COMMUNICATION, COMMUNITY, AND DISCONNECTION: PRE-SERVICE TEACHERS IN VIRTUAL SCHOOL FIELD EXPERIENCES*

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ABSTRACT

This study examined the experiences of 11 graduate-level pre-service teachers completing Virtual School Field Experiences (VSFEs) with cooperating teachers in fully online, asynchronous high school courses in New York State. The VSFEs included a 7-week online teacher training course, and a 7-week online field experience. Pre-service teachers completed pre- and post-VSFE questionnaires, biweekly written journals, and formal

structured interviews. Pre-service teachers reported success in communicating with their students, and struggles with establishing a sense of community in their online courses. We discuss these outcomes, and suggest that the particulars of the VSFE matter for pre-service teacher outcomes.

Online coursetaking during the K-12 years is now common in the United States. The most recent available data from the National Center for Education Statistics indicate that across the 16,000+ public school districts nationwide, 55% have K-12 students enrolled in distance education courses (Queen, Lewis, & Coopersmith, 2011; estimates based on 2009-2010 school year). Parsing the data, the International Association for K-12 Online Learning (*i*NACOL, 2013, pp. 1-2) reported that:

- there were an estimated 1,816,400 enrollments in distance-education courses in K-12 school districts in 2009-2010, almost all of which were online courses;
- 74% of distance-education enrollments were in high schools; 9% in middle schools, and 4% in elementary schools; and
- districts typically make online learning opportunities available to their students in order to offer courses not otherwise available (64%), and to provide opportunities for credit recovery (57%).

K-12 online learning appears to be unevenly distributed across the nation. The Sloan Consortium reported that just three states serve roughly three-quarters of all online K-12 students in the United States (Florida: 55%; North Carolina: 13%; and Alabama: 7%) (Watson, Murin, Vashaw, Gemin, & Rapp, 2013, p. 30). Most other states in the nation have relatively small numbers and percentages of students enrolled in online K-12 courses. While we do not have reliable data concerning enrollment growth or patterns since the 2009-2010 school year, it seems likely that K-12 enrollment in online courses will hold steady or grow in most contexts for the foreseeable future.

The authors of this study—college professors, an online K-12 teacher, a pre-service teacher, and two online K-12 administrators—live and work in New York State. New York enrolls a relatively small number and proportion of students in fully online courses. Watson et al. (2013, pp. 128-129) report 2,595 students enrolled in online classes, with some 48,733 enrollments in "virtual learning programs," which may include a mix of online and blended learning components (either way, less than 1% of New York State's 2.5 million public school students).

Yet New York, like many other states, clearly sees potential ahead for online education at the K-12 level. Recent years have seen the state allocate millions of dollars for a Virtual Advanced Placement (VAP) initiative, distributed across 17 grantees (New York State Education Department, 2013), and the state's largest school district—New York City—has developed and delivered online and

blended learning programs called *iLearnNYC* to over 25,000 students in 250+ schools (New York City Department of Education, 2013).

We know surprisingly little, in New York and nationally, about who teaches these online K-12 courses, or what their training, experiences, or skills include. New York State does not require any specific training to teach online K-12 courses, nor does it have available any kind of state-level certification for those who do the work (as do Michigan, New Mexico, Alabama, and Idaho; for a good state model, see Idaho Administrative Code, 2011). The most recent study of teacher preparation for online K-12 teaching indicated that just 1.3% of teacher preparation programs included *any* K-12 online field experience (Kennedy & Archambault, 2012b)—which in any case appears to be a recent innovation, dating only to 2007 (Compton, Davis, & Mackey, 2009). There are currently no teacher preparation programs in New York State that offer an online-specific teaching credential, nor any that have developed online student teaching experiences or advanced field experiences comparable to those required for traditional teacher certification. We have a mismatch, we think: thousands of K-12 students across our state—and millions across the nation—are taking online K-12 courses, yet we have developed almost no infrastructure to prepare teachers for online-specific environments.

LEARNING TO TEACH ONLINE

While all authors of this article have completed traditional teacher certification programs, and have all taught or taken online courses at the college level, it was not clear to us what instructional skills could be identified as unique to online environments at the K-12 level. Vicki Cook, an author on this article and an experienced high school science teacher and administrator, described her initial foray into online instruction as one involving apprehension and uncertainty:

> The steady growth of online learning programs over the years had been very unsettling. In my twenty-five years as a high school science teacher and building-level administrator, I was not a supporter; I shared the belief of many of my peers that online classes and programs lacked rigor and credibility. […] I felt that online students were missing the learning that took place during engaging discussions, and I wondered how online teachers would be able to check for understanding and provide immediate, meaningful feedback to their students.

Vicki was an experienced classroom teacher and administrator who transitioned into online K-12 education after earning profession-level certification and mastering many aspects of face-to-face classroom teaching. She describes some of the challenges she faced in making the leap to online teaching:

> Although there were many positives, one thing I failed to consider was the experiences I would miss as an online teacher. One of my greatest strengths as

> a teacher is building relationships with my students; I have always enjoyed talking with students about their families, interests, sports, and activities. As an online teacher, I lost most of that relationship building—or at least it felt very different. […] I also had to be very conscious of my communication with my students because of the challenges of being misunderstood online. I was pleasant and professional with updates and requests, yet students replied with short emails that often lacked the necessary information I had requested and they used words that had little feeling tone. […] I also felt that when students had questions, I let them down if I didn't get back to them right away. I had to learn that asynchronous communication is the norm in online instruction, and that students have to learn not to be frustrated if they have to wait for a reply.

Vicki identified her transition to online teaching as mixed; while she saw the delivery of online courses as a "tremendous benefit" to her students, she perceived real challenges as a teacher in terms of relationships and communication. Yet what wasn't clear was whether Vicki's view of the opportunities and challenges of online teaching were similar to those that would be experienced by pre-service teachers, whose work in an online environment would be complicated by learning to teach at the same time as learning to teach online.

A VIRTUAL SCHOOL FIELD EXPERIENCES (VSFE) PILOT

Kennedy and Archambault's recent (2012b) finding that just 1.3% of teacher preparation programs have experience with the K-12 online world gave us immense pause. Given that the number of students taking K-12 classes online was large and growing, we wondered: *where were the teachers coming from? What kind of online-specific preparation did they have, if any?*

Compton, Davis, and Mackey (2009) first described a virtual school field experience (VSFE) created by Iowa State University in 2007. Since then, Kennedy and Archambault have identified seven models of virtual school field experiences in K-12 online learning environments, all ostensibly designed to meet the professional standards of one or more associations (including the International Association for K12 Online Learning, or iNACOL; the National Education Association, or NEA; the International Society for Technology in Education, or ISTE; or the Southern Regional Education Board, or SREB). These seven models of VSFEs—four identified as emerging from Florida, two from South Dakota, and one from North Dakota—varied extensively in grade level, participant numbers, supervision of candidates, duration, student contact time, standards assessed, and task expectations (for example, whether candidates were expected to facilitate discussion forms, grade work, or deliver synchronous instruction). None emerged as a clear model to be replicated elsewhere, nor did Kennedy and Archambault attempt to report outcomes linked to teachers who had completed such preparation. Quite simply, although some institutions have pioneered VSFEs with their

own pre-service teachers, we know very little about the skills they promote in pre-service teachers, nor anything about the outcomes their students ultimately obtain. One of the ongoing themes on which Kennedy and Archambault settled was "*lack of knowledge/need more information*"—which aptly describes our current status here in New York. We have a small but growing number of online K-12 students, and little certain knowledge about how to prepare their teachers.

This article and the work that preceded it is directly aimed at such a broad knowledge gap. During the 2013-2014 academic year, the authors piloted a partnership-based virtual school field experience that included teacher training for the online environment, placements in virtual courses with certified mentor teachers and live students, and an associated graduate-level university course. It varies in some ways from all extant VSFE models previously described—as it houses the VSFE within an elective graduate-level teacher education course, and includes formal training in the online environment; as such, what we describe below is perhaps most akin to one of the models-in-planning described by an unidentified college program in Utah (Kennedy & Archambault, 2012b, p. 194).

Our intent in piloting a partnership-based VSFE was to learn about preparing pre-service teachers to teach online, and hopefully identify features of a model that promoted useful pre-service teacher skills. As we moved through the VSFE design phase and into implementation, we asked:

1. *In what domains will pre-service teachers succeed and struggle in a virtual school field experience (VSFE)?*
2. *What skills and knowledge will pre-service teachers gain during a virtual school field experience (VSFE)?*

METHODS

Participants

Coordinating the 2013-2014 pilot VSFE were four of the authors of this article—Professors Giblin and Wilkens at the College at Brockport, and program administrators Eckdahl and Morone at EduTech. During the fall of 2013, the authors met to identify shared interests (especially expanding the available supply of teachers across content domains prepared to teach online), to outline a workable VSFE structure, and describe the various partner roles and responsibilities for a spring 2014 semester-long pilot. We also recruited and matched pre-service teachers with cooperating teachers by grade level and content area for the spring VSFE pilot. During the spring, our online K-12 cooperating teachers included 8 experienced NYS-certified teachers across New York state working in a wide range of content areas including literacy, mathematics, social studies, English, science, and music theory. One cooperating teacher and author on this article was Vicki Cook, who hosted a pre-service teacher in her online AP

Psychology course. Pre-service teachers participating in our 2013-2014 VSFE pilot included 11 graduate students currently certified to teach in New York State. We limited our VSFE to NYS-certified graduate students for a variety of reasons, including our collective desire for students with prior face-to-face teacher training and field experiences, as well as meeting a practical need for students to have completed fingerprinting and criminal background checks prior to online student contact.

Treatment

All pre-service teachers enrolled in and completed a 3-credit graduate-level elective course—EDI 690: *Teaching & learning online*—during the spring 2014 semester. This elective course included the VSFE as a required component, and provided grant-funded stipends covering tuition costs for student participants on course completion. All pre-service teachers were additionally required to complete an online teacher training course called Teaching Online is Virtually Worth It!, a series of nine modules written and taught by project partner EduTech, formally the Genesee Valley/Wayne Finger Lakes Educational Technology Services, one of New York's 12 nonprofit Regional Information Centers (RICS).[1]

The online teacher training course ran as a 7-week pre-field-experience training course, and was identical in content and scope to the training course all online teachers at EduTech must complete prior to teaching their first online course. Modules included: discussion of online voice and persona; communication; the art of teaching online; assessment; differentiation; tools of the trade; and alignment to NYS learning standards. Once pre-service teachers had completed *Teaching Online is Virtually Worth It!*, they were matched with a cooperating teacher appropriate to their certification and level, and began their 7-week field placement. Expectations for this field placement included:

- introducing themselves to K-12 students;
- logging into courses . once every 48 hours;
- copying cooperating teachers on all student communication;
- providing feedback in the discussion boards, for the group and/or individually;
- reviewing and critiquing students—especially writing assignments;
- monitoring student login behavior, posting, and course progress; and

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[1] Regional Information Centers in New York State are affiliated with Boards of Cooperative Educational Services (BOCES), that provide collaborative regional services for multiple school districts, such as administrative and technical support, teacher training, and direct vocational and special education services. EduTech currently provides services to 47 school districts, and offers hundreds of online courses at a variety of levels to students throughout New York State with NYS-certified teachers. EduTech also serves as a state provider for the Virtual AP program, which delivers online Advanced Placement courses to low-income students statewide at no cost.

• completion of an "Online Student Support Project" that sought to re-engage a student who disappeared during the VSFE, or whose performance indicated a need.

Measures

To gain some insight about what pre-service teachers would learn during their virtual school field experiences, we collected three different data sources:

1. Pre- and post-VSFE *surveys*. Surveys were adapted from the State University of New York (SUNY) Online Teaching Survey, developed for the SUNY Learning Network (SUNY, 2012; see also Rovai 2001, 2002) to evaluate pre-service teacher experiences in online courses, and included 47 items emerging from previously published work on pre-service teacher experiences: classroom community; teacher agency; pedagogy; student engagement; communication; feedback; and student learning. Pre- and post-VSFE surveys contained identical items, most of which included Likert-style response scales (from "Strongly Disagree" (coded as 1), to "Strongly Agree" (coded as 5)).
2. Biweekly *student journals* during the VSFE. Journals responded to prompts focusing on: pre-service teacher training for online environments; pedagogy; assessment; differentiation; teacher presence; community; student support; and disconnected or disengaged students.
3. Formal recorded *interviews* with each pre-service teacher on completion of the VSFE. These interviews focused largely on the differences between teaching and learning online and face-to-face, effective teaching practices, and pre-service teacher training.

Analysis

Mean post-VSFE scores on all items were examined for absolute patterns; those items with the highest and lowest mean scores are reported in Table 1. Pre- to post-VSFE survey changes were tested for significance via paired sample *t*-tests; results of these changes are reported in Table 2. Qualitative structured interview and biweekly journal data were examined and are quoted below with survey results in order to understand and (potentially) provide some explanation of those changes (for a good review of this triangulation approach, see Creswell, 2014; Jick, 1979)

RESULTS

First, in Table 1 we report mean survey scores of pre-service teachers completing a Virtual School Field Experience. We have included the three statements with which pre-service teachers reported the highest levels of agreement, and the

Table 1. Selected Self-Reported Pre-Service Teacher Perceptions at
the Conclusion of a 7-Week Virtual School Field Experience (VSFE)
in New York State, Spring 2014 (*N* = 11)

Item	Mean score
Strongly Agree	
In an online course, I am confident that I can acknowledge student participation (for example, by replying in a positive, encouraging manner to student submissions).	4.64
In an online course, I am confident that I can provide clear instructions on how to participate in course learning activities (for example, how to complete course assignments successfully).	4.64
In an online course, I am confident that I can clearly communicate important due dates/time frames for learning activities.	4.64
Neutral to Disagree	
In an online course, I am confident that I can help students trust others.	3.27
In an online course, I am confident that I can help students feel that they can rely on others.	3.27
In an online course, I am confident that I can help students promote a spirit of community.	3.00
In an online course, I am confident that I can help students make a course feel like family.	2.73

Note: Likert-type scale from 1-5, where 5 = Strongly Agree and 1 = Strongly Disagree.

four statements with which pre-service teachers reported the lowest levels of agreement. Items reported on Table 1 are not exhaustive (the survey included 47 items), but are intended to highlight those constructs with which participants demonstrated the most and least agreement; all are explored in some detail in the discussion section, that follows.

Table 1 indicates high levels of pre-service teacher agreement (mean: 4.6 on a 1-5 scale) with items that described confidence in communication skills, and relatively lower levels of agreement (means: 3.27-2.73 on a 1-5 scale) with items describing confidence in promoting trust, interdependence, or a community/family "feel."

Table 2. Self-Reported Pre-Service Teacher Perceptions, Before and After
a 7-Week Virtual School Field Experience (VSFE) in
New York State, Spring 2014 (*N* = 11)

Item	Mean, pre-VSFE	Mean, post-VSFE	Change
In an online course, I am confident that I can provide explanatory feedback to help my students learn.	3.73	4.50	+.77*
In an online course, I am confident that I can provide clear instructions on how to partici-pate in course learning activities (for example, how to complete course assignments successfully).	3.90	4.64	+.74***
In an online course, I am confident that I can meet the individual educational needs of my students.	3.91	4.27	+.36*
I believe the College at Brockport should offer an online teaching credential.	3.82	4.18	+.36*
In an online course, I am confident that I can help prevent students from feeling isolated.	3.64	3.36	−.27*
In an online course, I am confident that I can help students trust others.	3.55	3.27	−.27*

Note: Likert-type scale from 1-5, where 5 = Strongly Agree and 1 = Strongly Disagree.
Significance testing done via paired *t*-tests.
  *$p < .1$; **$p < .05$; ***$p < .001$.

Table 2 reports pre- to post- *changes* in pre-service teacher views after completion of the virtual school field experience. Table 2 includes only those items demonstrating significant changes at the $\alpha = .05$ level. Although our sample of 11 graduate students was small (demonstrating very low statistical power), the six items presented in Table 2 demonstrated large mean changes from pre- to post- on the VSFE survey that paired *t*-testing indicated was unlikely due to chance.

Table 2 indicates gains on four items (from pre- to post-VSFE) demonstrating significance. Pre-service teachers reported gains in confidence at giving feed-back (+.77) and providing clear instructions (+.74) after completing the VSFE. Pre-service teachers also reported gains in confidence at the ability to meet

individual needs (+.36) and in belief that the College should offer an online teaching credential (+.36).

Table 2 also indicates two areas demonstrating declines unlikely to be due to chance response variability, which appear to be drawn from a single conceptual domain: ability to overcome student isolation online. Pre-service teachers reported declines in confidence that they "can help prevent students from feeling isolated" (–.27) or "help students trust others" (–.27).

DISCUSSION

Strengths and Gains

Pre-service teachers completing VSFEs reported high levels of absolute agreement (mean score 4.64) with items describing confidence in *clarity of communication*—for example, in acknowledging student participation, describing tasks, or establishing due dates. Pre-service teachers also reported significant *gains* on related questionnaire items such as provision of useful feedback to students, and provision of clear instructions. This high confidence and attendant gains appear to emerge from familiarity with communication tools and the value pre-service teachers placed on good communication. All of the courses that participated in the VSFE required frequent written communication in modes with which pre-service teachers were familiar (course postings, e-mail, discussions, or text messaging), and there was general agreement that such communication was important for teaching and learning. One student highlighted the importance of communication as foundational for the online environment:

> I think that the most important thing online teachers need to do in order to keep their students connected is to stress communication. Without this, online learning could not exist. In order for this to be most effective, teachers have to be sure that they are communicating with students on a consistent basis by providing feedback to assignments, posting updates about the course and its material, etc. This will keep students from disengaging, as well as help to create a routine for everyone involved. (Valerie K., mathematics)

Pre-service teachers also reported significant gains in confidence at meeting the individual needs of students, what many would call *differentiation*. This appears to have emerged from the structure of the courses themselves, many of which included features such as text-to-speech and individual choice over response format or readings. Pre-service teachers also reported that the nature of their communications with students, which were most often individual e-mails or posts rather than whole-class-broadcast or lecture-type communications, contributed to their ability to meet individual needs. Cooperating teacher Vicki Cook commented:

> In terms of meeting individual student needs, I believe that at least some of the pre-service teachers realized that they actually communicated more with some students than they would in a traditional classroom. As an on-line teacher, you communicate with the class as a whole through postings and group emails, but it is the individual emails that meet specific student needs and this happens frequently in these courses.

Gains in the belief that the College at Brockport should offer an online teaching credential appear to have emerged from the unique nature of teaching and learning online. While pre-service teachers often encountered (and occasionally voiced) the generic view that "*good teaching is good teaching*," they also reported that many technical aspects of online instruction were distinct from face-to-face instruction, and that their pre-service content and pedagogy training had not fully prepared them for online environments. One student commented on the challenges of translating "typical" face-to-face classroom behaviors to the online environment:

> Since I am not physically standing in front of my students, it is harder for me to translate the things I do in person into the online teaching world; language included. [E]xamples are cracking (appropriate) jokes, exaggerating my body language, and engaging in natural conversation. (Valerie K, mathematics)

Another student echoed this challenge, and suggested a need for state-level certification for online environments (which does not yet exist in New York):

> Any teacher that is teaching online should be certified and have some form of online teacher training [...] because online teaching is different than teaching in a brick and mortar classroom, and teachers need to understand those differences and expectations before they begin teaching in this manner. (Debra D., literacy)

A third student described her growth in use of technology during the VSFE:

> Before starting [the VSFE], I was timid and unsure about using technology and incorporating it not only in the face-to-face classroom, but especially in an online course setting. Using new technology seemed like a big risk for me, and I could only think of "*What if I do not know what to do or how to fix a problem . . . ?*" Instead of fearing technology, I now want to dive in and learn all I can, so I can become a better and more successful teacher. . . . I am a happy member of this online community and ready to meet the challenge of creating a successful experience for my students. (Elizabeth J., English/ Language Arts)

Pre-service teachers completing VSFEs universally agreed that the online environments they experienced were sufficiently distinct from their previous experiences that they saw value in the College creating and offering an online teaching credential. They were rather more vague, however, when asked to comment directly on their own desires to make use of such a credential (the

collective response to "*I want to teach online courses in the future as part of my job*" was a mean score of 3.36 on a 1-5 scale, or "Neutral").

Weaknesses and Declines

Pre-service teachers completing VSFEs reported relatively low agreement (mean scores from 3.27 to 2.73) with items describing the *establishment of community*—for example, in trust, interdependence, or a community/family "feel." Pre-service teachers also reported significant declines on items describing confidence in ability to prevent student isolation, build trust, or create the sense that a course "felt like a family."

This lack of confidence in community cut across several of the survey items, and appeared to interact with two specific features of the VSFE structure we piloted. The online courses that hosted VSFEs in our model were all open enrollment; K-12 students could enroll in and start courses at any time during the year. As well, all of the online courses that hosted VSFEs were relatively small, with less than 10 students enrolled in each. These two features often meant that K-12 students progressed through the course modules by themselves, or with just one or two peers engaged in the same course content at any given point in time. The role of the course instructor, pre-service teachers commented, became that of "progress monitor" and individual tutor, rather than one who facilitated student-student interaction or nurtured a community with recognizable features. Both open enrollment and small class sizes were mentioned repeatedly by pre-service teachers as negatively impacting the community or family "feel" of the VSFE. Cooperating teacher Vicki Cook commented:

> Preventing a student from feeling isolated is difficult when on-line courses start at different times for different students. Students in these courses are not required to meet deadlines for discussion postings, so some students are weeks ahead of others. This is different than other on-line courses where the students have specific deadlines that must be met which would encourage them to have more synchronous communication with each other than is required now. The current set-up does help to meet some students' needs (to do less work during their sports season, etc.) but it is really an issue for the teacher to create an on-line learning community. For teachers to help students build trusting relationships, there would really need to be much more frequent and substantive communications between students.

Pre-service teachers also hypothesized that the various reasons *why* K-12 students were taking online courses (for example, credit recovery) might run counter to the goal of establishing a community-based online learning environment. In essence, a student who enrolled in an online class because they needed it to graduate may not necessarily look to that course for a "community," or seek strong connections to online teachers (or for that matter, pre-service teachers

completing VSFEs). Rather, these students may simply be seeking course credit. As one pre-service teacher commented, it felt at times a bit transactional:

> My students were polite, but not really responsive when I contacted them and attempted to make a connection—and one I never heard from. That said, while none of them were racing through the courses, they were progressing more or less on track and turning in assignments—some decent, some mediocre. (Kristen K., music theory)

Joshua Coon, a graduate student in history and author on this article, added that:

> [O]ne of the problems with online courses is that the students, for the most part, are there to pass the test, get the grade, and move on with their lives. The students that I am working with do not seem to want to engage with anyone. I don't get to see the full interactions that the teacher is having with the students, and I myself am having trouble establishing any relations with the students[.] (Joshua C., social studies)

The establishment of a community or family "feel" was often cited by pre-service teachers as a highly desired, but missing, attribute of online courses they would like to teach. While pre-service teachers did not explicitly link "community" to student learning outcomes—none claim that a community or family "feel" was critical for K-12 students to learn new material—they all mentioned community as something that they themselves needed as teachers. One student commented wistfully:

> We all have those students who would just *not* engage in the course material, or even in conversation with us about the course. I had a student who would submit work that would just have his name on it and no work on the paper. He would say that it was due to technical difficulties and when asked to resubmit it, he wouldn't answer for weeks. It got to the point where I felt as if I was badgering him . . . but this is what I was advised to do by my cooperating teacher. I felt for the student, as well as for the teacher at this point. They both felt tapped out, and at this point, no one knew exactly what to do. . . . (Jaclyn C., literacy)

Cooperating teacher Vicki Cook, reflecting on her own transition to online instruction, highlighted the apparent contrast between what originally drew her into teaching, and what she found in teaching K-12 online courses:

> [E]ven after taking a course on how to teach online, I still was surprised and frustrated by the lack of student interaction. I had learned how to teach online, but I had not anticipated how the emotional part of this type of teaching would feel. From my discussions with many pre-service teachers, most are going into the profession because of the positive relationships they had with their own teachers in traditional school settings. Pre-service teachers need to realize that they are not going to be their online students' "favorite" teacher, and that they probably won't inspire students in the way that many of their teachers affected them. Pre-service teachers should understand that

> they can still establish strong relationships with students, but they will most likely be different than the relationships they had with teachers in their own school experience.

Ultimately our findings present a mixed portrait of the particular VSFE model we piloted. We found that pre-service teachers could successfully complete online teacher training, and could gain valuable insights into K-12 online instruction while completing a 7-week VSFE. We also found that students appear to have gained confidence in clear online communication, differentiation, and the value of preparation for online instruction. We also found that pre-service teachers saw limitations in their ability to promote community in their online classes, an aspect of teaching which many described as a valued aspect of their instruction, and something they felt they would need to feel effective.

A clear limitation of these findings is that there are few established models of VSFEs in which to situate this work. Particulars appear to matter; our pre-service teachers commented on the open enrollment of their VSFE courses, and the relatively small class sizes, as being challenging to overcome, for example, in building community. Yet these same features may have contributed to the strengths and gains we report—for example, successful communication may have been facilitated by low student enrollment. Readers are cautioned against drawing any generalized conclusions about VSFEs, which demonstrate a range of characteristics, but should understand what we report as the initial findings of a single specific model. As well, our small sample size necessarily limits generalizability—while we did find some gains and declines unlikely due to chance, there will be an ongoing need to continue exploration of different models with greater numbers of pre-service teachers across a range of VSFE model types in the years ahead.

CONCLUSIONS AND FUTURE WORK

We found that pre-service teachers who completed a VSFE reported success in communicating with their K-12 students, and struggled to establish a sense of community in their online courses. We also found that pre-service teachers who completed a VSFE reported gains in their ability to provide explanatory feedback, to provide clear instructions, and to meet the individual educational needs of students, while reporting declines in their confidence at helping prevent students from feeling isolated, or at helping students trust others. In the future, we hope to explore these findings in greater depth—with additional pre-service VSFEs, and with adjusted models that allow us to explore how those particulars identified by participants as important (e.g., open K-12 course enrollment) influence the experiences of pre-service teachers completing VSFEs. We are at an admittedly early stage in the work—which, if nothing else, leaves a great deal of territory to explore.

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