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INCREMENTAL PROGRESS: RE-EXAMINING FIELD EXPERIENCES IN K-12 ONLINE LEARNING CONTEXTS IN THE UNITED STATES

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Despite the call for a transformation of teacher education in the 21st century, surprisingly little has changed. This includes how the practical, hands-on component, known as a field experience is structured. Previous research, conducted in 2010, specifically examining how teacher education programs address K-12 online learning through their field experiences found that only seven programs nationally, or 1.3% of responding programs, offered such an experience. In comparison, the current study found a small expansion that includes 15 programs across nine states, representing 4.1% of responding teacher education programs. Despite being limited, there appears to be slow, targeted growth, particularly in contexts in which partnerships have formed between teacher education programs and K-12 online providers. However, while signs of progress are evident, significant work to move the field forward with respect to K-12 online teacher preparation remains.

INTRODUCTION

Education in online and blended settings, particularly at the elementary and secondary school levels, is growing and gaining acceptance as a viable supplement or replacement for traditional, face-to-face learning. Gemin, Pape, Vashaw, and Watson (2015) report that all 50 states and the District of Columbia offer some form of online learning experiences for K-12 students. This has been true for a number of years, and the expansion continues to take hold, particularly as districts see advantages to offering coursework online, including but not limited to providing opportunities for credit recovery and advanced placement, accommodating for scheduling conflicts, and alleviating pressure for students with personal illnesses, teen pregnancy, or other health-related needs. As online learning grows in popularity, qualified teachers who are skilled and adept at creating conducive learning environments are essential components to the quality of instruction. Since teacher education programs are the main stay of preparing educators to be effective, these programs should adapt to include not only traditional, face-to-face field experience opportunities, but also online ones (Kennedy & Archambault, 2012). Despite a call for the evolution and transformation of teacher education, little has dramatically changed, including how the practical, hands-on component, known as a field experience is structured. Previous research, conducted in 2010, specifically examined how teacher education programs address K-12 online learning through their field experiences. The authors found that only 1.3% of those responding demonstrated evidence of a hands-on, practical experience in an online or blended educational setting (Kennedy & Archambault, 2012). As we quickly approach the second decade of the 21st century, it behooves us to reexamine how teacher education programs have evolved and explore the current implementation of field experiences within online learning contexts.

Background

Currently, nearly all school districts across the nation are providing some form of online education. An estimated 50 million students are taking supplemental online courses while attending a traditional school (Gemin, Pape, Vashaw, & Watson, 2015). Due to the flexibility of online learning, students are taking courses that may not be offered at their home schools, as a way to pick up electives, or advanced course options such as Advanced Placement (AP), or to complete credits needed for graduation. Online education can also provide viable options for student athletes or for those who are unable to attend school due to illness, pregnancy, or incarceration (Gemin et al., 2015). Given the numerous reasons students might have for taking online courses, in addition to the increasing acceptance of online education as a viable alternative to traditional, face-to-face instruction, the number of students who are taking online courses continues to grow.

This growth necessitates qualified online teachers who are prepared to teach and support students at a distance. While teachers may receive professional development prior to or during their online teaching, the quality and duration can vary widely (Oliver & Parker, 2016). Unlike traditional teaching where educators are most often prepared at the university level in either a four- or five-year degree program, online teacher preparation does not have a sustained or systematic approach (Kennedy & Archambault, 2012). Unfortunately, little is being done in this area, particularly when it comes to practical, hands-on field experiences. The purpose of the current study is to examine how U.S. teacher education programs have evolved since the last systematic look (Kennedy & Archambault, 2012) to prepare preservice teachers for K-12 online learning, particularly when it comes to field experiences.

Field Experiences

Prior to examining field experiences in online settings, it is helpful to gain a sense of the history and importance of such internships within teacher education. In order to enter the traditional classroom, one of the hallmarks of teacher preparation is the field experience (Cattley, 2007). This approach has its roots in the theoretical framework of situated cognition, which espouses practical, hands-on experience as a key component of learning and requires a contextualized, authentic setting to engage in direct interaction and reflection within the environment (Brown, Collins & Duguid, 1989). In order to be able to apply the pedagogical content knowledge built throughout a well-designed teacher education program (Shulman, 1986), preservice teachers need to be able to have an opportunity through a cognitive apprenticeship to observe what happens in the classroom, whatever the format might be. They need to be able to model their mentor teacher who can make expert tacit knowledge explicit. The role of the mentor teacher is critical in demonstrating effective teaching strategies, providing scaffolded support during instruction, and offering specific feedback for improvement (Collins, Brown & Newman, 1989). The cognitive apprenticeship is essential for the "…transfer of what is presumably learned in teacher education programs to actual classroom practice…" (Moore, 2003, p. 32).

Because of its central function in the preparation of teachers, the field experience has a long history in teacher education. A number of different models have been used across the decades, including observational learning (Koran, Snow, & McDonald, 1971), internships (Gardner & Henry, 1968), microteaching (Allen & Eve, 1968), self-evaluations (Beijaard et al., 2000), reflection (Hatton & Smith, 1995), immersion (Wiggins, Follo, & Eberly, 2007), mentoring (Ballantyne & Hansford, 1995), and field experiences (Zeichner, 1984). Whatever form the specific model might take, these practica are a fundamental component of teacher education programs (Aiken & Day, 1999; Buck, Morsink, Griffin, Hines, & Lenk, 1992; Harlin, 1999; Joyce, Yarger, Howey, Harbeck, & Kluwin, 1977; Wiggins & Follo,

1999), so much so that during the 1970s, state departments of education mandated a field experience to become certified to teach (Moore, 1979). Predominately, the field experience takes place in a traditional, face-to-face schooling environment. With the expansion of online education, however, there is an opportunity for preservice teachers to be exposed to an apprenticeship that occurs in an online setting. Unfortunately, only a handful of programs offer field experiences in K-12 online learning. According to the last systematic look at this issue in 2010, only 1.3% of those surveyed, representing a fraction of responding teacher education programs, offered students the ability to complete a field experience online (Kennedy & Archambault, 2012). This suggests that overall, teacher education programs have made few strides in systematically preparing preservice teachers for online settings (Kennedy & Archambault, 2012).

Field Experiences Specific to K-12 Online Learning

The work done to make progress with respect to field experiences in K-12 online learning is important to note. Irvine, Mappin, and Code (2003) began identifying the need for teacher education programs to address preparation for online environments as early as 2003. In large part, their work caused the International Association for K-12 Online Learning (iNACOL) to recognize the need for teacher preparation in online pedagogy and support strategies (Lowes, 2007). Another major milestone occurred when Iowa State University (ISU) was awarded a Fund for the Improvement of Post Secondary Education (FIPSE) grant to address this area. Their project Teacher Education Goes Into Virtual Schooling (TEGIVS) (Davis, Roblyer, Charania, Ferdig, Harms, Compton, & Cho, 2007) showcased a virtual school field experience conducted in the fall of 2007 (Compton, Davis, & Mackey, 2009) in which two preservice teachers were paired with one Iowa Learning Online (ILO) teacher as part of a one-credit course. Responsibilities of the preservice teacher included keeping a reflective journal, participating and answering questions in the ongoing discussion forums, and completing an interview about their experiences within the course. The ILO teacher supervised and assisted the preservice teachers within the K-12 online learning environment. Afterward, the participating preservice teachers showed growth in their understanding as well as new conceptualizations regarding K-12 online learning (Compton et al., 2009).

In addition to the initial field experience at ILO, the University of Central Florida (UCF) and the University of Florida (UF) began offering field experiences in online environments in 2009. Both programs partnered with Florida Virtual School (FVS) to provide placements. UCF offered a seven-week field experience for preservice teachers, while UF provided a voluntary four-week field experience aimed at the graduate level (Kennedy, 2010). In 2009, the University of South Florida piloted their first field experience in online education, expanding to a college-wide program in 2010.

As a result of the robust collaboration between Florida universities and FVS, together with state educational policy that is positive toward online learning, such programs have continued to flourish. Within teacher education programs in Florida, preservice teachers have the ability to complete half of their field experience (seven weeks) in a traditional, face-to-face educational setting, and then the remaining half in an online setting with FVS. This combination provides preservice teachers specific, hands-on preparation and professional development to teach across learning environments (Gemin, Pape, Vashaw, & Watson, 2015; Kennedy & Archambault, 2012).

Given the backdrop of progress in teacher education to address online teaching, the purpose of the current study is to explore how U.S. teacher education programs have evolved to prepare preservice teachers for K-12 online learning, particularly when it comes to field experiences, and to examine the current models that exist. As such, our research questions are as follows:

1. What models of field experiences in K-12 online settings currently exist across teacher education programs in the United States?
2. How have field experiences in K-12 online settings changed since the last systematic examination conducted in 2010?

METHODS

For the current study, we used a Web-based questionnaire developed and validated as part of a previous examination (Kennedy & Archambault, 2012) to examine the nature of field experiences in online learning environments and explore how these experiences have evolved since the last iteration. The survey consisted of both closed and open-ended items designed to gather data regarding field experiences occurring in online school settings. To build a database of potential respondents who could provide relevant information, a comprehensive list of teacher education programs was gathered from major organizations including the American Association of Colleges for Teacher Education (AACTE), the National Council for Accreditation of Teacher Education (NCATE), and the Teacher Education Accreditation Council (TEAC). A total of 1,017 unique institutions were identified. Then, the names, titles, and email addresses of field experience contacts were collected. Approximately three contacts from each program were identified by searching each institution's website for faculty or staff who could provide specific information regarding field experience placements, such as field experience office personnel, administrators in charge of teacher education programs, and/or technology education faculty. This yielded a database of 2,271 individuals.

Once the database was created, we used Dillman's (2010) Tailored Method Design to deploy the survey, sending prenotification emails to potential respondents three days prior to launching the survey. The purpose of doing so was to resolve issues with inactive email accounts or incorrect recipients.

If the original recipient indicated that he/she could not respond to the survey because they lacked the necessary information to complete it, typically, the recipient suggested another potential recipient who would be the correct individual. Alternatively, the researchers returned to the institution's website to find another potential recipient. A total of 2,271 possible respondents were identified. Of the 2,271 possible respondents who were sent the electronic survey, 925 opened the survey email. To account for this, we also calculated a cooperation rate, which subtracts noncontacts and refusals from the sample of potential respondents (Blair & Blair, 2015). The cooperation rate was 48.1% (445/925). Out of 445 gathered responses, 18 respondents were excluded from the analysis because their responses were incomplete, not answering the critical question relating to whether their program offered any type of field experience in K-12 virtual/online school setting for preservice teachers. As a result, we yielded a total sample size of 427 individual respondents.

When analyzing data at the institution level, which occurred when more than one respondent provided data for a single institution, all duplicate cases were merged to yield a single data line. In the rare instance that there was a discrepancy in the information provided by the respondents for the same university, these were resolved by verifying the school information via US News and World Reports College Profile listings (US News, n.d.). Multiple comments from the respondents at the same institution were merged together under the same data line. In doing so, we removed 64 duplicate cases. A final sample of 363 unique institutions resulted. Our collected sample yielded a 37% response rate at the institutional level (363/1017).

As with the previous analysis, a mixed data approach was used to gather and analyze both quantitative and qualitative data. Quantitative data were analyzed using descriptive statistical measures to examine teacher education programs offering virtual school field experiences. Qualitative data were gathered by asking open-ended questions. Thematic analysis was used to identify recurring themes within the qualitative data set (Hatch, 2002).

Limitations

As with any systematic analysis, there are inherent limitations to every approach. One of the major drawbacks of survey research deals with accuracy issues, as it relies heavily on self-report data gathered via an emailed survey. This affects the researchers' ability to verify the precision of the responses (Fowler, 2002). As with the previous study (Kennedy & Archambault, 2012), a similar method for gathering email addresses for the study was used. However, this relied on the accuracy of public Web pages, so potential respondents were only able to complete the survey if their email address was accurately listed and if they checked their inboxes on a regular

basis. Also, while we are comparing results from data gathered in 2010 and that in 2016, it should be noted that we are looking at overall trends. This is not a longitudinal look surveying the same participants as before, nor is it a random, representative sample. Therefore, we cannot generalize to the overall population of teacher education programs. Although we worked to garner responses from as many teacher education programs as possible, the results do not necessarily reflect the field as a whole. Also, for future iterations of this study, it would be helpful to provide background on the growth of online learning in primary and secondary settings as greater context for the survey itself to avoid confusion on the information being solicited.

RESULTS

To obtain an overall picture of responding teacher education programs, data were gathered regarding program size, location, and the individual's role within the program. The distribution of respondents included all 50 states. The highest numbers were from New York (30), Ohio (22), North Carolina (20), and California (19) (Figure 1).

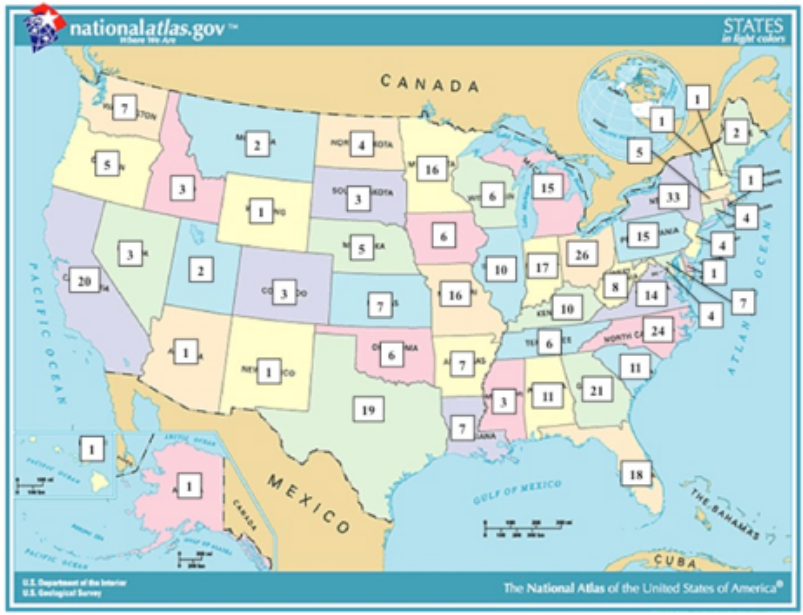

Figure 1. Locations of responding academic institutions by state, n = 363.

With respect to university size in which teacher education programs were located, smaller institutions with 0-5,000 students were the most represented, at 54% (196/363). Those with 5,000-10,000 students represented 17.9% (65/363), 13.5% (49/363) with 10,000-20,000, while 6.9% (27/363) had 20,000-30,000 students. Universities with 30,000 to 40,000 students comprised 4.1% (15/363) of the respondents, with the remaining 3.1% (11/363) representing the largest institutions serving 40,000 students or more (Figure 2).

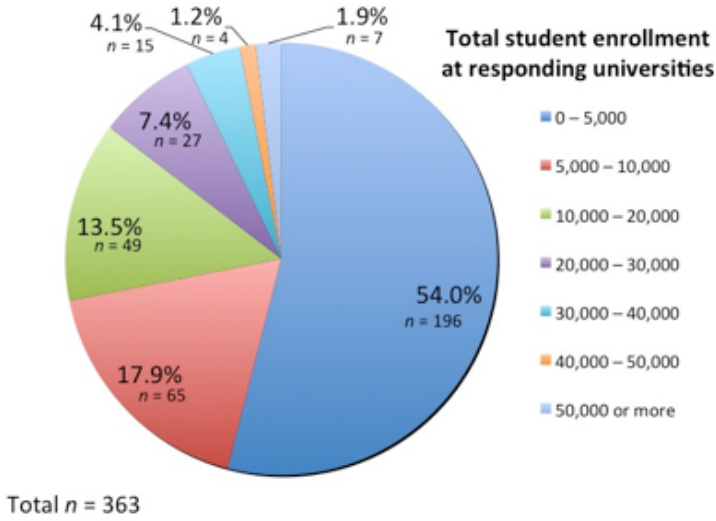

Figure 2. Student enrollment at responding universities.

Roles at responding institutions are reported at the individual level (n=427). These were made up largely by administrative positions (dean, chair, director) at 36.8% (157/427), followed closely by placement coordinators at 32.6% (139/427). Professors at varying levels of tenure (assistant – 15.7% (67/427), associate –19.7% (84/427), full –11.9% (51/427) were also represented, along with coordinators at various levels (graduate – 4.9% (21/427), undergraduate – 4.7% (20/427), and program – 3.3% (14/427), adjunct faculty – 2.3% (10/427), support staff – 1.9% - (8/427), and advisors at .5% (2/427) (Figure 3). Often, participants indicated serving in multiple roles.

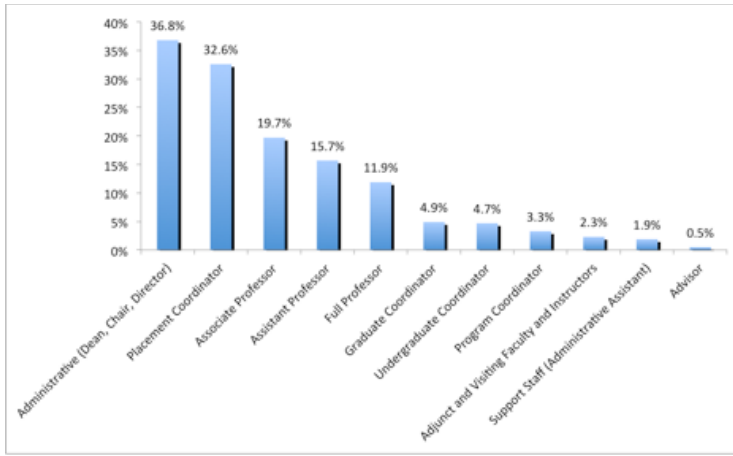

Figure 3. Roles of respondents (n=427).

In examining how many teacher education programs reported having a field experience in an online environment, 88.2% (320/363) indicated that their programs did not offer such an experience, while 11% (40/363) reported that their programs did. However, as in our previous investigation (Kennedy & Archambault, 2012), when examining individual responses with descriptions of the field experience itself, only 4.1% (15/363) reported specific data, including what was required of the preservice teachers. Consequently, this is a more accurate representation of the number of programs with some form of online field experience component. The reported total student enrollment of each of the teacher education programs' universities is shown in Figure 4.

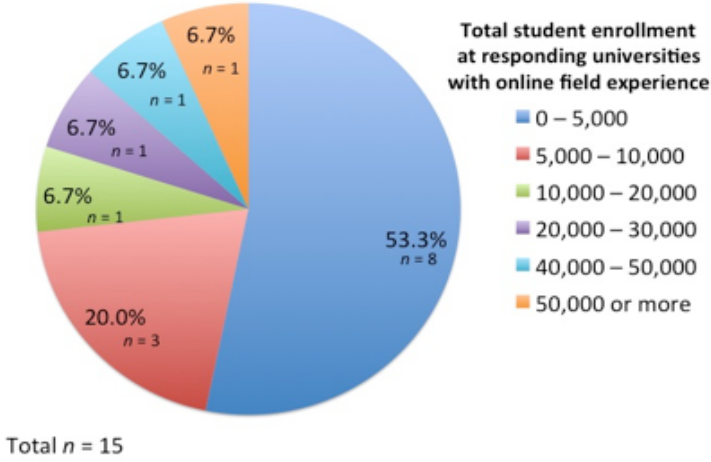

Figure 4. Percentage of students enrolled at universities reporting virtual school field experiences.

For programs who reported not offering field experiences in online settings, participants were asked if they thought their program should do so. This analysis was done at the respondent level because when institutions had multiple respondents, often their answers differed for this question. However, every respondent did not answer this question (n = 352). While 40.6% (143/352) reported yes, 59.4% indicated no. Of the 358 responding to the question that asked if their teacher education programs were currently planning such an experience, 8.7% (31/358) reported that they were while 91.3% (327/358) indicated that they were not.

Programs Reporting an Online Field Experience

The following section provides an overall depiction of the teacher education programs that indicated they offered an online field experience. Such programs were offered in a variety of states including Florida, Georgia, Kansas, Louisiana, Michigan, New York, North Carolina, Ohio, and Pennsylvania. One program in Florida indicated that it has offered its online field experience component for more than five years, but the majority of programs have been offered for less than three. In line with this finding, the greatest number of students in an online field experience was 50-75 in Florida. A summary of the characteristics of each of the programs reporting an online field experience is presented in Table 1.

Table 1

Breakdown of Models Reporting Field Experience in an Online Setting

Model	Grade Levels	No. of years offering field experience in online setting	No. of pre-service teachers involved	Matching of coop-erating/ preservice teachers	No. of weeks experience is offered	No. of hours re-quired	Standards used to design VSFE
FL 1	K-12, and adult ed	1-3	25-50	Not reported	12-16	0-4	Not reported
FL 2	6-12	5+	50-75	Subject-specific, Grade specific	12-16	Not reported	Not reported
GA 1	6-12	1-3	Not reported	Subject-specific,	4-8	Not reported	Not reported
KS 1	K-12	1-3	30	Subject-specific, Grade specific	0-4	4-8	iNACOL

Table 1, *Continued*

Model	Grade Levels	No. of years offering field experience in online setting	No. of pre-service teachers involved	Matching of coop-erating/ preservice teachers	No. of weeks experience is offered	No. of hours re-quired	Standards used to design VSFE
KS 2	K-6	3-5	30-40	Subject-specific, Grade-specific	8-12	8-12	Not reported
LA	K-5	1-3	6	Grade-specific	More than 16	0-4	Not reported
MI 1	6-12	1-3	20-25	Subject-specific	8-12	Not reported	Michigan Virtual University
MI 2	6-12	0-1	50	Not reported	Not reported	Not reported	Not reported
NY 1	K-5	0-1	5	Grade-specific	8-12	0-4	Quality Matters
NC 1	Not reported	1-3	1 preservice, 2 inservice	Subject-specific	More than 16	8-12 hours	iNACOL
OH 1	K-12	0-1	15	Random assignment	4-8	0-4	Quality Matters
OH 2	K-12	1-3	5-10	Subject-specific, Grade-specific	4-8	Not reported	iNACOL, Ohio standards for teaching, INTASC
OH 3	K-12	Not reported	8	Subject-specific, Grade-specific	0-4	Not reported	iNACOL
OH 4	9-12	0-1	1	Subject-specific	12-16 weeks	Not reported	Not reported
PA 1	K-12	0-1	3	Random assignment	4-8	8-12	Quality Matters

Together with gathering data specific to size, grade-level, duration, and implemented standards to provide an overall sense of the characteristics of teacher education programs offering a field experience in an online setting, we also analyzed the types of learning activities students were asked to do. The majority of programs had students participate in communicating with students (73%), communicating with parents/learning coaches (53%),

facilitating class discussion forums (67%), delivering synchronous instruction (67%), evaluating student work (67%), completing required paperwork (67%), tracking student progress (53%), and attending professional development sessions (53%) (Figure 5).

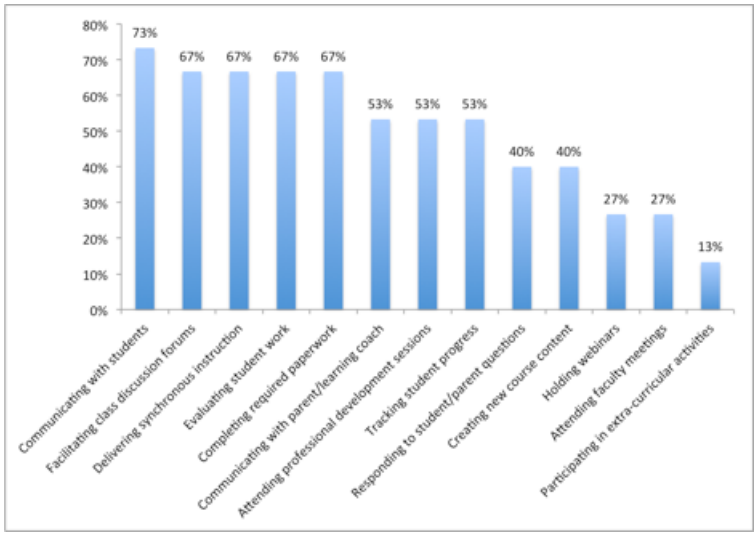

Figure 5. Preservice teacher activities in VSFE by percent frequency (n=15).

Qualitative Data

In addition to the quantitative data, we also synthesized summaries from the open-ended responses from each of the teacher education programs offering a field experience component in an online setting. Below are narrative descriptions depicting each program. It should be noted that some descriptions are more detailed than others depending on the depth of responses from each program.

Florida 1

Florida 1 offers an online field experience component for preservice teachers embedded in the Applied Linguistics course offered in their preservice teacher education program. Over one semester, preservice teachers partner with international schools to teach elementary (K – 5) English language learners in Brazil, South Korea, and Haiti. They use a web conferencing tool to provide virtual tutoring 30 to 60 minutes per week. Preservice teachers' experience is assessed with reflective journaling. The experience is not required, but most students complete it as part of the service-learning component for their preservice program.

Florida 2

Florida 2 partners with a state-level virtual school to provide preservice teachers with the option to do either or both of their two internships. Florida 2's are the same duration and are evaluated in the same way as their traditional, face-to-face internships. The first semester internship is approximately 16 to 20 hours per week, and the second semester internship is approximately 40 hours per week. Preservice teachers are evaluated using the same standards and procedures as those in traditional internships: observations, evaluations, feedback, reflections, login/tracking, logs, and assignments. Cooperating teachers at the state virtual school must hold a Professional Educator's Teaching Certificate, have completed Clinical Education Training, have at least three years of successful teaching experience, have a proven ability to mentor/coach adults, and have received "effective" or "highly effective" on their performance appraisal.

Georgia

Like Florida, Georgia also partners with a state-level virtual school to offer such a field experience for its preservice teachers preparing to teach at the secondary level. The optional practicum lasts four to eight weeks and is taught asynchronously. Preservice teachers' learning is evaluated through reflections and a culminating synchronous presentation of the online course materials that they develop, which align to the standards for modules at the state-level virtual school.

Kansas 1

Kansas 1 partners with a city-level virtual school to offer preservice elementary (K – 5) teachers a two-day experience on site at the virtual school. The experience is part of a practicum course requirement. Preservice teachers spend one day with virtual school administrators and teachers, gaining an overview of virtual education and how the school runs. Preservice students then work in groups with a virtual school teacher to design a virtual lesson which could include creating a PowerPoint presentation or speaking to students on the phone for a fluency check. Preservice teachers spend the second day shadowing an assigned collaborating virtual school teacher at the teacher's home office and observing the virtual teaching environment. Because preservice students are required to meet with their cooperating teachers in person, selected teachers are those who live in close proximity to the university.

Kansas 2

Kansas 2 partners with a state-level virtual school to offer preservice elementary (K - 6) teachers participating in the college's Instructional Design and Technology certificate program the option of completing a field experience in an online environment. The experience lasts eight to 12 weeks, for eight to 12 hours per week. Preservice teachers are evaluated by online behavioral metrics such as login frequency.

Louisiana

Preservice teachers who spend two semesters abroad can complete a field experience component online. This allows participating preservice teachers to satisfy their field experience hours needed before the clinical phase of student teaching. Within the experience, students view videos and describe components as requested by the course professor and are evaluated through journals, logs, and reflections.

Michigan 1

Michigan 1 offers an optional field experience in an online environment, which may be completed in addition to their program requirements. The experience is offered at no cost and requires a written commitment from participating preservice teachers. According to the respondent, by providing the opportunity, Michigan 1 aims to, "supplement the time that students are spending in the traditional classroom, so that they have both an online and a traditional teaching experience." The experience is offered through several different state-sponsored virtual schools. Preservice teachers participate in the 10-week field experience in the semester prior to student teaching, after they have been fully admitted to the university's teacher education program. Before beginning, preservice teachers complete a one-hour tutorial introducing the field experience. They are then placed in a virtual classroom where they oversee a minimum of five to 10 students, with the support of the cooperating virtual teacher. Cooperating teachers are selected based on their willingness to commit to the program, fulfillment of university-established credentials, principal approval, and feedback from prior teacher candidates. Preservice teachers are required to log a minimum of 30 hours of student contact time over the 10 weeks, while also participating in a weekly discussion with the lead teacher, completing weekly written reflections, and being observed at least two times by their cooperating teacher and online program coordinator.

Michigan 1's online field experience initiative is a collaboration between the university and a private educational technology firm. The program was designed over a nine-month period and recently finished a two-year pilot. Data has been collected from each cohort of preservice teachers in order to iteratively revise the program.

Michigan 2

Although little detail was offered for Michigan 2, the program respondent indicated that it partners with a national-level virtual school to offer an optional field experience in an online setting for preservice teachers. In order to participate, preservice teachers need previous clinical field experience and course work in philosophy of online teaching and learning.

New York

Little information was offered for the teacher education program in New York. The respondent indicated that it has piloted a semester-long hybrid format practicum seminar course, which partners with local public schools. Participation is required among preservice teachers in the elementary (K-5) program. Preservice teachers are evaluated using observations, reflections, and logs.

North Carolina

North Carolina partners with a state-level virtual school to offer an optional field experience in an online setting for undergraduate preservice teachers or a mandatory field experience for inservice teachers enrolled in the college's Master of Science in Online Teaching and Instructional Design. The experience, set in a high school context, is comprised of a nine-week online course and a nine-week practicum. During the online course, teachers learn best practices for online teaching while also experiencing an online course from a student perspective. Throughout the course, teachers also attend synchronous online sessions modeling participation in an Electronic Learning Community. After completing the course, teachers are assigned a cooperating teacher and begin the field experience. Teachers are evaluated weekly by their partner teachers, and at the end of the practicum, they complete a post assessment.

Ohio 1

While little data was provided for Ohio 1, it appears to offer an optional field experience in an online setting for elementary (K-5) preservice teachers that lasts four to eight weeks and requires zero to five hours per week.

Ohio 2

Ohio 2 offers an optional field experience in an online setting through a partnership with a state-level virtual school. During the semester, preservice teachers spend seven weeks at the online field experience and the remaining seven weeks at a traditional brick-and-mortar field site. Preservice teachers are eligible once they have been accepted to the educator preparation

program, typically during the sophomore year of study. The duration varies by the specialized teacher education program. Cooperating teachers are selected based on their interest and are expected to complete training prior to beginning.

Ohio 3

Ohio 3 partners with two state-level virtual schools to offer an optional field experiences for students in the college's masters of education program. The practica can be used for teachers' first two field experience requirements. It involves 75 contact hours over a three-month period. In order to participate, teachers are required to complete the course in "tech basics." Cooperating teachers are selected by the virtual school.

Ohio 4

In an example of a field experience offered in an online setting to meet the needs of an individual student, Ohio 4 collaborated with a state-level virtual school to offer one preservice teacher an online placement due to personal circumstances. The preservice teacher spent the semester working onsite with a cooperating teacher, teaching students off site as well as on site, when they physically came to the school. The collaborating teacher was licensed and willing to mentor a preservice teacher. The experience was positive, and while the respondent believed it would not be the best fit for every teacher, the program would be willing to do it again if needed.

Pennsylvania

A program within Pennsylvania partners with a state-level virtual school to offer an optional field experience in an online setting for preservice teachers who are enrolled in the college's program leading to an online teaching endorsement. In the four- to eight-

week field experience, they are supervised by a college faculty member and a cooperating teacher at the online school. Collaborating teachers must be willing to participate and be able to meet with the preservice teachers face-to-face.

In addition to the overall narratives, we also asked teacher education program respondents the following open-ended question: "If your teacher education program is NOT offering K-12 online/virtual school field experiences for its pre-service teachers, do you think it should? Why or why not? Please elaborate." There were 318 responses to this question. Using open coding to analyze the data, we identified eight themes that are described in the following section. From the onset, however, it should be noted that the second most frequent theme - "Misunderstood - virtual field experience" (89) - is

not included in Table 2 below because the responses were not in line with the subject of the survey. This number represented 28% of responses. For this theme, respondents mistook online/virtual school field experiences for field experiences in virtual reality settings and alluded to the need for "real" teachers and "real" students. Thus, percentages in Table 2 are the frequency of the theme divided by 229 (318 excluding the 89 responses that were coded "Misunderstood - virtual field experience"). The following is an example quotation to illustrate the excluded theme: "The students that they will teach in the future will be real people, not avatars or other virtual experiences."

Table 2
Themes from Open-ended Data

Theme	Frequency	Percent of Total Responses (out of 229)
Future of teaching/reality of change	97	42.3%
Real vs. virtual	51	22.2%
State & local area considerations	33	14.4%
Program considerations	30	13.1%
Unsure/not informed	15	6.6%
Developmental considerations of K-12 students	2	0.87%
Closing of TEP	1	0.44%
Total	229	100%

The rest of this section provides a brief overview of the themes addressing whether or not participants thought that their teacher education programs should provide a field experience in an online environment for preservice teachers.

Future of Teaching

The first theme is "Future of teaching/reality of change" (97 out of 229) where respondents were acknowledging the need for more teacher education programs (and oftentimes their own) to move in the direction of offering a field experience in an online setting. They convey that they see the need for preservice teachers to "be prepared to teach in a variety of delivery formats" and relay that they see a growth of online learning in K-12 in their area.

Real vs. Virtual

Out of 229, 51 were comments related to respondents expressing that they feel face-to-face field experiences are superior to field experiences in virtual schools. One quote that is representative of this theme is "I don't believe a virtual/online school field placement experience would prepare our candidates for the teaching profession adequately. I also think it would be a disadvantage for their resume when applying for a classroom position."

State and Local Considerations

Thirty-three of the 229 responses concentrated on "state and local area considerations" where respondents share the state-level and local district considerations they considered when thinking about whether their program should offer field experiences in K-12 online and blended learning environments. The following quote is an example of a response for this theme:

> At the current time, these settings do not exist in our service area, i.e., schools with which we have relations. There are some online courses available to students but not at a level that would warrant moving in this area. Once this occurs, we will make adjustments in our program.

Program Considerations

The "Program considerations" theme had 30 out of 229 responses. An example of this theme is "We prepare educators to meet the needs of the schools in our community (and beyond). With such a high demand for qualified teachers in our K-12 public schools, training for K-12 online/virtual school field experiences does not seem as relevant."

Unsure/Not Informed

The theme "Unsure/Not Informed" centered on respondents who shared that they were not sure about how their program should or should not prepare their preservice teachers for K-12 online learning and/or they were not sure if this type of teaching even existed and who was engaging in work along these lines. A sample quote from this set is "Uncertain of good educators who are teaching in this manner, unsure of who to contact for MOA [Memorandum of Agreements] agreements."

Developmental Considerations of K-12 Students

Data from the theme "Developmental Considerations of K-12 Students" focused on respondents and their concern that the online learning environment is better for older learners and not those who are in early childhood and elementary school. Here is a sample quote from this data: "While the online environment will work for older learners, it is not an optimal environment for novice learners. They are neither self-regulating or metacognitive enough to thrive in the virtual environment." Finally, one program indicated that they were closing, which was reflected in the category "Closing of the teacher education program."

DISCUSSION

To answer the research questions, "What models of field experiences in K-12 online settings currently exist across teacher education programs in the United States?" and "How have field experiences in K-12 online settings changed since the last systematic examination conducted in 2010?," we conducted an updated examination of teacher education programs for the current study. After describing the existing programs, we can begin to identify specific trends related to field experiences in K-12 online learning environments. First, in the past six years, expansion of teacher education programs providing field experiences in online or blended settings, while modest, has occurred. We identified a total of 15 programs across nine states in 2016 as compared with seven across three states in 2010. Among the current sample, 4.1% of respondents indicated offering a field experience in an online setting. This is an increase from 1.3% of programs identified in the previous study. Clearly, teacher education programs within Florida remain consistent as the longest providers of field experiences in online learning environments. However, additional programs that have added such opportunities include Georgia, Kansas, Michigan, New York, North Carolina, Ohio, and Pennsylvania. These experiences range in length from zero to four weeks to more than 16 weeks, and have pre- and in-service teachers complete common activities such as teaching synchronous lessons, providing feedback, and participating in discussion forums. The majority of programs represent a systematic commitment to offering field experiences across a variety of settings, including online. For the program in Ohio that offered a field experience in an online setting for a student with special circumstances, it saw that it could work and is willing to try it again. This represents an encouraging step forward, especially as other programs consider the possibility. While in many cases, the field experience in an online setting is optional, this expansion of choice opens possible career paths for teachers. Programs are beginning to identify the need to prepare teachers for broader contexts

than traditional, brick-and-mortar schools. Although the growth may be limited, we see progress occurring, with the number of programs with such opportunities doubling since 2010. However, as a percentage of the number of teacher education programs, as a whole, it still represents only a small portion of the many teacher education programs overall.

In addition, it is heartening to document the increase of programs within states that see value in offering such opportunities to prepare future teachers. Expansions are happening in states such as Georgia and Michigan, for example, in which there is a strong K-12 online learning presence, including not only policy but also existing partnerships with K-12 online education providers. Teacher educators are beginning to identify the legitimacy of online and blended instruction, with 42% of open-ended responses acknowledging the need to move in the direction of offering field experience opportunities that expose students to online/blended learning. As we progress further into the 21st century, there appears to be a greater recognition of the need for preservice teachers to be ready to teach in a variety of learning contexts, including those that are online.

Although we see pockets of growth, work still remains within the field of teacher education to help a greater number of faculty recognize a need for providing field experiences in online and blended educational settings. For those faculty who reported their programs not offering such an opportunity for students, only 40.6% indicated that they thought their programs should. This represents nearly a 10% decrease from the 2010 survey in which 49% said that their programs should. One of the factors may be that those who thought their programs should in 2010 may have started such opportunities for their students. One of the major factors that continues to plague the field appears to be the conflict between "virtual" and "real" - a challenge that was documented in the previous study in which faculty indicated that they thought programs should be preparing students to teach "real students in real schools" (Kennedy & Archambault, 2012). This tension remains along with the misconception that online teachers somehow do not know or connect with online students. As a result, the majority of respondents from teacher education programs feel that the focus should be preparing future educators for traditional, brick and mortar schools as it currently stands. In addition, online education appears to many faculty to represent a small portion of the student population. Therefore, many do not feel the need to expose future teachers to a context they may view as small or niche. However, with the expansion of online education, the number of qualified online teachers will continue to grow. As a result, the demand for online teachers, both at the higher education level, and as part of school choice within secondary education environments is likely to increase (Archambault, Kennedy, Freidhoff, Bruno, DeBruler, & Stimson, 2015). Additionally, a fast-growing part of the field is online courses and/or programs being created at the district and/or school level, so in this case, teachers will inevitably be asked to start designing and teaching online and/or blended courses.

From this study as well as previous investigations (Kennedy & Archambault, 2012), it appears that the path toward teacher preparation when it comes to online and blended environments is unclear. With the relatively few programs reporting a field experience in an online environment (4.1%), together with the number of teacher education personnel who either misunderstood the question (28%) or who were unfamiliar with online teaching at the K-12 level (6.6%), need for progress in this area remains largely unrecognized. The disparity among approaches of the few programs offering online field experiences is evident. While certain programs use iNACOL's Standards for Quality Online Teaching standards (iNACOL, 2011) as a foundation, others implement Quality Matters (n.d.), while still others focus on a local or state set of standards. There is a significant amount of variation in what is being done to address teaching across modern platforms and in multiple learning environments.

While prevalent in some states, such as Florida, online learning is still not as widespread as once predicted (Christensen, Horn, & Johnson, 2010). As a result, the acknowledgement of the need for teacher preparation is championed within specific programs and relatively unknown in others. What makes the difference is the relationships and partnerships that have been created between teacher education programs and prevalent online schools, such as Florida Virtual, to provide future teachers with the opportunities for field experiences. In such instances, teacher education programs are more aware of K-12 students taking online classes, and may recognize the potential benefit of offering such an experience, particularly because teachers may be hired directly into the online educational setting. While the field of online education continues to grow, especially at the local district level (Gemin, Pape, Vashaw, & Watson, 2015), without further expansion and growing acceptance of K-12 online education at a national level, the traditional model of a field experience in a brick-and-mortar classroom is likely to be the predominate format. Preservice teachers themselves may not be aware of the possibilities of teaching in an online environment, and it is likely that when envisioning becoming a teacher, they picture themselves in a traditional setting. Online teaching, however, could be a distinct possibility, as more and more districts look to their faculties to be able to provide and, in some cases, design a supplemental online course. It would benefit teachers to have some familiarity with online teaching, through some type of field experience within their preparation program, prior to their first experience as the online instructor of record.

CONCLUSION

Despite the limited expansion of field experiences in K-12 online learning environments, there appears to be slow, targeted growth, particularly in contexts in which partnerships have formed between teacher education programs and K-12 online providers. With the increasing demand for quality K-12 online teachers, teacher preparation has a significant role to play. Field experiences are a critical component to preparing preservice teachers who are well-qualified. Unfortunately, teacher education programs have continued to struggle with preparing candidates for 21st century teaching and learning environments (Kennedy & Archambault, 2012). What is clear from revisiting this issue is that while signs of progress are evident, significant work remains.

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