ABSTRACT: Purpose: As online course offerings and degree programs in communication sciences and disorders (CSD) expand, application of best practices to ensure quality student outcomes in the preparation of future professionals is essential. This article offers an overview of current online degree programs in CSD, identifies evidence-based practices in online education, and provides a detailed description of how best practices in online education were applied to a multi-institutional online speech-language pathology master’s degree program. Conclusion: The information presented in this article should benefit institutions that are developing or revising online education programs and assist students in their decision making about enrolling in such programs.

KEY WORDS: best practice, online education, collaborative, speech-language pathology, student outcomes
the institution’s brand value, and providing pedagogic improvements” (Allen & Seaman, 2010, p. 17).

Distance Education in CSD

CSD program accreditation standards. According to the ASHA website (www.asha.org), the Council on Academic Accreditation (CAA) has recognized distance learning since 1998. For purposes of the CAA, distance education is defined as

a formal educational process in which 50% or more of the required graduate academic credit hours, excluding practicum, may be accrued when the learner is separated from the instructor, and there is support for regular and substantive interaction between the students and the instructor. The interaction may be synchronous or asynchronous. (ASHA, 2011, p. 1)

Current ASHA CAA guidelines require that an accredited CSD program complete and submit a Substantive Change Plan 12 months before adding a distance education component (ASHA, 2011). The substantive change process requires that the accredited program demonstrate how the distance education component is equivalent to the traditional program in terms of administrative structure and governance, faculty/instructional staff, academic and clinical education curriculum, students, and program resources.

CAA-accredited degree programs are required to include data on the status of the distance education component as part of the annual reporting process. As of January 2011, CAA standard 4.5 was added to specifically address distance education programs. The standard states:

The program must adhere to its institutional policies and procedures to verify that a student who registers for a distance education course or program is the same student who participates in and completes the program and receives the academic credit. (ASHA, 2010a, p. 1)

The American Academy of Audiology’s Accreditation Commission for Audiology Education accreditation manual currently makes no mention of distance education programs.

Current Online Programs in CSD

The growth of distance education has been accelerated by the development of online learning. Online learning is a form of distance education that is delivered over the Internet. Interaction can occur either synchronously (i.e., at the same time) or asynchronously (at a later time). A search of ASHA’s EdFind database and the Internet yielded 13 speech-language pathology programs that offer online master’s degree programs. Two online Doctor of Audiology degree programs were identified through an Internet search but were not identified on EdFind. Forty-six universities were identified as offering some online coursework, and 14 universities were reported to offer prerequisite coursework online.

Information about the online education program requirements, clinical requirements, admission process, student outcomes data, and tuition assistance for the 13 fully online speech-language pathology master’s degree programs was obtained through review of the programs’ websites and e-mail correspondence. A summary of findings is offered in Table 1. In some cases, there was a limited amount of information specific to online student outcome data available on the programs’ websites. The majority of online master’s degree programs in speech-language pathology offer a part-time curriculum, provide web-based coursework, have some on-campus requirements (e.g., clinical practica and/or orientation), and target specific student populations (e.g., distance from university or interest in specific setting). In some instances, tuition assistance was linked to employment within a specified setting (i.e., public school).

A Model of Best Practices in Online Education

Stakeholders (e.g., educators and students) want assurance that the educational outcomes for online education programs are comparable to those for traditional face-to-face programs; such quality outcomes are guided by evidence-based practices. The chief learning officer of Sloan-C, a recognized international leader in online education, established five key pillars for determining the quality and effectiveness of online education based on the research literature: learning effectiveness, cost effectiveness and institutional commitment, access, faculty member satisfaction, and student satisfaction (Moore, 2005). This framework offers guidance in the planning, implementation, and assessment stages of an online education program. A description of the five pillars, along with specific indicators for performance, is provided in Table 2.

### Table 1. Summary of findings for the 13 fully online master's degree programs in speech-language pathology.

<table>
<thead>
<tr>
<th>Program requirements</th>
<th>Clinical requirements</th>
<th>Admission process</th>
<th>Outcomes data</th>
<th>Tuition assistance</th>
</tr>
</thead>
<tbody>
<tr>
<td>11 offer part-time enrollment (average 3 years for completion, range of 2–6 years)</td>
<td>10 state clinical requirements on website</td>
<td>11 offer annual admission; 2 offer biennial admission</td>
<td>7 report partial to full exit data for graduates, which may include Praxis pass rate, graduation rates, and employment rates</td>
<td>10 offer tuition assistance stipulate tuition support in exchange for school employment</td>
</tr>
<tr>
<td>4 require summer enrollment</td>
<td>8 require some on-site clinical practicum</td>
<td>13 provide minimum standards for admission</td>
<td>Graduation rates ranged from 60% to 97%; Praxis pass rates ranged from 83% to 100%; postgraduation employment was 100%</td>
<td></td>
</tr>
<tr>
<td>10 matriculate students as a cohort</td>
<td></td>
<td>5 provide in-state preference; some post distance from campus as criteria</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13 provide online coursework</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 require on-site attendance for course repeats and/or summer courses</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 require face-to-face orientations; 2 require online orientations</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Learning effectiveness. The first pillar of effective practice in online education is learning effectiveness. A substantial amount of research has shown online education to be as effective, or more effective, as traditional learning environments (Allen & Seaman, 2007; Association of Public and Land-Grant Universities Sloan National Commission on Online Learning, 2009; Lou, Bernard, & Abrami, 2006; Senior, 2010; Williams, 2006). In 2009, the U.S. Department of Education conducted a meta-analysis of >1,000 empirical studies published from 1996 through July 2008. Findings revealed that in many instances, students in online learning conditions performed better than those receiving face-to-face instruction.

In addressing learning effectiveness within an online education program, consideration should be given to the (a) establishment of clear student expectations for communication, (b) optimal interaction and collaboration between students and instructors within course design, (c) effective use of technologies that encourage student engagement in the learning process and access to content, (d) systematic program evaluation process that includes all of the stakeholders, (e) establishment of standardized measures of student achievement, and (f) policies for academic honesty and integrity (Moore, 2005).

Cost effectiveness and institutional commitment. The second pillar of effective practice is cost effectiveness and institutional commitment. Moloney and Oakley (2010) advocated that successful online programs have cost-effective strategies and a strong institutional commitment that contribute to the growth and sustainability of online initiatives. It is recommended that these two factors be jointly considered early in the planning stages in order to promote sustainability and growth. Considerations for improving cost effectiveness include (a) establishing consortia and other partnerships to share resources/costs, (b) redesigning and combining courses for reduced costs and faculty time, (c) effective use of technologies, and (d) developing self-help tools for faculty and students (Moore, 2005). Other proven strategies to improve cost effectiveness include offering complete degrees as opposed to individual courses, reinvesting tuition revenue into program development, strategically marketing to the target population, and ensuring access to a sufficient number of online faculty members to meet the growth of the program (Moloney & Oakley, 2010).

Access. The third pillar of effective practice addresses student access so that all learners have the opportunity to

---

**Table 2. Five pillars for determining the quality of online education.**

<table>
<thead>
<tr>
<th>Pillar of quality</th>
<th>Description</th>
<th>Quality indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning effectiveness</td>
<td>The quality of online learning is comparable to that of traditional offerings.</td>
<td>Clear student expectations, Optimal interaction and collaboration, Effective use of technologies, Systematic program evaluation, Standardized measures of student achievement, Clear understanding of policies for academic honesty and integrity</td>
</tr>
<tr>
<td>Cost effectiveness and institutional commitment</td>
<td>Institutions continually improve quality while reducing costs.</td>
<td>Establishment of consortia and other partnerships to share resources/costs, Redesign of courses for reduced costs and faculty time, Effective use of technologies, Development of self-help tools</td>
</tr>
<tr>
<td>Access</td>
<td>All learners have the opportunity to be successful in online learning.</td>
<td>Website to provide access to information about the program, Open student access to academic resources and specialized support services, Clearly stated admission process, Use of technology and processes to provide access to special populations</td>
</tr>
<tr>
<td>Faculty satisfaction</td>
<td>Faculty report success with online teaching and satisfaction with the experience.</td>
<td>Opportunities to connect with other faculty, Ongoing and self-paced faculty training programs, Established recognition and reward for online teaching, Opportunities to conduct scholarship</td>
</tr>
<tr>
<td>Student satisfaction</td>
<td>Students are successful in online learning and are pleased with the experience.</td>
<td>Student preparation for the online experience, Well-established community of learners, Feedback on a regular basis, Learning that is engaging, personalized, and meaningful to the student</td>
</tr>
</tbody>
</table>

be successful in online education. Pillar three highlights the importance of (a) websites that provide access to information about the program, (b) open student access to academic resources and specialized support services (e.g., access to library databases), (c) a clearly stated admission process, and (d) access by special populations (Moore, 2005). When considering a special population of learners, instructional designers and program developers should be aware of the design and instructional considerations necessary to accommodate persons with disabilities (Burgstahler, 2002).

**Faculty satisfaction.** The fourth pillar of effective practice in online education is faculty satisfaction. Online teaching requires a strong commitment on the part of the instructor. This pillar is based on research that suggests that faculty members’ level of commitment is directly related to their personal and professional satisfaction (Thompson, 2002). Sloan-C reported that >90% of online faculty members surveyed were satisfied with the teaching experience, and 80% would teach online again (Thompson, 2002). Moore (2005) reported several factors that influence faculty satisfaction with online education, including (a) ensuring that faculty members participate in the governance, intellectual property, and royalty sharing; (b) providing adequate faculty training and support; (c) offering repeat teaching of courses; and (d) adding new faculty members to show growing endorsement of online education programs. Other research suggests that institutional recognition and rewards, as well as workload adjustments, also contribute to faculty satisfaction (Thompson, 2002).

**Student satisfaction.** The fifth pillar of effective practice in online education is student satisfaction. Online education programs should be aware that student satisfaction is directly linked to higher graduation rates, lower loan default rates, and higher alumni giving (Noel-Levitz, 2008). In order to maximize student satisfaction, online education programs should ensure that (a) students are adequately prepared for the online experience; (b) a community of learners is established; (c) students have the opportunity to provide feedback on a regular basis; and (d) learning is engaging, personalized, and meaningful to the student (Moore, 2005). It is also important to systematically obtain feedback from online students for purposes of quality improvement, increasing student retention, and future marketing efforts. Student dissatisfaction is often the result of a mismatch between learner expectations and the realities of the online education program in terms of academic requirements and a perceived lack of student support services (Noel-Levitz, 2008). These findings highlight the importance of clear expectations and user-friendly support systems beginning with student recruitment and continuing throughout matriculation.

### A Model of Best Practices in an Online CSD Program

This section describes how best practices in online education were applied to the planning, implementation, and program evaluation stages of a multi-institutional online master’s degree program in speech-language pathology. This information should benefit those institutions that are developing or revising their online education programs.

### Program development

The Commonwealth of Virginia, like many states across the nation, faces a shortage of qualified speech-language pathologists (SLPs) employed in the public schools. This shortage prompted a unified response on the part of the speech-language pathology graduate programs in Virginia and the Virginia Department of Education (VDOE). The Distance Learning in Virginia Educating SLPs (DLVE-SLP) program was developed as a partnership of four university programs, with funding from the VDOE, to aid in increasing the number of qualified SLPs available for employment in the Virginia public schools. The DLVE-SLP program was designed so that nontraditional students with an expressed commitment to work in the public schools, many of whom are located in rural settings throughout the state, could obtain a master’s degree in speech-language pathology on a part-time basis.

All accredited CSD university programs in the state were invited to be involved in developing a part-time online master’s degree program. Interested universities met for 1 year, sometimes with the guidance of an external moderator, to establish the shared values and goals for the partnership. All members strongly agreed that any educational offerings would have to meet the same high standards of excellence as the existing on-campus programs. It was further stipulated that the online program would not jeopardize the resources of the existing on-campus programs. Ultimately, four accredited CSD programs accepted the invitation to join the project: Hampton University, James Madison University, Longwood University, and the University of Virginia.

As part of a collaborative multi-institutional model, students applied to and were admitted to one of the four participating universities. Once admitted, the students agreed to abide by all of the policies and procedures of the admitting university. The DLVE-SLP program served as a mechanism for assisting with recruiting and screening prospective students, delivering online coursework, and performing administrative duties needed to support the collaborative program model.

### Learning effectiveness

To ensure that the online distance education program was of comparable quality to the traditional university program, the following measures were put into place according to best practices in learning effectiveness. To address student expectations, the DLVE-SLP program website presented potential applicants with a clear understanding of the mission of the online program along with detailed information about the DLVE-SLP candidacy and admission processes specific to each university. Once admitted, students signed a statement acknowledging an understanding of the academic policies and procedures that were presented within a DLVE-SLP-specific handbook and the student handbook for their admitting university. Any updates or changes to policies were communicated through a secured website and e-mail communications.

A number of distance education technologies were employed to promote learning effectiveness. A course management system (Blackboard) was employed for course delivery across the online program. Blackboard allowed for posting of materials such as narrated Powerpoint presentations, audio and/or video clips, readings, and other...
web-based resources. Faculty members were encouraged to communicate with students through virtual office hours and discussion forums. A web-conferencing tool, known as Elluminate, allowed for synchronous real-time communication between faculty and students.

Oversight of the quality of the DLVE-SLP program resided with the advisory board. The advisory board consisted of one representative from each of the participating universities as well as a representative from a historically black university with an undergraduate CSD program. It was believed that inclusion of an undergraduate historically black university would increase the diversity of the DLVE-SLP program student body. The advisory board was charged with the creation of DLVE-SLP-specific policies, approval of and changes to the curriculum plan, and oversight of the online program evaluation processes. A consultant was hired to design a systematic program evaluation plan in accordance with best practices. The evaluation plan consisted of formative and summative measures for student achievement and mechanisms for student and stakeholder feedback. The advisory board collaborated on financial and administrative matters impacting all of the universities within the DLVE-SLP program. Matters of matriculation, including advising, registration, and grievance procedures, remained with each individual university.

On-site coordinators played a key role in maximizing learning effectiveness. Each university used grant funds to hire an ASHA-certified SLP to serve as an on-site coordinator. The coordinators, housed at the university, typically provided 20–30 hr per week in their role as on-site coordinator. On-site coordinators supported students through the admission process, academic advising, and clinical practica. They provided students with ongoing support and communication, thereby maximizing student satisfaction. The employment of on-site coordinators also ensured that the universities’ participation in the DLVE-SLP program did not put a strain on their existing program resources.

Cost effectiveness and institutional commitment. Cost effectiveness and institutional commitment were addressed early in the planning stages of the DLVE-SLP program. Interuniversity agreements were developed in areas such as administration of grant monies, receipt of tuition payments, and access to educational resources. Because this online program was supported by a state-level grant, one university served as the fiscal agent and administered subgrants to the other participating universities. Each university collected tuition payments for the students who were enrolled in its university program. The fiscal agent negotiated access to library databases, e-mail systems, and a course management system common to all students and faculty members. Individual university programs submitted a Substantive Change Plan to ASHA’s CAA detailing how the distance education component would be comparable to the traditional offerings. Similar documentation was provided to the local and regional accreditation agencies.

The collaborative model allowed for resources and costs to be shared across university programs while meeting the needs of each individual program. After careful mapping of each university program’s knowledge and skills and course matrices onto a single shared matrix, a 3-year shared curriculum was established. The DLVE-SLP program served as the mechanism for providing coursework to all students through the shared curriculum. The curriculum allowed students to matriculate as a cohort, completing two academic courses per semester. In order to guarantee that each course met the needs of the participating university programs, teaching faculty were provided with a template for a course syllabus to include a general course description, institution-specific descriptions, and a listing of learning objectives for all university programs. Practicum courses were scheduled per the individual university program.

A central candidacy process was instituted to realize cost efficiencies associated with the admission process by screening applicants in terms of academic preparedness, appropriateness for online education, and a stated commitment to employment in the Virginia public schools. As part of the candidacy process, each candidate submitted a record of prerequisite coursework or a bachelor’s degree in CSD, Graduate Record Examinations (GRE) scores, a letter from a school administrator pledging support for technological and practica requirements, a personal statement outlining the student’s need for a distance learning model, and a signed obligation to work in the public schools of Virginia. The completed candidacy packets were collectively reviewed by one representative from each of the university programs.

After receiving approval for candidacy from a majority of the university representatives, the candidate was permitted to apply to any of the four university programs with the understanding that he or she was required to pay all fees, follow all procedures, and meet all requirements of the university to which he or she was applying. The granting of candidacy did not guarantee admission to a university program. The universities independently reviewed applicants and applied their own admission standards to accepting qualified students to the programs. The candidacy process was admittedly rigorous but was helpful in identifying students who may not have been appropriate for the online program, thereby reducing costs associated with student attrition.

Access. Access was a key consideration in the successful implementation of the DLVE-SLP program in that it was designed for nontraditional students, many of whom were located in rural settings throughout the state. A list of the minimum hardware, software, and access requirements was made available on the DLVE-SLP program website. These requirements were included in the orientation materials for admitted students. In accordance with best practices, students were given open access to shared learning resources such as a course management system, digital databases, multimedia libraries, and streaming servers to support the learning objectives of the online program. Instructional support and HelpDesk services were available to all students and faculty members. Digital video conferencing for supervision was an option when on-site supervision was not available or required supplementation. These arrangements provided students with common experiences and resources throughout the online program, thereby enhancing access and promoting faculty and student satisfaction.

Faculty satisfaction. Faculty satisfaction was critical in ensuring that the DLVE-SLP program achieved the
desired educational outcomes. Although all instructors were experienced in face-to-face teaching at the graduate level, the majority had no prior experience with online teaching. Faculty received a stipend to support their attendance at a 3- to 5-day training course in the pedagogy and technology for online instruction and to support development of the course. Faculty also received financial support to attend annual DLVE-SLP student meetings. These meetings offered faculty the opportunity to meet students in a face-to-face environment, interface and share with other online instructors, and gain new skills in online teaching. Recently, the DLVE-SLP program began offering professional continuing education units to faculty for participation in ongoing training related to online learning.

**Student satisfaction.** Developers of the DLVE-SLP program understood that student satisfaction is the result of the students’ experiences with many different facets of the program. Many of the processes put into place to address the earlier best practices (e.g., learning effectiveness, cost-effectiveness and institutional commitment, access, and faculty satisfaction) also served to support a positive student experience. In addition to the quality indicators discussed in earlier sections of this article, best practice in distance education stresses the importance of establishing social communities in order to avoid feelings of isolation, provide networks of support, share resources, and establish working relationships.(Garrison & Cleveland-Innes, 2005; Northrup, 2001; Shea, Li, & Pickett, 2006). To this end, the DLVE-SLP program required student attendance at yearly face-to-face meetings. All matriculating students, advisory board members, and faculty were invited to attend. Grant funds paid the travel expenses for the advisory board members and faculty. Students were responsible for the expenses related to attending the yearly face-to-face meetings. Students were aware of these requirements before applying to the DLVE-SLP program.

The initial meeting was a 2-day orientation at a central location that offered information on learning strategies for online learning, time management, use of the technologies, and DLVE-SLP program requirements. The second annual meeting focused on preparation for the practicum experiences. The final annual meeting included information about requirements for graduation, including completion of the Praxis examination and university-specific comprehensive examination procedures. These meetings served to foster community among the students, encourage student–faculty and faculty–faculty communication, and enhance student identity with the DLVE-SLP program.

University programs took additional steps to develop a sense of community with the admitting university by decorating breakout rooms at the annual meetings with school paraphernalia and issuing university ID cards allowing access to on-campus events and services. As mentioned earlier, the on-site coordinators were instrumental in supporting the students through all phases of matriculation and greatly enhanced student satisfaction with the DLVE-SLP program.

**Clinical practica.** Clinical practicum experiences were another important component of the DLVE-SLP program. Clinical practica remained the responsibility of the university program where the student was enrolled. All students completed a mandatory on-campus clinical practicum at their admitting university the second summer following matriculation. Students were made aware of the clinical requirement before application and acceptance to the DLVE-SLP program. Completion of this initial practica often required the student to secure housing near the admitting university for the summer term. In most instances, the students were integrated into existing university summer programs, with the on-site coordinators serving in the capacity of supervisor.

The initial on-campus clinical experience was important for several reasons: (a) It offered the university supervisor an opportunity to directly assess the students’ clinical skills, (b) the students participated in their initial practicum in a highly structured environment before being placed within the community, and (c) the experience aided in establishing an allegiance with the home university. The majority of students reported emotional, logistical, and financial stressors associated with the on-site requirement, yet at the end of the summer, many students reported the on-site practicum to be a positive and valuable experience.

Remaining clinical practica were secured at a location close to the student’s home or place of employment. Challenges remained in that many of the students were employed full-time in a public school, thereby limiting their availability to participate in a range of clinical sites. To meet this challenge, students secured release from their full-time employment to complete practica and/or scheduled full-time placements for summer months. A clinical supervisory database was created to serve as a shared resource for all university programs to support students in locating clinical practica sites that met their needs.

**Online Program Evaluation**

Systematic program evaluation is important to provide stakeholders with information about the standards and learning outcomes of the programs. Program evaluation is recognized as an indicator of learning effectiveness and is required by many state, regional, and national accrediting agencies, including ASHA’s CAA. It is equally important for online education programs in CSD to disseminate this information so that potential online learners can make informed decisions before enrolling in an online education program. Additionally, this information allows the field of CSD to begin to build its own set of best practices in distance education. The following outcomes of the DLVE-SLP program are provided with that purpose in mind.

**Student demographics.** To date, three cohorts of students have been accepted into the DLVE-SLP program. A new cohort is accepted every 2 years. The number of applicants for candidacy has increased for each cohort, but the demographics of the admitted students remain relatively constant. The typical student enrolled in the DLVE-SLP program is a White female, 34 years of age, who is married and is employed full-time in a school. Table 3 provides data on selected student demographics for each admitted cohort, including admission rates, age, and employment status.

Online program applicants reported that distance from a university, work responsibilities, family responsibilities,
and financial considerations were reasons for applying to a distance learning program. Individual university programs reported that the grade point averages and GRE scores of the admitted students were similar to those of the students who were enrolled in the traditional university programs.

**Online program outcomes.** A program evaluation plan consisting of both formative and summative assessment measures was constructed and implemented from the initial stages of development. As part of the evaluation plan, students completed anonymous course evaluations that were constructed specifically for online coursework. Instructional faculty members and DLVE-SLP program directors reviewed the course evaluations as a basis for curriculum and instructional changes. Each university program provided the principal investigator with an annual summary that included information on the status of student matriculation and program changes that might impact the DLVE-SLP program. Summative data were collected in the form of graduation rates, pass rates for the Praxis national exam, and pass rates for university-specific comprehensive examinations.

At the time of publication, two cohorts had completed the DLVE-SLP program. Of that initial cohort, 16 of the 20 students (80%) enrolled in the program graduated successfully from the university program in which they were enrolled. Fifty-seven percent of the second cohort graduated within the 3-year period, with an additional 22% expected to graduate within an additional two semesters. Delays in graduation were due to insufficient clinical hours at the time of graduation. The graduation rate was well above the reported national average graduation rate of 50% to 70% for all distance education offerings (Hannum, Irvin, Leib, & Framer, 2008). Students who left the DLVE-SLP program did so for personal reasons, and the majority left within the first year of study. All graduating students within the DLVE-SLP program took and passed the Praxis exam, with an average score of 685 (range 610–730). This average score is 1 SD above ASHA’s reported mean Praxis score (669) for SLPs in 2008–2009 (ASHA, 2010b). All graduating students successfully completed the university-specific comprehensive examination requirements.

Of importance to the mission and purpose of the DLVE-SLP program, upon graduation, 87% (13/15) of the graduating students accepted positions as a master’s-level SLP in the public schools of Virginia. The 16th student resided outside of Virginia but was employed in a public school in her state of residence. Graduates were surveyed 1 year post graduation, with a 50% response rate. Seventy-five percent of that sample remained employed within the public school setting; two graduates were employed within the health care setting.

### Conclusion

The initial cohort of students graduated in May 2010, 5 years after initial planning of the DLVE-SLP program. The experience provided the university programs with a wealth of information about what worked and what challenges remained. The first lesson addressed the importance of cost effectiveness and institutional commitment and was centered on the coordination of multi-institutions with divergent needs and interests. The success of this project proved that collaboration was possible with careful planning, mutual respect for differences, and a common goal of providing a quality education for SLPs while maintaining the autonomy of each university program. The advisory board was credited with the program’s success by providing considerable guidance in the development of policies and procedures and in ensuring quality standards commensurate with the universities’ traditional on-campus programs.

It is the impression of the authors that the initial candidacy process, although requiring considerable time and effort, was valuable for both the participants and the overall success of the DLVE-SLP program. The candidacy process provided the potential student with a clear picture of expectations, rigors, and requirements of the online program in accordance with best practices. Additionally, the candidacy process limited student expenses related to applying to multiple university programs with little hope of meeting admission requirements. It also allowed students time to put support systems in place before beginning coursework. Some students took advantage of the feedback provided during the candidacy process to retake GREs or specific coursework in order to improve their chances of successful admission to a university program.

The DLVE-SLP program benefited from the candidacy process in that it served to ensure that the candidates had accurate perceptions of the requirements of the program and helped to identify participants who lacked independence and

### Table 3. Candidacy, admission rates, and selected demographics of the three cohorts of students accepted into the Distance Lerning in Virginia Educating Speech-Language Pathologists (DLVE-SLP) program.

<table>
<thead>
<tr>
<th>Cohort</th>
<th>Percentage approved for candidacy</th>
<th>Percentage offered admission to a university</th>
<th>Age (in years)</th>
<th>Employment status at time of candidacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>37 (total number of candidates unavailable)</td>
<td>57% (21/37)</td>
<td>34.2</td>
<td>24–50</td>
</tr>
<tr>
<td>2</td>
<td>74% (49/66)</td>
<td>47% (23/49)</td>
<td>33.3</td>
<td>23–55</td>
</tr>
<tr>
<td>3</td>
<td>88% (68/77)</td>
<td>47% (32/68)</td>
<td>33.5</td>
<td>21–58</td>
</tr>
</tbody>
</table>
commitment imperative in distance learning. In summation, the candidacy process aided in identifying candidates with the best potential for successful matriculation and was a factor in minimizing attrition.

The emphasis on clear and consistent communication between students, faculty members, and advisors was central in enhancing student and faculty satisfaction. This was accomplished through regular meetings of the advisory board, annual meetings involving faculty members and students, ongoing collaborative communication among on-site coordinators, student access to a shared e-mail system, virtual faculty office hours within courses, and regular opportunities for students and faculty members to provide feedback about the program. Students appear to have found community and identity in being part of the DLVE-SLP program by establishing relationships with other students who crossed university lines.

Further, instructional faculty members’ and students’ training in the technical requirements as part of the DLVE-SLP program was also related to the program’s success. Faculty members received training in the pedagogical and technical aspects of educational technologies. Students received hands-on training in accessing course content, communicating with others, and searching library databases. Help Desk and support services were available on an as-needed basis. Although technology failures are unavoidable in any arena, the instructors and students in the DLVE-SLP program came to accept them as a part of the process. All parties were encouraged to problem solve and to make necessary accommodations in the event of technology failures.

It became clear to the advisory board and instructional faculty that nontraditional adult learners have different needs than those of traditional on-campus students. The seminal work of Malcolm Knowles (1973) identified the adult learner as the “neglected species.” Knowles described adult learners as self-directed and goal oriented, bringing with them a wealth of life experiences. These students desire information that is relevant and practical. The students in the DLVE-SLP program brought with them a variety of professional and personal experiences upon which to build their newly acquired knowledge in the area of speech-language pathology. Instructors were encouraged to design courses and assignments with these factors in mind.

Students enrolled in the DLVE-SLP program also brought some challenges to be considered. In spite of an emphasis on student satisfaction and access, many of the students in the program expressed the stress of balancing the demands of work, family, and the program. Several experienced health problems and personal economic difficulties (i.e., loss of a spouse’s job, military deployment) that impacted their participation and performance. Although these factors could be accommodated in some instances, there were occasions when these stressors resulted in a student leaving the DLVE-SLP program. Our findings are comparable to those reported in an Education Dynamics survey (2009) that reported that finances (49%), life events (32%), and health issues (23%) are leading causes of attrition in distance education programs. In an attempt to maximize retention, the DLVE-SLP program made every effort to fully disclose the rigors and expectations of the program before application for admission. Yet, academic attrition is likely with this population of learners.

Future Directions

The DLVE-SLP program will continue to evolve, along with the field of distance education, in both the use of technology and pedagogy based on best practices. The program plans to examine areas of efficiencies and move toward a model of fiscal sustainability and cost effectiveness. The program is considering the following: (a) expanding the program outside of Virginia; (b) exploring technologies and policies to ensure academic integrity; (c) expanding the use of digital video conferencing technologies for supervision; (d) extending the program evaluation process to include stakeholders, faculty members, and graduates of the program; and (e) conducting ongoing research in the area of online education of graduate students in CSD.

The information in this article is intended to offer university programs that are considering developing an online program a roadmap employing the five pillars of best practices in online education: (a) learning effectiveness, (b) cost effectiveness and institutional commitment, (c) access, (d) faculty satisfaction, and (e) student satisfaction. The article is provided to inform online learners about factors to be considered before enrolling in an online graduate program. Lastly, we hope to encourage research and publication in the area of online education in order to address best practices specific to the needs of CSD programs. Suggested areas for research include alternate methods of obtaining clinical competencies (e.g., virtual cases and web-based supervision), alternate student assessment measures, and predictors of student success in the online learning environment.

ACKNOWLEDGMENTS

This online program was funded by a grant from the Virginia Department of Education. The authors wish to acknowledge Lissa Power deFur, Vicki Reed, Randall Robey, and Dorian Wilkerson for their invaluable role in development of the collaborative master’s degree program. The authors offer a special note of appreciation to Vicki Reed for assistance with this manuscript.

REFERENCES


Rockville, MD: Author.


Contact author: Carol C. Dudding, Department of Communication Science and Disorders, James Madison University, 800 South Main Street, MSC 4304, Harrisonburg, VA 22807. E-mail: duddincc@jmu.edu.