

Pioneering the Digital Age of Instruction: Learning From and About K-12 Online Teachers

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The purpose of this study was threefold: (1) to examine the needs of K-12 online teachers, including the dominant factors and career paths that influenced their decision to teach online; (2) to discover what online teachers viewed as the most important attributes an online teacher must have to be highly effective; and (3) to highlight the nature of the preparation/training K-12 online teachers received and found to be most helpful in fulfilling their positions. A web-based survey, including questions in both open and closed form, was used to gather data from 325 participants. Based on the findings, teachers working with K-12 students online are self-motivated, place a high value on learning and education, and enjoy the challenge and process of using technology for teaching. However, only a limited number of teacher preparation programs address any aspect of the methods and techniques required for teaching online, and even fewer offer online field placement opportunities for pre-service teachers. For the most part, current online teachers were found to have received training after graduation, while working in the field. Further research is needed to specifically define and empirically validate the methods and techniques required for effective online teaching at the K-12 level so that programs can be further developed to effectively prepare future K-12 online teachers.

As online opportunities for K-12 students continue to expand, it is important to understand the background of online teachers, how they have come to the profession, and the skills they feel are needed to succeed in very different educational environments (Davis, Roblyer, Charania, Ferdig, Harms, Compton & Cho, 2007; Miller & Ribble, 2010; Archambault, 2011). Although very little research exists that focuses on the specific differences between teaching online and face-to-face, there is agreement that there are differences (Barbour, 2012). The online setting requires the teacher to use new forms of communication, engagement, and assessment (Searson, Jones, & Wold, 2011). Although online and face-to-face teachers require similar skill sets, an online teacher must also manage and engage students virtually and be more of an instructional designer and interaction facilitator (Kennedy & Archambault, 2012a; Easton, 2003;). Despite a growing body of literature related to K-12 online teachers, limited research is available focusing on the characteristics and preparation of K-12 online teachers, even though the field is one of the fastest expanding in educational technology (Means, Toyama, Murphy, Bakia, & Jones, 2010).

There are great expectations that online programs will enhance the quality, efficiency, access, and effectiveness of K-12 education. Clearly, the number and coverage of K-12 online courses is rapidly expanding. However, the hope and excitement that surrounds these new programs may mask an underlying deficiency in how and the extent to which K-12 teachers are being educated in the myriad complexities of conveying knowledge over time and space, especially to young students who have yet to develop their own method and discipline for learning. However, there is little research on the level of experience held or the perceptions of K-12 online teachers (Archambault, 2011). Much of the current research is focused on the online student or the quality of the online program itself rather than on the teacher and the relevance of that teacher's education and training in the process of effectively teaching online courses to K-12 students (Rice, 2006). With the rapid expansion of K-12 online education, it is critical to understand who is entering or already serving in this field.

Research has shown K-12 online teachers to be highly educated by traditional measures such as completing a master's degree as part of a graduate program at the university-level. However, rarely has this preparation dealt specifically with teaching practices in the online environment. For example, as part of a research series that began in 2007, Dawley et al. (2010) conducted a national survey of online teachers to identify "the unique needs and status of professional development for K-12 online teachers" (p. 7). Of the teachers responding to the survey, 99% held a teaching credential and 60% held a Master's degree or higher (Dawley et al., 2010). Archambault also looked at what certificates, if any, were held by online teachers.

Although 43 of the 596 participants reported having some additional certification, only two were for an Online Teaching Certificate (Archambault & Crippen, 2009). When examining the number of years the respondents had been teaching (both face-to-face and online), the authors found that the average participant had 14 years of teaching experience. Dawley et al. (2010) reported that 73% of responding K-12 online teachers had been teaching for a total of six or more years. In a closer examination of online teaching experience, Archambault and Crippen (2009) reported that respondents had been working at their current online school for an average period of four years. As recently as 2010, Dawley et al. found that 12% of newer teachers did not have any face-to-face teaching experience before undertaking their current online teaching job.

Although there has been a great deal of political interest in the quality of teachers in this country, very little attention has been given to the process and quality of teacher preparation (National Council on Teacher Quality, 2013). There is even less discussion, awareness, and examples that exist regarding the preparation of teachers who are or who plan to teach online. Accordingly, few educators, administrators, politicians, or parents are aware that most teachers are entering online classrooms with no knowledge of how to successfully teach in these settings (Kennedy, Cavanaugh & Dawson, 2013; Kennedy & Archambault, 2012b).

The purpose of the current study is to gather relevant data concerning K-12 online teachers in the United States. The data collected will aid in answering the following research questions:

RESEARCH QUESTIONS

1. How and why have teachers come to the online environment? What factors influenced them to teach online?
2. What skills do online teachers feel are necessary in order to be effective?
3. How and to what extent have current K-12 online teachers prepared for this form of teaching? What types of preparation do they value most for new online teachers?

METHODS

The current study employs a mixed method approach through the use of a web-based survey, including both closed and open form questions. A survey was an appropriate methodology for this study because a large data set and wide geographic reach was necessary to capture the relevant

population of teachers (Blair & Czaja, 2013). The survey instrument was adapted from a previous study in which items were validated via expert review and think aloud protocols (Archambault & Crippen, 2009). Participation in the web-based survey included 325 K-12 teachers across the United States who were responsible for teaching one or more online courses. The participants for this study were drawn predominantly from the membership of the International Association for K-12 Online Learning (iNACOL). Its members make up “the largest, most inclusive non-profit association of online and blended learning practitioners, advocates and providers” (iNACOL, 2012, p. 14). Program administrators and teachers represent the largest segments within the iNACOL membership. Of the 4,400 programs associated with iNACOL, there are 3,500 “Educator Members” that include teachers, staff members, and administrators who work at either public, private, charter, or independent online schools. Because the database of email addresses of all members is not available to the public, a link to the web-based survey was posted on the iNACOL General Forum. In addition to the online teacher participants gathered through the iNACOL Membership General Forum, the survey was sent directly to various virtual school contacts, not necessarily members of iNACOL. This expansion of recruitment was included to not only increase the number of participants but also to achieve the most representative sample possible from across the country.

The current study focused only on those teaching in an online school at the K-12 level, including publicly funded virtual schools that are sponsored by school districts, states, consortiums, or post-secondary institutions. Similar to traditional schools, these schools are publically supported and expect teachers to hold a teaching credential and meet other state teaching requirements. This limitation helped to assure comparability with face-to-face teachers subject to the same requirements, licensure, and standards.

Because the salience of the survey content in regard to the participants can greatly influence the response rate (Borg & Gall, 1989), a non-random, purposeful sample was used. This type of sampling utilizes information-rich cases to help shed light on the issues related to the current study (Patton, 2002; Gall, Gall & Borg, 2002). In order to collect data from the target population, the use of criterion sampling helped to narrow the participants to those who have taught or are currently teaching at least one K-12 online class at a publicly-funded online school in a single stage sampling procedure. Unfortunately, there are no current or hard statistics on the number of teachers teaching K-12 students online in the United States. Accordingly, it is difficult to estimate the appropriate sample size (Borg & Gall, 1989).

After considering the factors of resource, questionnaire, and data-quality issues suggested by Blair & Czaja (2013), it was decided that a web-based survey would be the most convenient, effective, and efficient method

for data collection. The concurrent mixed-methods design that was used captured both qualitative and quantitative data at the same time, with the qualitative thread of inquiry embedded within an otherwise quantitative survey (Creswell, 2013). This design yielded a clearer understanding of who is teaching K-12 students online and exactly how they have been prepared for this very challenging job (Creswell, Plano Clark, Gutmann, & Hanson, 2003). The purpose of this particular piece of the larger study is to focus on the open-ended, qualitative data to examine how teachers came to the online environment, including factors that influenced them to teach online, the skills they deem necessary in order to be effective, and to what extent current K-12 online teachers are prepared for this form of teaching.

Descriptive statistics were used for the items in the survey that were structured as close-ended questions. The current version (22.0) of a widely used program for executing statistical analysis of this type (Statistical Package for Social Sciences or “SPSS”) was used in performing the basic quantitative analysis and tabulating the resulting values. Data collected from the open-ended questions in the survey were coded and analyzed for themes. Blair and Czaja (2013) point out that, “Coding respondents’ answers to each question allows us to estimate characteristics or to look for patterns among variables” (p. 37). A content analysis approach was used to discover patterns and characteristics in the responses to open-ended questions. The questions were coded, in accordance with grounded theory methods (Strauss & Corbin, 1998), based on common themes found in the varied responses. The corresponding codes grew in number as the numbers of distinct themes were revealed by a progressively deeper analysis of the data. Prior to discussing these themes, key demographic information is presented to better contextualize the data.

LIMITATIONS OF THE STUDY

As with all research studies, key limitations exist. While a purposeful sample was used to reach the appropriate audience and gather information-rich cases, there are still some limitations and validity issues with this approach and using a survey methodology. The participants in this study were currently teaching online at the K-12 levels, and they consisted of iNACOL members and other online teachers across the United States recruited through various contacts and referrals. There may be some selection bias towards members who follow the iNACOL general forum, where the invitation to participate in the present study was posted. Additionally, there may have been bias present with the responding teachers and institutions recruited through contacts and referrals. Regardless of these possible biases, a very wide net

was cast in an attempt to reach as many K-12 online teachers as possible. With Michigan and Florida teachers heavily represented in the sample, a possible nesting effect exists; however, given the prevalence of online education in both states, this is likely indicative of the greater number of online teachers in these areas. Because of the inability to contact every K-12 online teacher across the United States, it impossible to generalize results from this study to the entire K-12 online teaching population.

RESULTS

Quantitative Data

Geographical distribution of online schools

A total of 325 teachers responded to the web-based survey and reported that they were teaching in a total of 23 different states, with over half of the respondents currently teaching in either Florida (31.1%) or in Michigan (25.5%). There were also notable numbers of online K-12 teachers working in Indiana (9.1%), New Hampshire (7%), Pennsylvania (7%), and Arizona (5.9%). Other states identified by the teachers surveyed included Alaska, Arkansas, California, Colorado, Connecticut, Maryland, Minnesota, Nevada, New Mexico, Ohio, Oregon, Pennsylvania, South Carolina, Texas, Utah, Virginia and Washington (Figure 1).

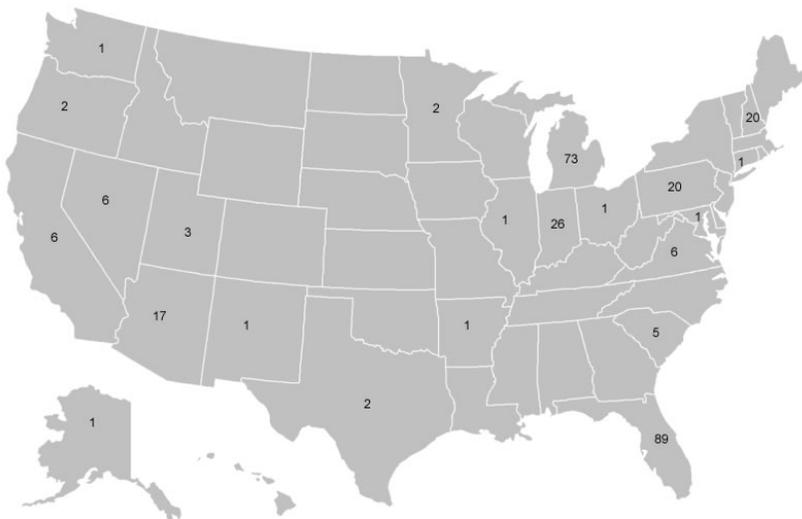


Figure 1. Number of responses per state.

Allocation of teaching time

Half of the respondents were full-time teachers (143, 49.5%) while 130 (45%) were teaching part-time. Fourteen of the participants (4.8%) work in an additional role, such as a school administrator, curriculum specialist, library media specialist, instructional designer, or support staff member. Only two (<1%) teachers work as a combined teacher where they may teach at more than one school.

Online class structure

Various characteristics of the online classes taught by survey participants were captured by some of the survey questions, including, for example, the format of the class, the amount of time spent online, and the actual teaching format. The majority of respondents (249, 86.5%) stated that all of their classes are taught online. Ten participants (3.5%) reported about half of their classes were taught online while 29 (10.1%) teach less than half of their classes online.

When comparing the amount of instruction that occurs online, 254 (78.2%) of the respondents indicated that they provided instruction online between 80 and 100% of the time. Only 19 teachers reported teaching in a more hybrid manner with between 30 and 79% of the instruction occurring online. The balance of the respondents, 15 (4.6%), indicated that less than 30% of their teaching time involved online instruction.

The format of online teaching was mostly asynchronous (249, 76.6%) with no specific times required for the students to “attend” the online instruction. Thirty-two (9.8%) of the surveyed teachers require students to be online at specific times, but only for the purpose of receiving brief instruction or for assessments. Only six (1.8%) of the teachers teach in a synchronous manner, with all enrolled students logging in for instruction at predetermined times.

Years of teaching experience

Participants were asked to indicate how many years they have been employed as a teacher, either part-time or full-time. The average number of total years teaching was 15, with a minimum of one and a maximum of 47. Five teachers (1.8%) indicated that this was their first year teaching in any environment. The average number of years the respondents had been employed to teach online was 4.4 years. The current year was the first year teaching online for 41 (14.3%) of the teachers, while two of the teachers have taught online for 15 years.

Qualitative Data

Coming to Online Teaching

One of the main open-ended questions of this online study asked teachers to, “Describe the career path that led you to teaching online. What were the dominant factors that influenced your decision to teach online?” This question sought information on the influences and primary reasons for the respondents’ decision to teach K-12 students online. There were 258 responses to this question, and these responses were classified into 15 different codes. Table 1 below includes a short title and brief description of each coded set of responses, along with the number and percent of respondents indicating each factor influencing their decision to pursue online teaching. Each of the themes are then further discussed.

Table 1
Factors Influencing Decision to Teach Online

Coded Characteristic	Representative Elements of Coded Characteristic	Number of Responses	Percentage
Employment Opportunity	Chance to teach online presented itself, scarce classroom teaching jobs, school converted to online, needed job, recruited by others, friend taught online	53	20.5%
New Teaching Model	Different way of teaching, new and interesting, wanted a change of pace, curiosity	50	19.4%
Supplement Income	Summer job, supplement income, part-time work	23	8.9%
Ability to Work from Home	Stay with kids, no travel time	22	8.5%
Flexibility	Available for family, child w/special needs, flexibility for student schedules	22	8.5%
Retirement	Plan for working during retirement	12	4.7%
Student Benefits	Individualized instruction, interaction w/ students, parents, peer-to-peer, learning takes place any time/any place	12	4.7%
Love of Technology and Teaching	Love technology and teaching, tech savvy, interested in teaching subject to more students	12	4.7%
Frustration with F2F Teaching	Behavior issues, safety, district policies	10	3.9%
Observed Online Students	Impressed with quality, home schooled students taking online classes	9	3.5%
Locality	Moved for spouse’s job, only certified in old state, able to teach anywhere	9	3.5%
Graduate Work in Field	Masters in Ed. Tech or specializing in Instructional Technology, certificate to teach online	7	2.7%

Table 1 Continued

Coded Characteristic	Representative Elements of Coded Characteristic	Number of Responses	Percentage
Personal	Poor health factors, parent was a teacher, owner of school, influential teachers and coaches	7	2.7%
Experience as Online Student	Masters was all online, High School cyber student	7	2.7%
Online Internship	Hired after internship in virtual school	3	1.2%

Employment opportunity. Employment opportunity was the most cited primary reason for teaching online (53, 20.5%). These teachers mentioned a need to work that coincided with an opportunity to teach online. In some cases, there was an opening to teach online, but not in a traditional classroom, as one respondent relayed, “I was out of college for over a year and had not found a teaching position. I noticed a job posting for a cyber-charter school and applied. I was called in for an interview and hired a week later.”

Responding teachers noted that they had been referred by a co-worker or had a friend that taught online. One teacher described the process of deciding to teach online as “Friend taught online and I saw through her this was the path I wanted to take. I applied.” Occasionally, the brick and mortar school where they worked was either starting to offer online classes or even completely converting to an online school:

The face to face school I taught at was quickly dumping elective classes and switching to on-line. I signed up to teach on-line as my job was also “dumped” and switch to all on-line. It is much cheaper for a school to “dump” a teacher and save on salary and benefits. My attitude became, “If you can’t beat ‘em, join ‘em!”

New teaching model. Another frequent reason given by responding teachers for choosing to teach online was that they wanted to experience a new model of teaching (50, 19.4%). These teachers shared their desire to be a part of something “new and interesting” and teach in a “different way.” Several of the respondents stated that they felt online teaching is the wave of the future in education, as one teacher explained, “This is where the future is headed, such great benefits to students, and the school I work for is a leader in the field.” Some teachers had spent years in the classroom and wanted a “change of pace” or wanted a new challenge, as stated by one respondent, “It was an opportunity for a new challenge, to be creative and

engage kids in a new way.” One online teacher, also a principal, mentioned teaching online to gain a better understanding of the issues facing the online teachers at the school: “I took the position as Principal of an online school and decided I needed to teach a class to understand what the teachers were going through.” Another teacher, who also taught face-to-face, explained the benefit of staying current with technology and even improved teaching in traditional settings:

I feel that education is rapidly changing in the state of Michigan. I eventually see myself teaching only virtually and not in a face-to-face classroom. I love working with technology and working virtually keeps me up to date in the latest professional development using new tools. I feel that teaching online has also made me become a better teacher in my classroom as well.

Supplement income. Twenty-three (8.9%) of the K-12 online teachers surveyed also mentioned working online as a source of part-time supplemental income. Because online teaching can be done year-round, some classroom teachers with free time during the summer months use this block of time for online teaching activities, as one respondent explains, “Great summer job (most students take online over the summer) and supplemental through the school year (much fewer during the year).”

Working from home. The ability to work from home is especially attractive for teachers who are also parents and responsible for young children. This was cited as the primary reason for teaching online by 22 (8.5%) respondents. Specifically, not having to pay for daycare, incurring no travel time, and the ability to raise a family while still being productively employed were given as reasons for teaching online. One teacher described two of the benefits enjoyed from being able to work from home: “No daily commute and I would get to spend more time with my two children.”

Flexible schedule. Achieving a flexible schedule for themselves and their family was a motivating factor for teaching online in the case of 22 (8.5%) of the survey respondents. The convenience of a flexible schedule was noted in the case of at least one teacher having a child with special needs: “I like the flexibility of online teaching for myself and my family. I have a diabetic child who needs me to be available during the day in case of emergency.” One teacher also mentioned the advantages that flexibility provided to students attending online: “I loved the flexibility online education gave to the students, and I am able to implement good teaching practices such as individualized attention to my students.”

Retired. Twelve respondents (4.7%) expressed interest in teaching online after retiring from traditional, face-to-face teaching. One teacher started teaching online in preparation for an active retirement: “I wanted to broaden my horizons, update my technology intelligence to cutting edge, and prepare for a retirement career that would allow continued employment regardless of location or physical health.”

Benefits to students. Twelve teachers cited the benefits realized by online students as a dominant factor for their teaching virtually. Many teachers in this category discussed having more genuine relationships with students and noticing more significant interaction between students online, compared to a traditional classroom. Other teachers were motivated by having one-on-one interaction with students and by providing more individualizing instruction. One respondent described the improved student interaction in an online environment:

The one on one interaction I have with students. I talk on the phone or text with students daily. I feel I know more students better in an online environment. I never had the time in a physical school to have a 10 minutes conversation with every student. If students need help at 7pm, they can text me. Learning takes place at any time, not just restricted to a 6 hour period.

More actively engaging parents of the online students, even when this was not required, was also a motivation in switching to or becoming more involved in teaching online, as one respondent stated, “More involvement with parents – both required and impromptu.” One teacher viewed the trend toward online education in terms of a broadened and more contemporary learning experience: “I strongly believe that online learning is beneficial for some students, and a great alternative to traditional school. It provides students the opportunity to learn in a digital classroom as part of our digital society.”

Love of technology and teaching. Twelve of the responding teachers indicated that their comfort with technology and love of teaching led them to combine these interests in an online teaching career. Several teachers had experience integrating technology into traditional classroom settings and wanted to expand that integration online. One teacher describes the switch to online: “I was already doing blended online learning in the classroom and have always enjoyed technology as a means of delivering content and assessing my students. The transition to the online environment made sense.” Other teachers mentioned a desire to reach a wider audience or to more broadly share knowledge of a specific subject area. One teacher was “interested in teaching more Chinese to students in NH.”

Frustration with face-to-face teaching. Ten teachers (3.9%) currently teaching online chose to leave a traditional teaching job out of frustration with behavior issues, district policies, and out of a desire for a “safer more educationally based environment.” One teacher even described leaving because of unsafe and threatening conditions in the classroom: “Having your life threatened every day in a live classroom was becoming too much to face every day.” Others moved to teaching online because of a perceived “lack of support for teachers regarding parents and students” from the administration at a traditional school. Classroom management was the deciding factor, as one participant wrote:

I taught brick-and-mortar for 10 years, and grew increasingly discouraged with classroom management, the declining quality of students, and inability to remove disruptive and/or non-productive students (i.e. “I’m here so I can collect my Social Security, but I don’t care about this class or school.”). I had the opportunity to observe students taking advanced courses online in my school, was impressed by the quality of the courses, and applied for a job.

Observed students taking online course. Of those teaching online to K-12 students, nine of them (3.5%) witnessed students enrolled online and were impressed with the quality of education being delivered through this medium. As stated by one respondent, “I saw that my private school students were very successful taking online courses.” Many teachers who had their own children enrolled in online courses were positively impressed when they witnessed this type of learning. A teacher that was able to observe an online setting directly explained, “My children were attending an online school, and I saw a benefit in online schools that help students that were not benefitting from a traditional school setting.” One teacher was introduced to online teaching through her son and became involved even though she is self-described as being “anti-technology”:

I was a stay at home mom who home schooled my sons. I put one son into a cyber school to try it in 2002. Through this venture, I met the people associated with cyber education. I was subsequently hired as a teacher when a new cyber school opened up. I liked the challenge of trying to transcend the then “distant” aspect of learning online. I would never have thought I would do this as I was somewhat “anti” technology.

Locality. Nine (3.5%) teachers had searched for a job teaching online after they had moved to a different state. One teacher mentions the “possibility to live anywhere in the state” and another explains how limited certification was not a problem when teaching online:

I was teaching in the classroom and was forced to relocate out of state to care for an ailing family member. Since I was not certified in the new state, I began teaching online so that I could teach in one state while living in another.

Several respondents decided to teach online to accommodate a spouse’s career and associated relocation, as noted by one teacher, “Needed flexibility to move for wife’s job and still take my teaching job with me,” and as another teacher explained in the following comment:

My husband is active-duty military and I was not certified in MD (where we live) so I went online and found a job with the state of VA and the Virtual Virginia online school the state offers. It is great. I can take this job with me to our next duty station.

One teacher moved to teaching online to avoid being tied down to one state: “I did not know where I wanted to live and did not want to be tied to a specific school district. Teaching online allowed me to teach wherever I happened to be living.”

Graduate work in field. Seven (2.7%) of the respondents reported a desire to utilize the skills learned from graduate courses they had taken in the education field, as described by one participant, “I wanted to use my skills learned from my Master’s work and prepare for future changes that I saw in educational instruction methodologies.” Several of these teachers had completed a Master’s degree in Educational Technology and e-Learning, and wanted to utilize skills learned, as one teacher states, “I hold a Master of Arts in Education specializing in Instructional Technology coupled with a Master of Science in Spanish. I thought this would be the best medium for using the skills gained from both Master’s degrees.” One teacher returned to school and earned a certification in teaching online to “expose the students at my brick and mortar school to the online experience.”

Personal. Seven respondents (2.7%) found it necessary to teach online for personal reasons. The teachers that shared further details on these personal factors mentioned reasons ranging from a complicated pregnancy to bad knees to generally poor health.

Experience as an online student. Seven (2.7%) respondents noted that their own experience as an online student was a motivating factor for their becoming involved in online teaching. A few of the teachers had completed a Master's degree completely online and experienced the convenience and benefits associated with this form of learning. One respondent described this experience as, "I received my masters in an online program and it was wonderful-I learned a lot and was still able to work full time." One teacher was motivated to teach online because of experiences with both good and bad online courses: "I took many courses online with both incredible and awful instructors. This made me interested in developing and teaching online courses." After spending two years as an online high school student, one teacher decided to teach online at the same school:

I graduated from the school at which I currently teach; I was a cyber-school student for my junior and senior years of high school. It suited me as a student, and I'm finding it also suits me as a teacher!

Internship. Three of the respondents (1.2%) found themselves teaching online after completing an online internship. One teacher decided to teach online after interning at a virtual school because "it was a good fit for my teaching style." The other two teachers were offered teaching jobs upon completion of their online internships:

University of Central Florida was conducting their pilot internship program with FLVS. I checked a little box on my internship application saying that I would be willing to participate. I met the GPA and background requirements and was selected as one of the first groups of online interns at UCF. After receiving my degree and teaching certificate, I was offered full time employment at FLVS and have been here ever since.

I was working on my MAT and needed to choose schools to apply to for an internship. I didn't even know teaching online was an option. It sounded interesting and challenging so I applied and they hired me after my internship.

Teacher Perspectives on Needed Skills

The second open-ended question gave respondents the opportunity to answer the following question: *What do you think are the most important attributes a K-12 online teacher must have to be highly effective?* Again, a coding system was developed to capture the responses by theme. A total of 259 online teachers responded and provided characteristics they thought

were most important for an online teacher to be highly effective. It should be noted that the responses are from the teachers' perspective so they may or may not align with the current understanding of competencies for online teaching. The developed codes, along with their definitions and the corresponding survey results, are summarized in Table 2 below, followed by further explication of each theme.

Table 2
Effective Attributes of K-12 Online Teachers

Coded Characteristic	Representative Elements of Coded Characteristic	Number of Responses	Percentage
Strong Communication Skills	Able to communicate from a distance (phone, text, email, video chats), good customer service skills	126	48.6%
Organized and Prepared	Structured, balanced, strong time management skills, prepared, focused, accountable, diligent	98	37.8%
Knowledgeable and Experienced	Expert in content area, desire to learn, willingness to continue professional development, can accurately assess students, knows best practices for teaching online, engaging, classroom experience, curious	72	27.8%
Highly Flexible	Able to multi-task, open to flexibility	55	21.2%
Motivated	Self-motivated, Type A personality, ambitious, disciplined, strong work ethic, proactive, driven, determined, hard worker, high integrity, dedicated, persistent, committed	54	20.8%
Patient and Caring	Friendly, supportive, understanding, positive, encouraging, personable, approachable	53	20.5%
Creative and Adaptable	Quick thinker, problem solver, able to adapt plans, open-minded, student centered, individualized instruction	46	17.8%
Strong Technology Skills	Comfortable with technology, able to give technology support to students, able to analyze student data	39	15.1%
Accessible and Punctual	Available, responds quickly to students and parents, provides frequent feedback, punctual with grading, attentive	36	13.9%
Able to Connect	Interacts with students, motivating, good rapport with students and parents, passion, desire to help students	36	13.9%

Strong communication skills. The most frequently cited attribute necessary to be an effective online teacher was the ability to communicate using a variety of methods, including phone, text, email, and video chat (126, 48.6%). One teacher described the importance of picking up on cues when communicating with students at a distance: “Ability to get to know mannerisms/behavior via phone calls, video chats etc. so that you can still identify students who need help but may be afraid of asking.” Several respondents mentioned the value of actively reaching out to students, being proactive and frequently communicating with students. One teacher advised, “Don’t be afraid to call students, talk to students, and involve parents.” Because the student and teacher are inherently separated in online courses, teachers describe the benefits of “excellent written and speaking skills,” and the “ability to relay emotion in writing and on the phone.” One teacher described the difference in communication online versus a face-to-face classroom:

You don't see the students, you don't get to put your “feelers” out and speak and see them daily to check for understanding and their general well-being. It is much harder- disconnected phone numbers, they don't reply to emails, etc... but majority of them are responsive.

Other teachers mention “the ability to explain difficult concepts through email and chat” and “finding a mode of communication that makes the course interactive and relationships personal.”

Organized and prepared. Out of the 259 teachers that responded, 98 (37.8%) stated that being structured, focused, prepared and organized were important characteristics for an effective online teacher. As one teacher put it, “These are essential in order to be able to effectively monitor student progress.” One frequently noted aspect of being organized and prepared was excellent time management skills.

Knowledgeable and experienced. Online teachers who are engaging and have a solid understanding of their content area were said to be highly effective by 72 (27.8%) of the survey respondents. In addition, a strong desire to learn, a willingness to continue professional development, and an understanding of the best practices for teaching online were included as important attributes. Several teachers also mentioned the value of having prior experience with traditional, classroom teaching as a key to successful online teaching. One teacher described the importance of having teaching experience in the following comment:

Knowledge of the face to face classroom so that the online teacher can understand what the students are experiencing, a soft heart for those difficult situations that have led students to the online courses and at the same time, a tough demeanor that allows the teacher to see through the online excuses that students use (a.k.a. teaching experience.)

Highly flexible. According to 55 of the respondents (21.2%), an effective online teacher must be flexible and able to multi-task. Flexibility is essential because of the ever-changing nature of online teaching, as stated by one respondent, “an online teacher must be willing to embrace change on a daily basis as nothing is set in stone with online education.” Students have varying schedules and online teachers must have “a flexible schedule to handle the late evening/early morning requests/questions.”

Motivated. A fifth of all respondents (54, 20.8%) stated that effective online teachers are self-motivated with a strong work ethic. One insightful teacher wrote, “Self discipline is of course important as most virtual teachers work from home.” Other valuable attributes mentioned in this category used descriptive terms such as “driven,” “ambitious,” “disciplined,” “dedicated,” “persistent,” and “Type A personality.” Another respondent explained that online teachers must be motivated, “because the work is largely self-directed.”

Patient and caring. A friendly, supportive attitude, along with being patient, approachable, and caring were mentioned as being important characteristics for effective online teachers by another fifth of the respondents (53, 20.5%). As is true for an effective classroom teacher, an online teacher must be caring, as one teacher noted, “I think any teacher has to care about the development of his or her students, everything else stems from that.” However, because online teaching occurs over a distance, this same quality must be accomplished with “the ability to convey enthusiasm and caring through text.” Overall patience was also a very common attribute reported.

Creative and adaptable. Forty-six (17.8%) respondents listed a range of characteristics that involved being a caring, open-minded teacher, a quick-thinking teacher, one that can adapt plans, that can personalize content for students and that manages the course in a student-centered fashion. One teacher said that online teachers “must know their students’ study habits and know how to individualize the work for the students.” Another teacher emphasized the importance of “Creativity in thinking outside of the box and the ability to take a classroom presentation and bring it to life in an online environment.”

Strong technology skills. Thirty-nine respondents (15.1%) listed comfort with technology as an important attribute for an online teacher. Many teachers described the value of an ability to “read data to determine if students are making learning progress,” and being able to provide technical support to the online students. It was also noted that online teachers should be willing to try and adapt to new technologies, as one teacher describes in the following comment: “You must be comfortable with technology and you must be willing to be an active learner, because we are still ‘writing the book’ on online education.”

Accessible and punctual. Being available to students with punctual responses was described as an essential trait by 36 respondents (13.9%). Several participants mentioned how critical quick and frequent feedback was to a successful online course, as stated by one respondent: online teachers “must be able to manage their online grading, instructing, answering emails, etc. in a timely fashion so they can adhere to a definite end time and then move away from the computer.” Many teachers pointed out how important it was for the online teacher to have a constant presence in the online course and to be “available ALL the time!” and to be “able to work 365 days a year!” and have “tolerance to a 24/7 on-call type of work schedule.” One respondent revealed that: “Many families look at online teachers as needing to be available 24/7, meaning they don’t want to wait a long time to get responses.” Some teachers described the difference in availability from a face-to-face classroom teacher, saying that an online teacher must “be willing to work all day/all night long, be willing to serve many more students than they normally would in a face to face environment.”

Able to connect. The ability to connect and motivate online students was frequently cited by respondents (36, 13.9%) as an important attribute for an online teacher. As is true in face-to-face classrooms, online teachers reported the need for an ability to motivate and build relationships with students, even though these relations must be created through digital forms of communication. One teacher describes this new way of connecting as, “Teachers must have the ability to develop relationships with students via technology since the face to face interaction isn’t necessarily built into the class.” Another teacher cited the “ability to motivate kids and the ability to build and nurture teacher/student relationships through electronic media.”

Several teachers discussed the importance of building a community online and to be “willing to spend the time needed to try to establish more personal responses and connections with students.” Connecting with the parents, in addition to the students, was also a frequent response, as one respondent explained, “Connect with student and parents. Parents have to

think it's important and worthwhile to get their students in the class." One teacher reported, "making efforts to encourage students to connect via messaging rather than face-to-face contact" as an imperative skill for online teachers to be successful.

Preparation for Online Teaching

Another important area that was explored as part of this study was how participating teachers were prepared to teach online, and from that preparation, what they thought was the most useful. Online teachers were asked to describe how they were prepared to teach online. A total of 252 K-12 online teachers provided responses to this question. These responses were separated according to equivalent characteristics and coded accordingly. Each coded characteristic is described along with the number and percentage of participants who provided a corresponding response regarding the factors, which contributed to their training (Table 3).

Table 3
Training/Professional Development Received by K-12 Online Teachers

Coded Characteristic	Representative Elements of Coded Characteristic	Number of Responses	Percentage
Ongoing Training	Meetings, workshops, webinars, short training sessions	97	38.5%
Self Taught	Learned by doing, researched various resources (websites, blogs, articles, etc.)	79	31.3%
Orientation	New Employee Training, initial, pre-job training	68	27%
Mentor	One mentor, set of mentors	41	16.3%
Colleague	Other new hires, "Content Buddy"	34	13.5%
Graduate Work	Masters in Ed. Tech., online certification classes	32	12.7%
Online Student Experience	Completed one or more courses online, as an undergraduate, graduate or K-12 online student	20	7.9%
No Training	No training received, no training needed, not at all prepared	14	5.6%
Conference	Annual conferences, iNACOL	14	5.6%
Classroom Teacher Experience	Same training as for a regular classroom teacher, time spent in classroom beneficial to teaching online students	12	4.8%
Observation	Spending time "watching" an online class/teacher	6	2.4%
Internship	Online internship	3	1.2%

Ongoing training. Continuous training, typically provided by the virtual school, was the most frequently identified form of training completed by the online teachers surveyed (97, 38.5%). Training in this category ranged from routine meetings (e.g., over the phone to discuss best practices) to periodic workshops and webinars offered throughout the year. While such training was commonly made available to all employed teachers, it was not always mandatory. As one online teacher described ongoing training:

I initially took a 40 hour online training that introduced me to online learning. Part of the training dealt specifically with online instruction. I also learned about effectively communicating, working with difficult families, etc. We have weekly staff calls where we are continually learning new information. We have professional development which allows us to meet together face-to-face and learn from one another.

Several respondents said they felt prepared to use the technology required for online teaching after having received such training but believed that general teaching skills are the same whether the student is attending online or in a traditional classroom, as described by one teacher: "Training offered by my school prepared me for the online tools I would need. The skills for being an effective online teacher are not very different than in the brick and mortar classroom."

Self-taught. Seventy-nine respondents (31.3%) explained that their preparation for online teaching was self-taught, indicating that they learned the process by teaching themselves and by "actually doing it." Experience and practice are always a component of the learning process and this is true in learning how to teach an online class. Self-teaching was not only the method of training reported by many of the respondents, many felt that practice was the best way to learn. One teacher stated that "nothing prepares you more than experience," another teacher explained that "the best preparation is practice... teaching is still teaching," and a third teacher reported, "at the beginning, I did not feel prepared. It takes about 6 months of doing it to really get a grasp on what your job entails and how to do it effectively." One teacher described the self-teaching method used as follows: "I learned by fire! I read every article, tweet, blog etc. I could find. I love the INACOL publications and have learned a lot from their conferences."

Orientation. Another frequently cited method for training (68, 27%) was through participation in some form of employer sponsored orientation training. Online providers generally require some form of initial training before a teacher is assigned a class, as described by one teacher, "Before being

hired, I had to complete an online orientation class that used the same teaching principles as the system we teach through.” Some of the orientations described by respondents lasted several weeks, as one teacher described, “I took my virtual high school’s one month training, which helped get me used to teaching online.”

Mentorship. Learning to teach online with the aid of one or more mentors was reported by 41 teachers (16.3%). Some teachers participated in several sessions of training online with a mentor, while others were offered mentoring support over the phone. One respondent explained the value of having a mentor: “The mentor program was extremely helpful to learning how to do this job. For months, I met on the phone with a small group of teachers and a mentor to learn strategies on how to do this job and participated in short training sessions.” One teacher described the extent of mentoring support that was received:

At the completion of this training, I was assigned a set of mentors for general questions, as well as a mentor/peer partner within my content, in addition to being welcomed with open arms by a small pod of about 10 teachers to whom I could also bounce ideas and questions off of at any time. The level and amount of support found in this virtual environment was much greater than any I’d ever experienced in the classroom.

Colleague. Thirty-four respondents (13.5%) received help and guidance from a fellow online teacher. Some teachers were partnered with a “Content Buddy” to discuss online teaching techniques pertaining to their specific content area. Teachers described the benefits of having “colleagues to walk you through questions/answers and procedures 24/7” and “working with other teachers to talk about what works and what does not.” One teacher described the opportunities for support from colleagues as follows: “Collaboration is encouraged and facilitated and structured opportunities to share best practices with other online teachers.”

Graduate work. Information covered in graduate courses, such as educational technology or online teaching, helped to prepare 32 (12.7%) of the K-12 online teachers. Graduate level courses focused on the process of online teaching can bridge the gap between face-to-face teaching and teaching at a distance. One respondent described the benefits of completing graduate-level coursework involving educational technology and teaching online:

I took online graduate courses in educational technology, and saw many different teaching styles online. I also took courses directly for online teaching - both helped me develop curriculum, activities and strategies for online teaching. I continue to try out new technologies and learn how to make my course more interactive.

Online student experience. Twenty of the surveyed teachers (7.9%) suggested that their experience as an online student contributed toward their preparation to teach online. One respondent relayed, "I do almost everything online. I went to an online college. From that I learned what I liked from teachers and what I liked as a student." One teacher went a step further and actually attended the same online class as the students:

I prepared for online teaching by taking online classes at the University I attended. I also take the online classes that the students are working in so that I know and understand how the material is presented so I can help direct the student to supplement resources or prepare additional information or lessons that will help the student understand the information.

No training received. Fourteen of the responding teachers (5.6%) indicated that they had received no training on how to teach online to K-12 students. Some teachers indicated that they had not received proper training, because they started teaching online in its infancy, as one respondent described, "I had no prior training 10 years ago. In the past years, the idea of teaching online has gained momentum "some" presenters touch on this." Some of the respondents stated that their preparation programs may have covered areas such as technology, but not the use of technology as a K-12 delivery method, as one respondent reported, "I was not prepared at all to teach online. The teacher education I was enrolled in focused mainly on using technology in the classroom and not as the classroom." The following statement was provided by one of the teachers who had received no training at all:

There was no preparation and I was literally thrown into this position with little to no training. It was sink or swim and I sunk. It was a hard transition for me between going to the classroom and the online environment. Thankfully I kept on and this year, my fourth year, I finally feel comfortable in my position.

Conferences. Of those responding, 14 (5.6%) reported that they attended conferences to aid in their preparation to teach online. Several teachers reported that attending virtual or face-to-face conferences was helpful to their online teaching. Annual conferences also provide virtual teachers with updates regarding trends in the field and opportunities to share their experiences. One teacher describes the benefits of attending conferences and how they are recorded for later viewing by new online teachers: “We also have a yearly conference with multiple breakout training sessions to meet your needs. All of these are recorded and offered as an online professional development for new teachers.”

Classroom teaching experience. There were 12 (4.8%) respondents that cited experience as a classroom teacher as the method for preparation to teach online. A few teachers wrote that the training needed to teach online was no different than the training to teach face-to-face, such as the following response from one teacher: “The same preparation as for a regular classroom teacher.” Other respondents indicated that prior classroom teaching experience provided a critical foundation for online teaching, as one participant stated, “Being a teacher for nine years was the most helpful, as it taught me flexibility and how to provide multiple ways to get to an answer.” Another teacher reported:

Teaching in a physical classroom for 6 years was invaluable experience. I can't imagine teaching online without first having taught in a physical school to “find my way” so to speak. You have to learn how to present information with the feedback of student's faces and action to really know your content and be able to deliver content blindly over the phone, in written feedback or dialogue in virtual classrooms.

Observation. Six respondents (2.4%) had observed veteran online teachers to learn and to prepare for their own online teaching. One teacher emphasized the importance of observation: “Observing other teachers is/was the best way to prepare. Seeing what others do gives you ideas on what will work best for you.”

Internship. Three of the teachers (1.2%) gave credit to an internship in virtual education as an important element of their preparation to teach online. A former online intern describes the role of an internship in preparing oneself to teach online and the importance of this experience: “Honestly, it is a lot like learning a language the best way to prepare is to be immersed in it through an internship or a part-time job in the field.”

Effective Preparation from Online Teachers Perspective

Online teachers were also asked to provide their perspective on what elements of preparation would be most helpful to new K-12 online teachers by answering the following question, “Based on your experience teaching online, what elements of training would be the most valuable in preparing new online teachers?” A total of 252 respondents provided one or more answers to this question. These responses were coded by theme and 13 different characteristics were identified. Table 4 includes definitions of these codes together with the number and percentage of respondents whose answers fell within each of the coded category.

Table 4
Suggested Training/Professional Development Elements for New Online Teachers

Coded Characteristic	Representative Elements of Coded Characteristic	Number of Responses	Percentage of Responses
Technology	Tools, skills, LMS, programs, posting lessons, electronic grading, websites, webinars, troubleshooting student technology issues	94	37.3%
Mentoring	Sharing ideas, shadowing colleagues, ability to attend mentor’s class, cohort group of new teachers	58	23%
Communication	Online and phone etiquette, customer service, feedback	53	21%
Hands On Training	Practice with real-life scenarios, practice with small group of students	42	16.7%
Time Management	Life/work balance, setting realistic and clear expectations, managing time spent teaching	27	10.7%
Class Management	Organization, managing student data, procedures, student accountability and expectations	26	10.3%
Content and Materials	Knowledgeable in content area, creating online materials, available resources, building assessments to avoid plagiarism	20	7.9%
Ongoing Training	Continuous professional development, orientations, conferences, designing training based on school/format	18	7.1%
Online Teaching Strategies	Training based on online teaching standards, learning strategies for teaching online, best practices, online issues	17	6.7%

Table 4 Continued

Coded Characteristic	Representative Elements of Coded Characteristic	Number of Responses	Percentage of Responses
Certification and Courses	Learning Edge Certification, Advanced Professional Certificate in Online Teaching, courses in online education	16	6.3%
Engagement Strategies	Relationship building, knowing audience, strategies to engage, encourage, motivate, support	14	5.6%
Classroom and Online Experience	Prior experience as a classroom teacher, experience as an online student	13	5.2%
Field Experience	Internship/student teaching in an online classroom	12	4.8%

Technology. Based on their individual experiences in teaching online, 94 respondents (37.3%) suggested that training on available technologies was the most valuable form of training to prepare new online teachers. Teachers suggested both general technical training, as stated by one respondent, “Anything technical about the job. You won’t know how to do anything without this training” and specific training, based on particular systems used at the virtual school, as described by another teacher, “Learning the nuances of the myriad of programs in use that helps in executing one’s teaching responsibilities to the fullest - they are our friends and not the foes.” Some respondents identified specific programs for which training was or would be helpful. These included: Blackboard Collaborate, Moodle, Genius, Microsoft Excel, Skype, Camtasia, Wimba, SnagIt, Web 2.0 sites, and more generally the “tools of the platform of the course - inserting pictures, posting lessons, grading tools, etc.” Many emphasized the importance of being comfortable with the Learning Management System (LMS) that was adopted by their institution, as described by one teacher, “The technical aspects of using the LMS are the biggest obstacles most teachers experience. Once they have mastered that part it’s pretty easy.” For many respondents, an ongoing understanding of changing technologies and “evolutional” programs was also cited as important to training new online teachers. One respondent stated, “Technology is constantly changing and we need to know about it.” Troubleshooting with technology was frequently mentioned as a topic for training, such as, “Technology! They have to have a command of technology and know how to deal with any tech issue that may arise” and students, for example, “Most kid issues stem from their computers not having correct video player or software. Being able to walk them through changing file format or allowing something through their fire wall is very handy.”

Mentoring. Fifty-eight respondents (23%) stated that access to a mentor was a critical training element for new online teachers. As one teacher described, “Mentoring is crucial. Learning the basics is naturally needed, but a mentor can really show you how to survive until you get your feet under you and develop your own systems and routines.” Many teachers mentioned the value of an opportunity to “shadow” an experienced online teacher to “get a sense of how things work and pick up best practices.” In addition to having access into a mentor’s online class for observation, one respondent suggested the option of observing a current online teacher in action in their home office in order to guide teachers new to the online environment.

Communication. “New online teachers need to know how to communicate electronically with students” was a recurring theme identified by 53 (21%) of the online teachers surveyed. Some respondents emphasized the need to be trained in telephone etiquette, such as “conflict management using the phone, and being able to relate different concepts over the phone & online,” while others suggested preparation in written forms of electronic communication, for example, “very effective written communication, they need to learn how to convey the correct message tone through written communication to students since that is how most communication is handled.” Because there is usually little or no face-to-face contact between the teacher and students, one teacher describes the importance of being trained in online communication in the following terms:

The willingness to make frequent calls to students to explain things to individuals, to discuss key points, to remind them to work, to keep the parents involved, and to let them know you are a real person out there who is involved in their learning.

Hands on training. Forty-two (16.7%) of the respondents cited hands on practice as the most important element of training for teachers new to the online environment. One teacher suggested, “Most definitely a clinical aspect, classroom education can only do so much in a field that is so ‘hands-on.’” The idea of practicing with a “fake” or “pre-built” class was suggested by several respondents as a method of training before a newly hired teacher takes over a live online class, as described by one teacher, “A hands-on simulated class that you had to manage, with incoming assignments to grade, emails to respond to, etc.” Another common suggestion was to provide “real life examples of how to trouble shoot with students.”

Time management. Training on how to manage one’s time was identified by 27 respondents (10.7%) as an important capability for any online teacher and a capability that can be improved through proper training. Many of the

online teachers mentioned the importance of “teaching life-balancing skills,” and they describe how “it can be hard to walk away from the computer.” Others explain that teachers who are new to online teaching must be aware of the increased demands on their time imposed by the online environment, “that the preparation and availability is greater than traditional schools,” and that they must “be ready for the rigorous schedule of teaching online.”

Class management. Twenty-six respondents (10.3%) suggested including elements of training that covered class management and organization in an online environment. A teacher explained, “Online management is different than in person management, so you need good tracking skills and data analysis skills as well.” Responding teachers also suggested training that focused on electronic record keeping, online procedures and processes, and efficient ways to remotely manage students, as one respondent stated, “The volume of information can be overwhelming and you have to know how to properly organize and attack it to be successful.” In addition to having new teachers learn the importance of setting clear expectations and holding students accountable, one teacher cited the “need to learn about the best way to assess progress and understand the complexities of grading work that is submitted by students.”

Content and materials. Being knowledgeable in the content area being taught and able to create appropriate online materials were considered important training elements by 20 (7.9%) of the teachers surveyed. Although face-to-face teachers must have a thorough understanding of the course content, online teachers “need a strong content knowledge because of the flexibility with which they need to work within the courses.” Learning “how to create interactive and differentiated lessons for the online learning environment” was reported as an important skill by one teacher. Training in the ability to convert material into a format that is conducive to an online environment is also a valuable skill, as one teacher suggests, “Before I redid my coursework, there were many ‘projects’ or assignments that didn’t work for the online community.”

Another teacher considers the benefits of shared resources as an aid in explaining concepts to online students:

After a few years, I now have many resources (videos and tutorials) I have located to help explain concepts students find more difficult. New teachers would probably benefit from an organized list of resources (organized by concept). It would be great if there was a way to ‘pool’ our resources in an organized way.

Several respondents mentioned the possibility of including course and examination design techniques that limit or prevent cheating, plagiarism, and other short cuts. One teacher emphasized this need by stating, “Teachers should be better prepared for the massive amount of plagiarism. Making sure students are not cheating should be emphasized above all else.” One teacher asked, “Are there better ways to track if students are doing their own work or to keep them from cheating?” Another teacher suggested the need to build assessments to avoid plagiarism:

Copying and pasting from the Internet is a huge issue. Developing assessments that do not allow for this is very important. Limit the number of attempts on completing assignments, especially if multiple choice. They just retake to get 100 without learning from mistake. I limit to 3 and average scores for final grade. Explain the concept thoroughly and students put forth more effort.

Ongoing training. Although the type of training offered to online teachers may depend on the school and the format in which its classes are offered, 18 respondents (7.1%) cited “additional training” or “continuous professional development” as the most valuable aspect of online teacher preparation. Training suggestions included “a quick face-to-face immersion at the new-hire stage,” and “training weekly in Live Sessions, since we are [already] virtual.”

Online teaching strategies. Teaching strategies and best practices for success in teaching online were cited as important training elements by 17 of the respondents (6.7%). One teacher explained that new online teachers should know “how to translate classroom teaching into an online environment,” and “how to set up instruction most effectively.” Another teacher mentioned the need for training in how to translate face-to-face teaching techniques into an online environment:

Being able to innovate and come up with solutions [that] still address current trends; how can you get students to work cooperatively online? how can you get students to hit the presentational mode in communication? how do you present information in different ways so that it is not text heavy?

Several teachers mentioned training directed to the uniqueness of teaching at a distance, such as, “Research-based training in how teaching online is different and how it can be effective for a variety of learners,” and “Most important is learning the types of situations that have to be handled differently from physical classroom situations.”

Certification and courses. To prepare new online teachers, 16 respondents (6.3%) suggested taking courses specifically focused on online education. Benefits from these types of courses and issues that might be covered in such courses were described by one respondent:

I think a course in online education could be beneficial. Online education comes in a variety of formats in which teachers have a variety of responsibilities. I think it is important for preparing teachers to understand the different types of online education, how these institutions are effected by state legislatures and the extent of teacher responsibilities in each one.

Other teachers suggested a certification program, such as Leading Edge Certification or Advanced Professional Certification in Online Teaching as a vehicle for the comprehensive preparation of new online teachers. One respondent enumerated topics covered in an online teacher preparation course offered at Boise State: “Training in social media, screen casting, building apps and games, youth development and counseling, how to work with at-risk youth who have no interest in school. All these would be helpful.”

Engagement strategies. Fourteen (5.6%) of the surveyed teachers listed techniques to engage, encourage, motivate, and support online students as important skills for any online teacher. One teacher noted the opportunity for some form of training to develop these skills:

Definitely keeping students engaged. I have found that infinitely more difficult than engaging students in the classroom, because students have the ability to simply not sign on. There are a lot of students who will lie to their parents about the progress they are making, so the challenge is to get students to want to learn for a reason other than getting grounded if they don't.

Because the online teacher and student are separated from one another at least by distance and often by time, many current online teachers noted the importance of “knowing their audience” and understanding how to build relationships not just with students but also with parents and members of the institution’s staff.

Classroom and online experience. Having prior experience as a classroom teacher or having taken an online course was recommended for new online teachers by 13 (5.2%) of the survey respondents. One teacher explained that “Taking online courses allows new teachers to get a sense of the differences in online learning. Depending on if the course is asynchro-

nous or in real time, I think live sessions may also be helpful for training.” One suggestion for teachers expecting to teach online was to experience the class to be taught by enrolling as audit credit in order to “see how it works” before teaching the class.

Other respondents stated the “know your audience” requirement in the context of having classroom experience before teaching in any online environment. One teacher stated, “Classroom experience! You must be able to relate to the student first and foremost before tackling a remote teaching environment.”

Field experience. Twelve of the respondents (4.8%) recommended an online field experience for newly hired online teachers. One of the few teachers surveyed that had completed an online internship remarked, “My field experience was most valuable however, I realize that is not yet [available] through all Universities and teacher preparation programs.” Another teacher shared the observation that, “Teachers learn more about the art of teaching, when they are student teaching, than at any other time in the initial formative process. I think the same is true for online teaching.”

Because there are so few opportunities for pre-service teachers to be exposed to proper training in the techniques and methods for online teaching, especially at the K-12 levels, most of this form of training occurs once a teacher is hired to teach online. Out of those responding to this study, 14% of the K-12 online teachers received no training or preparation at all, and report self-teaching as the method for preparing themselves. The teachers that received some form of preparation to teach online describe being trained mostly through orientations, mentors, or in an “ongoing” format.

From the data collected in this study, it is evident that online teachers are a wealth of information when it comes to why/how they came to online teaching, including the flexibility that the job offers, ability to work from home and overall frustration with issues in the face-to-face classroom. The suggested attributes for an effective online teacher at the K-12 level included being patient and caring, very knowledgeable in the content area taught, and having strong time management skills. Online teachers indicated that most of their preparation to teach online was provided by an employer upon being hired. Very few of the respondents experienced any form of preparation during their pre-service training or teacher education program. The elements of training that respondents cited as the most helpful for newly hired online teachers included the areas of technology, and the many ways that teaching must be adapted for the online environment.

IMPLICATIONS

Decision to Teach Online

The dominant motivation or influence leading to the respondents' decision to teach online can be characterized in terms of "economics" and "innovation." The first category has to do with changing economics and the effect of change on the workplace. Online teachers reported a scarcity of classroom jobs, the need to supplement income, flexibility to teach both face-to-face and online, retirement income, mobility to work anywhere, and the ability to work from home while saving on gas and daycare. The second category of reasons why respondents become online teachers suggests a changing paradigm in K-12 education. These teachers have expressed a love of both technology and teaching; they appreciate and believe in this new process for transferring knowledge; they value the efficiencies and leverage provided by technology; and many prefer to focus on teaching rather than student discipline and administrative duties. These online teachers enjoy the benefits that online learning offers students and have either observed or directly experienced being an online student. A new factor that has enabled some to undertake online teaching is an increasing number of pre-service teachers who participate in a completely online student teaching internship. Having this and similar opportunities to experience the online environment has motivated many of the responding teachers to become interested in online teaching and to seek employment in this area.

Effective Attributes

Based on the responses provided by the surveyed K-12 online teachers, the attributes of an effective K-12 online teacher can be divided into two overlapping categories. The first group of attributes involves a set of communication skills that are different from those required in face-to-face teaching. Clearly, strong communication skills are equally important for both face-to-face teachers and those teaching online. However, communicating at a distance is critically different; this is because neither the student nor the teacher has access to the rich non-verbal cues and feedback elements of human communication that have evolved over thousands of years. In this context, respondents observed the need for online teachers to have very strong skills in communicating through interactive technologies, such as email, telephone, text, and video chat. The Southern Regional Education Board (SREB) state in their Standards for Quality Online Teaching that the ability to convey information effectively through written communications in the absence of "words and body language that traditional classroom teachers use" is an attribute all online teachers must possess (SREB, 2006). Such communication skills and techniques are clearly candidates for incorporation into any training program for online teachers.

Various forms of organizational skills, different from those needed to teach face-to-face, defined the second category of attributes associated with effective online teaching. Traditional classroom teaching involves a daily routine with well-defined class periods of known duration and students occupying assigned seats and visible to the teacher. In general, online teaching has none of this structure. Instead, the teacher must have organizational techniques that will assure that students, their engagement, their work, their progress, and their expectations are consistently monitored with corrective or reinforcing feedback where required. Online teachers must also have very strong time management skills and the ability to multi-task, especially in relation to classes that are offered on an asynchronous basis. One respondent noted that an online teacher must have a “tolerance for a 24/7 on-call type of work schedule.” This “on call” teaching format is significantly different than the six- or seven-hour day typically spent in the presence of students in a traditional classroom environment.

Teacher Preparation/Development

With the continual growth of K-12 online learning, teachers must be prepared in both face-to-face and online teaching methods and practices. As more online-relevant professional development becomes available, these highly motivated teachers are likely to take advantage of additional offerings. More and more teacher education programs are beginning to realize the need to include the methods and techniques required to effectively teach online (Kennedy & Archambault, 2013). Established K-12 online teaching standards, such as iNACOL’s National Standards for Quality Online Teaching, the National Education Association’s Guide to Teaching Online Courses, and the SREB’s Essential Principles for High-quality Online Teaching, often form the base for this type of preparation (Kennedy & Archambault, 2012a). However, there is essentially no empirical research into what skills are needed to be an effective K-12 online teacher (Barbour, 2012b). Once a set of empirically-tested skills are developed, coursework can be adapted or created to prepare future educators for all environments. The preparation offered by both teacher education programs and virtual schools themselves must become more coherent and consistent. The development of universal, research-based standards for preparation will naturally follow after the required skills are defined, tested, and proven to be effective. Once research-based standards are established, they will serve as a template for successful partnerships between universities and virtual schools where skill sets needed for teaching online at the K-12 level are taught and practiced.

Areas for Future Research

Further research involving K-12 online teachers might productively focus on two main areas, namely (a) empirically defining skills and techniques for effective online teaching, and (b) developing educational standards for online teacher education across pre-service and in-service programs. This research should focus on identification of specific differences between the skills necessary to teach online as compared to skills required for traditional face-to-face teaching. These studies might include methods for (a) creating, modifying and individualizing highly effective lessons for online delivery, (b) communicating with and managing students effectively at a distance, and (c) defining best practices for creating structure and efficient organization of an online classroom with large numbers of students attending asynchronously.

Standardization studies should seek to discover and define what constitutes effective online teaching and, correspondingly, define the optimal program for the preparation of effective online K-12 teachers. Because online education is expanding beyond the boundaries of any particular school or school district and is evolving into a national network of learning alternatives that range from single lessons or modules to complete degree programs, consideration should be given to the development of an empirically proven core program for preparing online teachers. What is clear is that the field of K-12 online education will increasingly impose new demands on teachers in terms of their ability to effectively communicate with remote students, comfortably use various forms of technology, and engage, monitor, and motivate students from a distance. Understanding the experiences and attributes of those teaching in this environment, together with learning about their needs, are vital aspects to designing appropriate preparation for this growing population of teachers.

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