0.0%)	21 (15.0%)	0 (0.0%)	19 (13.6%)	7 (5.0%)	21 (15.0%)	0 (0.0%)	24 (17.1%)	2 (1.4%)	0 (0.0%)	140
Question	0 (0.0%)	5 (22.7%)	0 (0.0%)	0 (0.0%)	1 (4.5%)	0 (0.0%)	0 (0.0%)	3 (13.6%)	5 (22.7%)	0 (0.0%)	8 (36.4%)	0 (0.0%)	0 (0.0%)	22
Promote	0 (0.0%)	2 (10.0%)	2 (10.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	10 (50.0%)	0 (0.0%)	6 (30.0%)	0 (0.0%)	0 (0.0%)	20

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- **Master of Arts** in English (Rhetoric and Composition), University of Tennessee at Chattanooga, 2007
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- 2022-Present – **Head of Upper School**, Girls Preparatory School, Chattanooga, TN
- 2018-2022 – **Assistant Principal of Upper Learning**, The Galloway School, Atlanta, GA
- 2017-18 – **Consultant–New Teacher Development**, Northwest Georgia RESA, Rome, GA
- 2016-2018 – **English Teacher**, Woodland Middle School, Euharlee, GA
- 2007-16 – **English Teacher, English Department Chair, Dorm Parent**, Darlington School, Rome, GA
- 2006-07 – **English Teacher**, Lakeview Academy, Gainesville, GA
- 2002-05 – **Strategic Planning Writer & Designer**, LandDesign, Inc., Charlotte, NC
- 2000-02 – **Strategic Planning Writer & Project Manager**, Michael Gallis & Associates, Charlotte, NC

Publications

- **"Teach the How: Critical Lenses & Critical Literacy."** *English Journal.* March 2014.
- **"On the Edge of the Dark Side: Self-Concept & the Teacher Leader."** *Independent School Magazine*. Summer 2015.

Presentations

- **"Multiliteracy, 21st Century Skills, and Critical Lenses."** ODU Conference on Writing Pedagogy, Poster Session. October 2013.
- **"The Multigenre Research Project"** (part of the panel "Multimodal Pedagogy Versus Practice"). Conference on the Teaching of Writing, Norfolk, VA. March 2013.
- **"Summer Reading: A Student-Centered Approach."** GISA Annual Conference, Rome, GA. November 2009.