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Continuing Change in a Virtual World: Training and Recruiting Instructors

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The process of teacher identification, selection, initial training, and on-going professional development that has developed at the Illinois Virtual High School (IVHS) over the past seven years is described and discussed in this article. Validation was based upon existing practices and research. To provide background, the creation and initial development of the IVHS is described. Some of the issues within the hiring process and professional development that the IVHS continues to struggle with are examined including teacher certification and the changing nature of technology. The article concludes with a recommendation that teacher education programs assist in addressing these challenges to support IVHS and other virtual schools.

In their review of state-level policy and activity related to virtual schooling, Watson Gemin and Ryan (2008) found “44 states offer significant on-line learning opportunities for students” (p. 8). Picciano and Seaman (2007) estimated that the overall number of U.S. K-12 students engaged in online

courses in 2005-2006 was approximately 700,000. One of the difficulties experienced by programs that deliver these online courses, according to Davis et al. (2007), is that this “explosive growth of virtual schooling has not been mirrored in teacher education programs, leaving most new educators unprepared for the new competencies required to teach in electronic classrooms” (p. 28). This leaves most K-12 online learning programs the responsibility of providing initial and on-going training to their teaching staffs.

The modest amount of research currently available for these training programs to be based on is another difficulty. As Cavanaugh, Barbour and Clark (2009) outlined the quantity of published literature on the practice and policy of virtual schooling was largely limited to practitioner reports, and experimental and quasi-experimental studies. With specific reference to teaching in K-12 online learning environments, Harms, Niederhauser, Davis, Roblyer, and Gilbert (2006) stated that, “competencies for effective virtual teachers are often supported only by anecdotal evidence” (p. 4). Further, DiPietro, Ferdig, Black, and Preston (2008) indicated, “very little is known about best practices specifically related to teaching in K-12 online settings” (p. 1). Rice and Dawley (2007) found that less than 40% of all online teachers reported receiving professional development prior to actually teaching online.

The lack of research in K-12 online learning in general, and teacher education in particular, has resulted in the responsibility for the development of teacher selection and training programs being left to virtual schools and it has occurred in an ad hoc fashion. In this article, we trace the development of this process in one virtual school in the USA, the Illinois Virtual High School (IVHS). We begin by providing a brief history of the IVHS. We then describe the process of teacher identification, selection, initial training and on-going professional development that the IVHS currently utilizes. Finally, we discuss some of the challenges the IVHS, and many other K-12 online learning programs, still face.

THE ILLINOIS VIRTUAL HIGH SCHOOL

The IVHS was created through a collaborative effort of a number of entities within the Illinois in the Spring of 1999. (Editor’s note: The approach was designed for students in a state school to take one or more courses in IVHS, rather than to replace existing provision). The initial planning proceeded at a very fast pace, particularly after Governor George Ryan’s 2000 state-of-the-state address in which he announced the idea of IVHS as a state-wide initiative, and by the Summer of 2000 a Strategic Plan was finalized and approved (IVHS Consortium, 2000). The IVHS was piloted during the

Spring 2001 semester, using courses leased from several content vendors. The pilot had 97 course enrollments from 33 schools, with an additional 195 enrollments from 36 schools in noncredit Advanced Placement Review courses (see Clark, Lewis, Oyer, & Schreiber, 2002 for the external evaluation of this first full year of operation). The IVHS began formal operations for the 2001-2002 school year.

During its first full year of operations, which included a summer term in 2002, the IVHS had 412 enrollments from 69 schools. IVHS continued to have a rapid growth of 60% or higher for the next three years, resulting in 3,249 enrollments from 227 schools during the 2004-2005 school year (see Watson, 2005 for an external evaluation of this fourth year of operations). The 2005-2006 school year saw the only decrease in enrollments in the history of the IVHS, with a total of 2,739 enrollments from 217 schools as the IVHS struggled somewhat financially with the end of federal grant support. The next year saw modest growth and, this past year (2007-2008), there were 4,314 enrollments, representing an increase of more than 40%. Currently IVHS has eight and one half administrative staff members and roughly 75 adjunct faculty members.

IVHS TEACHER SELECTION PROCESS

When IVHS began, their initial teacher recruitment was largely based upon, but not limited to a list of award winning teachers or outstanding teachers as recognized by some external body (e.g., Golden Apple winners, National Board Certified teachers, etc.), along with referrals from within this group. These teachers attended a two-day, face-to-face professional development. In addition, teachers using one outsourced course content were sent by that vendor to attend a one-week face-to-face course in online teaching at the Florida Virtual School (FLVS). After the initial pilot semester, the teacher application process described later started in incremental stages. Initially, potential teachers were required to complete an earlier version of the eCollege course on online teaching; however, as IVHS grew so did the administrative structure. A teacher mentor system was also developed to assist and evaluate IVHS teachers.

As Davis et al. (2007) pointed out “effective virtual teachers have qualities and skills that often set them apart from traditional teachers” (p. 28). Therefore, as the IVHS has grown and more teachers were needed, a formal application process was initiated. Today, these teacher mentors and the IVHS administration comprise the evaluation group for both the application process and potential IVHS teachers.

Teacher Identification

Most of the applicants today come from a pool of teachers who have sent inquiries directly to the administration of the IVHS, along with additional recommendations from current IVHS teachers, with the former group usually accounting for 120 to 150 potential applicants and the latter group representing another 20 to 30. These numbers are more than sufficient, as IVHS typically required five or six new teachers a year over the past three years (prior to this, there was a need for over 30 new teachers for the 2004-2005 school year due to a substantial increase in enrollment).

When a teacher expresses interest in teaching with or is recommended to the IVHS they are notified by email to submit their resume and their current Illinois teaching certificate to the IVHS. The formal application process usually begins around December or January of each year, when the teachers from the applicant pool are sent an email that outlines in detail the complete application process and reminds them again to submit their resume and teaching certificate. Each year, approximately 65% of the potential applicants fail to complete this step and are removed from the pool of potential teachers.

Initial Teacher Training

Upon receipt of their resume and teaching certificate, the teacher applicant is invited to participate in an online technology assessment. A teacher's ability to use technology and use it effectively is fundamental to being able to teach in an online environment. As Morris (2002) described, online teachers should have a high level of technology skills, be familiar with the curriculum, possess strong communication and organizational skills, and be excited about this new method of delivery. Further, DiPietro et al. (2008) outlined 23 different pedagogical best practices, three of which dealt specifically with the teacher's ability to use the technology effectively.

The assessment used by the IVHS is TechPOINT (see <http://www.techpt.org/index.php>), an online resource created by Learning Point Associates. According to the TechPOINT website, this resource "is a suite of tools that educators can use to measure their school or district's progress on technology goals and to make decisions about where to place technology resources" (Learning Point Associates, 2008a). The resource is divided into three distinct components—all of which are aligned to the National Educational Technology Standards (International Society for Technology in Education, 2007). Figure 1 provides a screenshot within the TechPOINT assessment.

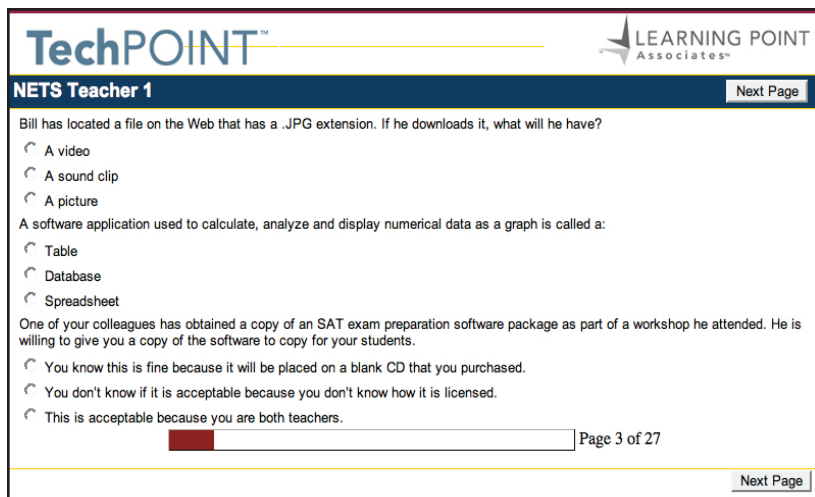


Figure 1. A screen shot within the TechPOINT assessment.

The IVHS uses only the TechPOINT proficiency assessment for teachers. This assessment has been found to be a reliable tool, with a reported Cronbach alpha of 0.86 (Learning Point Associates, 2008b). Each year approximately 10% of the applicants either fail to achieve an 85% on the technology assessment or drop out of the application process at this point.

Once an applicant has successfully completed the technology assessment they move to the next phase of the application process. During this phase, the applicant participates in a five-week online course on preparing teachers to teach in a virtual school. Since the inception of K-12 online learning in the United States, some have believed that teachers need to have the experience of learning in an online environment in order to fully appreciate the challenges their students face when they transition to teaching online (Zucker & Komza, 2003). For example, one of the oldest virtual schools in the United States, the Virtual High School Global Consortium (VHS), has always required its teachers to complete an online professional development course in online pedagogy to qualify to teach one of its course (Pape, Adams, & Ribeiro, 2005). Further, one of the International Association for K-12 Online Learning's (iNACOL's) thirteen national standards for quality online teaching states, "the teacher has experienced online learning from the perspective of a student" (North American Council for Online Learning [now known as iNACOL], 2008, p. 7). Davis and Rose (2007) explained the main reason to have potential teachers take an online course prior to teaching online is that "research into teaching has consistently shown that teach-

ers teach the way they were taught” (p. 7). So for an online teacher to be able to teach effectively online they must first be taught in an online environment themselves.

The course “eCertification: Teaching online courses (IVHS)” is an adaptation of an eCollege course (Figure 2). (Editors note: eCollege is a virtual schooling service that was established a number of years ago and originally specialized in advance placement courses that students in the USA could take to increase their access to higher education.) eCollege instructors normally lead this course, although the IVHS coordinator of instructors participates in the course to respond to IVHS-specific inquiries. The course covers a variety of topics, including the roles and responsibilities of online teaching, how to teach using their course management system (CMS) and its communication tools, how to incorporate interactivity in a course, and methods of assessing students.

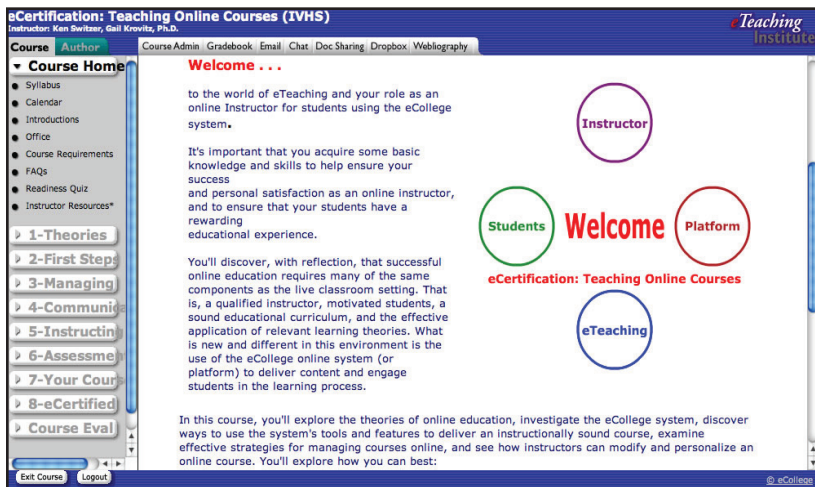


Figure 2. Screen shot of the home page of eCollege’s “eCertification: Teaching online courses” course.

During the course, applicants have access to their own practice course shell within the CMS. Applicants are able to use this shell to complete the activities as though they were preparing to teach their own course with the IVHS (Figure 3). These optional tasks are consistent with Elbaum, McIntyre and Smith (2002), who described providing a comprehensive set of informational materials as an essential element in online course design. The authors accurately contend that many students taking this course have not taken a virtual course before and have little knowledge of the exact expecta-

tions that will be placed upon them as a student. A comprehensive set of informational materials can provide these students with “a clear understanding of what is expected, and whether [the] online course sounds right for them. Once students are in [the] course... [these materials] provide all the information about the course they will need” (p. 73). Essentially, these optional activities allow the applicant’s to create this introductory material.

eCertification: Teaching Online Courses (IVHS)
 Instructor: Ken Switzery, Gail Kowitz, Ph.D.

Course Admin Gradebook Email Chat Doc Sharing Dropbox Weblography

Course Author

Course Home

- Syllabus
- Calendar
- Introductions
- Office
- Course Requirements
- FAQs
- Readiness Quiz
- Instructor Resources*

1-Theories

2-First Steps

3-Managing

4-Communi...

5-Instructi...

6-Assesse...

7-Your Cours...

- Change Standards
- Resources
- Course Home

Exit Course Logout

Teaching Institute

Personalizing Your Online Course

You've been assigned as the instructor of an online course. How do you make it **your course**? While the course content may be set, your institution undoubtedly has "change standards" that will allow you to personalize the course to at least some extent.

This unit provides an explanation of course areas that instructors may be authorized to change or modify, and the tools and techniques available to actually accomplish the desired change.

In your role as a Course Instructor/Facilitator, don't forget that the online **?Help** pages are always available to provide necessary assistance. Remember, you can download and print the pages in order to have a hard copy Help sitting on your desk.

Note: Use your personal course shell, available from your student homepage, if you want to practice with any of the tools and techniques discussed in this unit--or previous units in the course. Remember, you must be in **Author mode** to create units, content items, and course materials; **Course mode** to then review what you created as your students will view them.

eCollege

Figure 3. Screen shot of the eCollege course Teaching Courses Online: Personalizing your online course.

While this learning by doing activity is not a required component of the eCollege course, it is highly recommended that the applicants work through this section of the course. Although the students/applicants do not know it until the final stage, this activity of personalizing an IVHS course shell as if they were going to be teaching that course is a final exercise in the selection process. Applicants who begin to work on it at this stage typically have better designed course shells by the time they reach the final stage. This is similar to an activity also used by the VHS in their online training. However, as Pape (2003) described, the potential teachers do not simply personalize the introductory content to an existing course, Pape’s VHS teachers go further to create a completely new course.

Another task in this eCollege course is a formal final examination. To pass the course successfully an applicant must score 83% or higher on all of the graded activities. At this stage, approximately 30% of the potential applicants fail to complete or are unsuccessful in their completion of this course, and are removed from the pool of potential teachers. There is no

cost to the individual for participation in this course, because the IVHS covers the tuition costs. eCollege awards applicants that successfully complete the course a *Certificate in Online Teaching*. In the IVHS model, the first two professional development opportunities are provided, free of charge, to teacher applicants prior to the IVHS making any hiring decisions.

Teacher Selection

The teacher structure of the IVHS is similar to a departmental structure of a brick-and-mortar school, where teachers are divided by discipline, and each discipline group has a mentor that oversees the discipline area and leads subject specific professional development opportunities. These teacher mentors are a combination of technically savvy and/or have sound pedagogy. Those who are early adopters of technological innovations or innovative practices tend to do so because it “offers them a better way to do something; is compatible with their values, beliefs, and needs; is not too complex; can be tried out before adoption; and has observable benefits” (Surrey & Ely, 2007, p. 106). It is for these reasons that this group of individuals has been assembled to support the IVHS administration in the selection of potential new teachers and later they also support the process of training and professional development.

After receiving their eCollege *Certificate in Online Teaching*, those applicants are sent an asynchronous interview (i.e., a set of questions) by email, and asked to complete and return it to the coordinator of instructors within three to five weeks. Upon receipt of the completed interview, the IVHS administration and the teacher mentors begin their evaluation of the applicant’s responses. Approximately 10% of the potential applicants do not submit their interviews and, of those who submit their asynchronous interview, the applicants are rated and only those who are most highly rated continue in the pool of potential teachers. At this stage of the application process, there are usually five to ten of the original 140 to 180 applicants remaining.

These applicants are invited to participate in the IVHS summer faculty meeting. At this event the applicants interact with current IVHS faculty and participate in specialized training related to their potential online teaching assignment. During some of these training sessions the applicants participate along side current teachers, and some sessions are exclusively for potential teachers. There are multiple reasons for the intermingling of applicants with the current faculty. One is to include them in a collegial setting that will enhance the faculty community if the applicants are hired by the IVHS. Rovai (2002) described this kind of community as “a social community of learners who share knowledge, values, and goals” (p. 322), while Wenger (1996) believed learning occurred in communities of practice that were

fundamentally social in nature. These are the kinds of communities that the IVHS aims to foster, and by introducing prospective and new teachers to existing IVHS teachers during both the social and academic sessions, it facilitates their integration.

Another reason for their inclusion is to provide state of the art lessons and pedagogy that are specific to the IVHS in the online learning community. Lowes (2005) found teaching in an online environment requires teachers to use different strategies when determining “how to reach, and evaluate, students when you cannot interact with them face-to-face on a daily basis” (p. 12). It also presents a casual atmosphere in which to observe the applicants and provide them with direct access to have their questions answered by teachers who have experienced many of these situations first hand. Lowes (2007) noted that creating communities of practices among online teachers is one way that many virtual schools have sought to formalize their on-going support for these individuals. The casual environment created by this three-day, face-to-face summer faculty meeting helps to foster these communities of practice within the IVHS faculty.

However, not all of the activities the applicants participate in during the summer faculty meeting are mixed with veteran teachers. There are several required sessions, including Instructor Handbook training, grading, the IVHS’ chosen synchronous tool (i.e., Elluminate). Each of these sessions is intended as an introduction and to provide a foundation for the applicants. The applicants will be able to develop their knowledge of, and skills with, these topics and tools further when they are hired as teachers. The IVHS administrative personnel and teacher mentors lead these sessions. As the applicants attend these sessions, they are informally assessed by the leaders of each session. Throughout the summer faculty meeting the IVHS administrators and teacher mentors are tasked with observing the applicants and formulating a general impression of the applicants. These assessors are the same team who have evaluated the applicant’s written interview and who will evaluate their final exercise.

On the final day of the summer faculty meeting, the applicants are assigned a final activity in which they are given a test course to prepare for teaching, using a set of tasks to perform in a prescribed period of time within a course shell. (The tasks are the same ones that applicants have the option to complete in their practice shell during their eCollege training.) The completion of this exercise concludes the formal portion of the application process. The IVHS administrators and teacher mentors meet after the summer faculty meeting to finalize their assessment of the individual applicants. The applicant’s final exercise is also evaluated at this time using a predefined rubric. Successful applicants are notified that they have been accepted as an IVHS faculty member. Course assignments are usually made

during the first week of August, depending on student enrollment numbers in IVHS at that time.

Continuing Teacher Professional Development

In addition to the preservice professional development and related assessment, IVHS offers opportunities for professional development on a monthly basis through one of four methods of delivery: (a) face-to-face, (b) online synchronous with the entire faculty, (c) online synchronous by department, or (d) online asynchronous by department. The IVHS holds three face-to-face meetings each year that occur in late fall, midwinter, and early summer. Watson (2007) noted that professional development for online teachers should focus on two areas: (a) learning the technology and (b) learning effective online pedagogy. These meetings provide an opportunity for the IVHS faculty to engage in community building, as well as to attend professional development sessions. Topics have included grade book entry procedures, MS Excel software instruction, Internet safety, online tools (e.g., blogs, wikis, social bookmarking, United Streaming, HippoCampus), the use of homemade PowerPoint games as a learning tool, and how to facilitate interaction with the school-based mentors to support IVHS students. As the IVHS teachers interact with each other in this face-to-face setting, and attempt to internalize how these tools and strategies can be incorporated in their own teaching, they form a community of online teachers (Renninger & Shumar, 2002).

The fall and winter meetings are one-day in length and are held at a mid-state facility in Normal, Illinois, to provide equal ease of transportation to the entire faculty, as IVHS teachers live in various regions throughout the state plus four who live out-of-state. Figure 4 maps the locations of IVHS teachers in 2008.

The summer meeting is a three-day event held in Springfield, Illinois, which is another relatively central location. During this meeting more intensive sessions on pedagogy and IVHS-specific training take place, along with updates on current research and policies related to K-12 online learning in the state, nationally, and internationally. This is also the meeting that the teacher applicants attend and interact with the veteran faculty (as described in the previous section). The rationale for a longer and more detailed professional development meeting at the beginning of the summer is “to give teachers the whole summer to work on their courses” using the new tools and pedagogies that have been presented (Morris, 2002, p. 56). As a group of early adopters, by providing them with the appropriate time to perfect their use of that particular tool or pedagogy, it increases the chance teachers will adopt it in their online teaching.

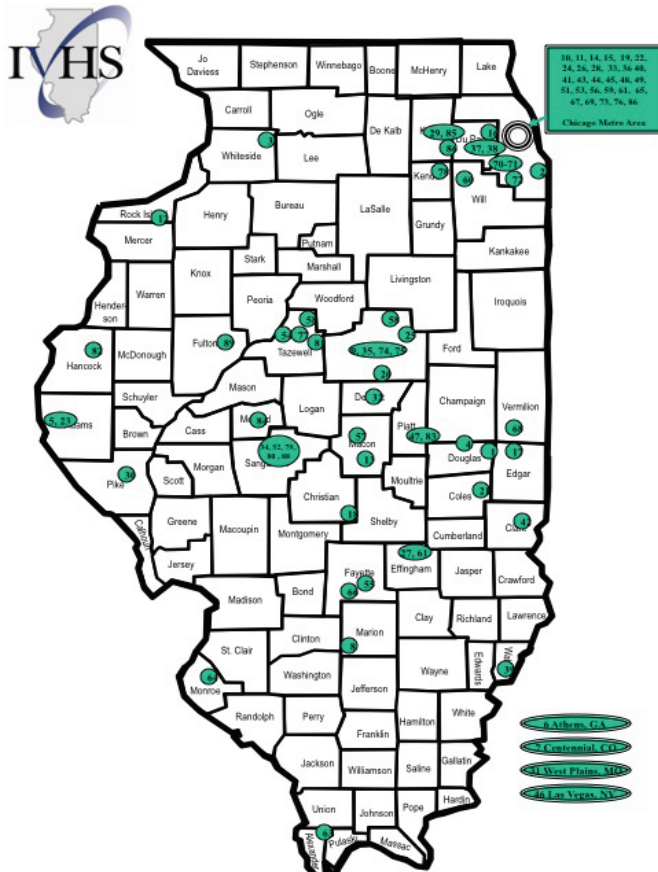


Figure 4. Map of IVHS teacher home locations in 2008.

The online synchronous full faculty meetings occur at the beginning of the fall school term in August and again just prior to the end of the spring term in late May or early June. While some online professional development occurs at these meetings, the main focus is on IVHS administrative procedures necessary to the beginning and end of a school year. These meetings are generally one to two hours in length and are held using the synchronous tool Elluminate, which allows participants to access the meeting remotely by computer (Figure 5).

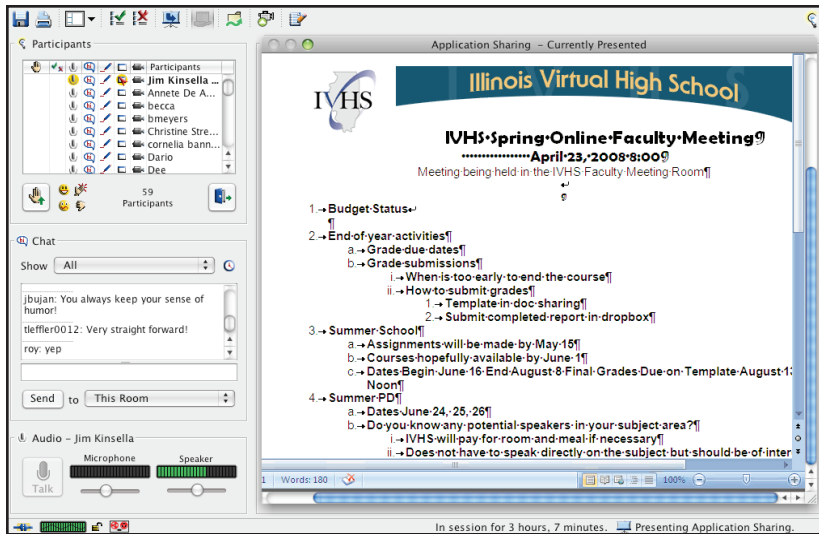


Figure 5. Screen shot of Elluminate during a full faculty member meeting in 2008.

An example of a professional development activity that occurs during these sessions would be instruction on use of a particular function of Elluminate (e.g., effective ways to use the white board or applications sharing), while the administrative items could include topics such as enrollment procedures or the processes for reporting grades to participating schools. Garet, Porter, Desimone, Birman and Yoon (2001) pointed out that the duration of the professional development activities were critical for the effectiveness of the program. Hence, the longer the session is, the more focused the content must be on practical applications for those involved.

Desimone, Porter, Garet, Yoon, and Birman (2002) also found that if the professional development is more focused to content that will be taught, the outcomes will have more impact on real life practices rather than focusing on process and delivery systems. For this reason the IVHS also uses departmental meetings to allow teachers in similar subject areas to undertake professional development more focused upon the content they have to teach. Online synchronous departmental meetings occur monthly. Although the original idea was to have all faculty online meetings monthly, problems with arranging meeting times convenient to all of the teachers became increasingly difficult, as the IVHS grew and they became monthly departmental meetings. In addition to the convenience of scheduling, it also provided the opportunity for a particular discipline to focus on items that were more

specific to their discipline. For example, the business teachers have had a presentation on teaching economics at the high school level, while one of the math teachers reported on what he learned about teaching mathematics online after attending a seminar at one of the Ivy League schools. This change also has the potential to improve the online environment for students. Hughes, McLeod, Brown, Maeda, and Choi (as cited in Smith, Clark, & Blomeyer, 2005) found that students' perceptions of the virtual learning environment improved in certain areas as the amount of time teachers spent on professional development related to both discipline-specific issues and teaching with technology increased.

Even with the transition from full faculty meetings to synchronous departmental meetings, it was still difficult for some faculty members to attend due to scheduling conflicts. An alternative to the synchronous departmental meeting has been the asynchronous departmental meeting. In this format, a designated member of the department was responsible for presenting a topic of interest. The remainder of the department was responsible to respond at their convenience to the chosen topic a specific number of times during the allotted time period. Kanaya, Light, and Culp (2005) stressed the need for professional development to be designed on the basis of teachers' knowledge base, needs, and interests, which should increase the commitment to the learning by those involved. For example, one of the IVHS English language arts teachers presented a problem they encountered and the group discussed a variety of ways that the teacher could have handled the situation, while the social studies teachers read and discussed an article about student use of social networking sites. Cross (1998) believed that a learning community was intended to foster "active learning over passive learning, cooperation over competition, and community over isolation" (p. 5). Within these synchronous and asynchronous departmental meetings the IVHS teachers have developed a space where resources, tools, and best practices are shared and where issues can be discussed and resolved to the benefit of the entire community.

The use of these departmental meetings for professional development purposes is consistent with the model outlined by Hinson and Bordelon (2004). In their model the authors stressed the need to have cohorts, for those cohorts to set individual goals and objectives, and for the cohorts to be able to provide support for its members and to be flexible in terms of its coverage. In the same way that virtual schools are able to offer their students the flexibility to learn at any time, in any place, and at any pace; the IVHS has created a model of professional development for its teachers with this same flexibility. As Scherer (2006) described, virtual schools "are taking different approaches to professional development, ranging from extensive online training to extensive in-person training" (p. 34). The IVHS has

chosen a model that uses both. According to Rice and Dawley (2007), approximately a third of teachers reported that their virtual schools provided both online and face-to-face professional development opportunities, which places the IVHS in a more exclusive group of virtual schools.

Davis and Rose (2007) outlined five actions that they felt the educational community must take to address the need of professional development for online teachers: (a) plan for professional development; (b) recruit and develop faculty to provide virtual school related professional development; (c) integrate virtual schooling in preservice and professional development programs for teachers, their leaders and education service providers; (d) differentiate professional development according to need, role, culture, and context; and (e) research professional development for virtual schooling. At present the IVHS has taken steps to ensure that they have planned regular professional development for their teachers, administrators and school-based personnel that is delivered by internal and external individuals that have been recruited by the IVHS because of their experience and/or expertise with specific tools and/or pedagogies that have been identified as needed by the IVHS teachers or administration. To date, the IVHS has not developed any partnerships with institutions able to offer training at the preservice level, nor have they engaged in any formal research into their teacher selection or professional development process. However, both of these areas are among a series of issues that the IVHS is currently exploring.

CONTINUING CHALLENGES

Thus far, this article has discussed the origins and history of the IVHS and described the hiring and professional development processes. Four phases were identified: (a) teacher identification, (b) teacher selection, (c) initial teacher training, and (d) on-going professional development for teachers, with illustrations of the literature that informed and supported the progress made over the years. This process is not complete, however, and there are still issues that continue to challenge the IVHS. At present, there are four items that the IVHS continues to struggle with in terms of teacher training and professional development. The first of these is related to teacher certification, while the remaining issues deal with the changing technology and advancements in the pedagogy. In this section we discuss each of these issues.

At present, teacher certification is the greatest challenge for the IVHS when it comes to teacher selection. The IVHS requires that all their teachers have a current Illinois Teacher's Certificate. This requirement typically does not present a problem for veteran teachers, as they both have the proper certification and, additionally, have years of classroom experience. However,

for new teachers who have not yet faced a classroom situation of any type, simply passing the certification test does not necessarily make them qualified to teach online classes—particularly with the problems related to the lack of online teaching pedagogy found in teacher education programs (Davis & Roblyer, 2005). This means that the IVHS receives interest from a high percentage of potential applicants who will not complete the lengthy teacher selection process due to their inexperience. Recently teacher education programs have begun to introduce courses related to K-12 online learning (e.g., Queen's University and the University of Florida), while others have developed complete certificate programs in online teaching (e.g., Boise State University, Plymouth State University, and Wayne State University). The most comprehensive approach to K-12 online learning by teacher education has been the *Teacher Education Goes Into Virtual Schooling* (TEGIVS) project at Iowa State University (see <http://ctl.iastate.edu/~tegivs/TEGIVS/homepage.html>). In addition to the courses and other curricular resources, the TEGIVS project also includes field experiences that provide teacher education students with first-hand opportunities to observe and teach online. However, at present very few teacher education programs have made any progress in this area, none within the State of Illinois. In fact, many teacher education programs still do not require their students to complete a teaching with technology course and, of those who do, their course often does not include newer tools and how to use them in the classroom (Jacobsen, 2001; Jacobsen & Lock, 2004). In fact, of the eight major public universities in Illinois only two programs required a technology integration course for elementary education major and only one for secondary education majors (with another university requiring students pass a technology proficiency exam prior to admittance).

Another issue that the IVHS continues to struggle with is the ongoing training required to constantly stay abreast of changes in technology and pedagogy. Online education has progressed tremendously since the IVHS was first created in 2001. New software and technologies are appearing each day, and staying current with best practices associated with these new innovations often means weeding through the myriad of emails and advertisements that IVHS administrators and teachers receive daily. And as DiPietro et al. (2008) pointed out, many of these best practices are still based upon instruction with an adult population or instruction in a face-to-face environment. As opportunities to explore what appears to be a useful innovation or pedagogical strategy becomes available, it is then often a struggle to find a balance between the various methods to share this information with the more than 70 teachers scattered throughout the state. In fact, many teacher education programs still do not require their students to complete a teaching with technology course and, of those who do, their course often does not

include newer tools and how to use them in the classroom (Jacobsen, 2001; Jacobsen & Lock, 2004). In fact, of the eight major public universities in Illinois only two programs required a technology integration course for elementary education majors and only one for secondary education majors (with another university requiring students pass a technology proficiency exam prior to admittance). While the IVHS has developed the four different methods of professional development, described in the previous section, determining which method will allow the IVHS teachers a better way to do things that is not too complex, but compatible with their values, beliefs, and needs, can be a difficult decision (Surrey & Ely, 2007)—and often the method selected is not the best method for every IVHS teacher.

One of the more pressing challenges for IVHS teachers, and the IVHS in general (and most K-12 online learning programs) is the capability of technology and expertise required of students and school-based personnel. For example, when the IVHS adopts new tools (as it has in the past with programs such as Elluminate, HippoCampus, or United Streaming) it has been a challenge to be certain the students using these programs have the technical capability at school and home to access them properly. Many schools have technical restrictions set on their computers or have dated computers that aren't able to access these new innovations, and some students do not have the proper settings on their home computers. Both of these issues place greater demands on the IVHS teachers, as in addition to knowing how to use the innovation and how to use it in a pedagogically sound manner for the online environment, they also have to be able to troubleshoot these innovations for their students and local school teachers. Blomeyer and Dawson (2005) speculated about the nature of the training required to ensure both online teachers and school-based personnel were equipped to handle the demands that innovation, among other items related to virtual schooling, would place upon them.

This requires an additional level of training for the teachers usually not provided as a part of the regular professional development, and in many instances that is beyond the technical skill set of the IVHS teachers. To keep all parties involved current with the technological needs has been an ongoing task for the IVHS. History has shown that the IVHS has added a major new tool every year to year and a half (Barbour & Kinsella, 2008). To cite a current example, the IVHS is exploring ways to present science labs to its students in a manner compatible with college entrance expectations (something many K-12 online learning programs are struggling with, see Matts & Roe, 2008). Some of the labs being investigated have much promise, but may present new technological challenges yet to be identified. If this pattern of adding new tools continues, the IVHS will be faced with many challenges in the future to maintain technology in the process of education without

requiring additional technical knowledge of students. This is another area teacher education programs could support if they required that all preservice teacher education students become technologically proficient.

This is also true of the most critical technology tool within any virtual school—the CMS (Freedman, 2005). The IVHS has used eCollege as its CMS since it was first established. This is one of the reasons the IVHS chose to use eCollege's online pedagogy course as a part of its teacher selection and initial professional development process. As Ansonge and Bendus (2003) stated, "CMSes provide a course environment that has the potential of influencing the way instructors teach" (p. 178). This was evidenced by Davis (2003), who described the initial training with Michigan Virtual High School teachers as requiring "most of the skill development [to be] focused on successfully learning how to navigate in this environment" (p. 80). This would be particularly true after a K-12 online learning program had been using a specific CMS for a long time. In the next year, the IVHS CMS will be selected through a competitive bid process.

Obviously the decision to switch CMSes could have a large effect on the nature of professional development necessary for both new and existing IVHS teachers. A less intensive example occurred approximately a year ago, when IVHS decided to begin using the content management feature of the eCollege CMS. This decision required the IVHS to use much of the end of year online synchronous faculty meeting and two of the three days during the face-to-face summer meeting, along with substantial material provided in the asynchronous teacher resource course area (i.e., an asynchronous course shell used to house resources of interest to the faculty), for instruction on its use. This effort was simply for changes made to the current CMS, one can only speculate as to the time and resources that would be required if the IVHS switched to a different CMS. More brick-and-mortar schools make a CMS available for their teachers to use; yet very few teacher education programs include how to teach using a CMS in their preservice or in-service course offerings. While many teacher education programs use CMS to house their own curricular materials, the ability to use the CMS as a student does not translate to skills for instructional purposes. Clark and Else (2003) identified technology training as one of the issues related to the growing K-12 online learning movement, so the IVHS is not unique among K-12 online learning programs.

In this article, we have described the history of the IVHS and its process of teacher identification, selection, initial training and on-going professional development. We concluded with the challenges the IVHS still faces. Of the four issues the IVHS continues to struggle with, three deal with changing technology. Over the past seven years the IVHS has seen continual change and improvement in its approaches to teacher hiring and the subsequent

professional development process. These improvements have been accomplished by making adjustments to the processes and procedures, often through trial and error (similar to other K-12 online learning programs), lessons from the national K-12 online learning community, and by consistently utilizing the feedback received by its own teachers. In this manner, the IVHS is hopeful in addressing the current challenges it faces in this area. We have also drawn attention to the fact that teacher education programs have a role to play in helping the IVHS and other K-12 online learning programs address many of the challenges it faces. Teacher education can also assist K-12 online learning by recognizing the unique aspects of this innovative method of delivery, and incorporating curriculum and experiences into their preparation programs to address the current gap in teachers' knowledge and skill set.

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Author's Note

It should be noted that the Illinois Virtual High School has ceased operations as of June 30, 2009. In an open bidding process, the Peoria Regional Office of Education was awarded the Illinois State Board of Education contract to manage and operate the new Illinois Virtual School (IVS). The IVS has a broader mission which includes serving more grade levels and administering teacher professional development. The IVS began operations on July 1, 2009.