Managing an E-Mentoring Community to Support Students with Disabilities: A Case Study

SHERYL BURGSTAHLER AND LYLA CRAWFORD

University of Washington
Seattle, WA USA
sherylb@u.washington.edu
lilac@u.washington.edu

This article provides an introduction to mentor, near-peer, and peer support as they apply to promoting the academic and career success of young people with disabilities. The authors discuss specific benefits of mentoring and document access challenges encountered by students with disabilities. They present a case study of a successful internet-based mentoring community for college-bound youth with disabilities. The experiences and recommendations shared can be used by others to design, implement, and sustain mentoring communities online.

As stated by President George W. Bush, “Every child should be educated to his or her full potential.” (White House, 2003). The spirit, reflected in the title “No Child Left Behind,” embraces a range of goals for American education, and its breadth takes in the estimated 6.3 million children in our schools who have disabilities (National Center for Education Statistics, 2002). The vision is for people with disabilities to have equal access to the full range of education, employment, community, and recreational opportunities this country offers its citizens. In the United States, we have seen education for young people with disabilities evolve from no place in the classrooms to segregated classrooms to mainstreaming to full inclusion.
Each evolutionary step required new tools and approaches as we moved toward offering students with disabilities the same opportunities as other students. To truly leave no child behind, we must continue to work toward providing the best education possible to all students.

Simply placing students with disabilities in classrooms with peers who do not have disabilities does not guarantee full access to the curriculum. Educators must assure that technology, information resources, and classroom activities are fully accessible and that students with disabilities receive appropriate supports to achieve success. With increasing demands on our teachers and limited resources available to support them, providing students with disabilities with an appropriate level of attention is a challenge.

Mentor and peer support are proven practices for promoting academic and career success (Akridge, 1991; Kram, 1985; Kram & Isabella, 1985; McLearn, Colasanto, Schoen, & Shapiro, 1999; Rhodes, Grossman, & Resch, 2000; Sipe, 1999). The authors of this article introduce readers to the specific benefits of mentor and peer support and to an innovative approach for developing and supporting these relationships. Strategies employed by a successful e-mentoring community will be described so that other programs may apply its practices.

Mentoring looms high as a means to “level the playing field” for students with disabilities in educational programs and careers. Both the mentor and the protégé benefit from the mentoring experience (Burgstahler & Cronheim, 2001; Cohen & Light, 2000; Kram, 1985; Kram & Isabella, 1985; McLearn, Colasanto, Schoen, & Shapiro, 1999; Saito & Blyth, 1992). Several studies have measured the impact mentoring has on a student. In a Louis Harris poll, 73% of students surveyed said their mentors helped them increase achievement, and 59% of mentored students’ grade averages rose (Wisconsin Mentoring Coordination Council, 2003). Having a mentor increases the likelihood of a high school student attending class, staying in school, and attending college. Mentoring may be even more important for students who have disabilities than for their peers who do not, especially if the mentors have disabilities themselves. These young people often do not receive the same level of encouragement in their studies and career aspirations. In some cases, the adults who hold natural support roles in a student’s life may be unfamiliar with the options now available to people with disabilities, including assistive technology, accessible transportation, and community services that open academic and career opportunities that in the past were unavailable. In short, a mentor may provide a protégé with:
encouragement and focused attention;

academic assistance;

career advice and opportunities for networking, job interviews, and internship placements;

corrective feedback in a safe relationship;

information about assistive technology and other supports;

insights from a perspective that is different than those of other relationships in the student’s life;

vicarious experiences through stories of an older, more experienced individual; and


Those who mentor benefit from the experience as well. Aside from the rewards mentors gain from helping young people succeed, mentoring may help them focus and coalesce their own experiences and knowledge. In addition, mentoring provides opportunities for people with disabilities to make connections and to develop leadership skills that, when applied in other contexts, contribute to their success and help make a more accessible world for everyone.

Support from peers and near-peers (where there is an age difference of only a few years) provides many of the benefits of mentoring. Being close in age and having recently faced disability-related challenges, near-peers can offer advice and empathy different from those of a traditional adult mentor. In return, near-peers gain confidence and leadership skills as they become role models for their peers.

**E-MENTORING**

Mentoring relationships can occur naturally, but students with disabilities rarely have opportunities to meet adults with disabilities with the potential to
be significant positive influences in their lives. Implementing an intentional mentoring program for students with disabilities can help ensure that these students are not left behind their peers in academic and career achievement. However, potential mentor-protégé matches often involve people separated by great distances, presenting insurmountable scheduling and transportation challenges. In some cases, even if in-person mentoring can be arranged, communication issues persist. For instance, an individual who is deaf may not be able to communicate directly with a partner who does not use sign language; the presence of a sign language interpreter can inhibit personal conversations between a mentor and a protégé. Similarly, a protégé with a speech impairment may have difficulty communicating by telephone with a mentor because telephones work best when both parties “speak” in the traditional way, require both parties to be available at the same time, and may necessitate a long-distance charge.

Communication in an electronic forum (called online mentoring, electronic mentoring, or e-mentoring) is an appealing option for mentors and protégés because of its convenience in terms of time and location and its low cost once a connection is established (Burgstahler & Cronheim, 2001; Cohen & Light, 2000; Harasim & Winkelmans, 1990; Ho, 2000; Sword & Hill, 2002). Several e-mentoring communities that were initiated to specifically serve people with disabilities are described next.

- Connecting to Success, founded in 1999, was created to promote successful transition of youth with disabilities into adult life. Its model pairs students with disabilities with adult mentors and routes e-mail messages between a mentor and a protégé through an educator (Connecting to Success, 2004).

- The Disability Issues Office’s Mentoring Program of the American Psychological Association, was designed to support psychology students and psychologists with disabilities in their educational and professional pursuits (American Psychological Association, 2004).

- The American Bar Association Commission on Mental & Physical Disability Law created a mentoring program open to law students with all types of disabilities. In addition to academic and career advice, the mentors also provide information on civic opportunities (American Bar Association, 2004).
The Comprehensive Health Enhancement Support System (CHESS) was set up to provide information, referrals, advice, and social support for people living with AIDS/HIV infection (Peressini, 1995).

DO-IT (Disabilities, Opportunities, Internetworking, and Technology) founded its e-mentoring community in 1992 to facilitate peer and mentor support for the purpose of promoting the successful transition of students with disabilities into challenging academic and career fields (DO-IT, 2007).

Information about other e-mentoring communities for people with disabilities can be found in the DO-IT Knowledge Base article Are there electronic mentoring programs for students with disabilities? At http://www.washington.edu/doit/articles?218. These communities illustrate a variety of ways to create and manage an online mentoring program (Saito & Roehlkepartain, 1992; University of Minnesota, 2004). Of these programs, the authors selected DO-IT’s e-mentoring community to explore as a case study for the following reasons:

- Founded in 1992, it is the oldest documented comprehensive e-mentoring community for individuals with disabilities.
- DO-IT’s e-mentoring community is fully accessible to all potential mentors and protégés, regardless of their disabilities and use of assistive technology.
- More than 350 young people and adults with disabilities have participated in its e-mentoring community; most of those who began participation in high school still contribute to the community as mentors (DO-IT, 2006b).
- The efficacy of DO-IT’s e-mentoring community has been recognized in many publications and with many awards, including the National Information Infrastructure Award in Education and the Presidential Award for Excellence in Science, Mathematics, and Engineering Mentoring.
- A body of evidence documents the success of DO-IT’s e-mentoring practices. The community has been successful in using electronic
communication to establish and sustain productive peer support and mentor relationships between young adults and mentors, most with disabilities themselves (Burgstahler & Cronheim, 2001; Kim-Rupnow & Burgstahler, 2004).

- DO-IT staff continue to gather formative feedback and to refine e-community strategies.

The following sections provide a case study of DO-IT’s e-mentoring community. The experiences shared can be used by others to design, implement, and sustain mentoring communities online.

**DO-IT’S E-MENTORING COMMUNITY: A CASE STUDY**

DO-IT employs a variety of strategies to support college-bound and postsecondary students with disabilities as they pursue challenging fields such as science, technology, engineering, mathematics, and business. Successful strategies include academic study on a college campus before high school graduation; access to computers, assistive technology, and the Internet in their homes and schools; work-based learning and leadership opportunities; peer support; and mentoring (Kim-Rupnow & Burgstahler, 2004).

**DO-IT’s E-Mentoring Model**

The DO-IT e-mentoring community is made up of high school and college students called DO-IT Scholars (DO-IT, 2006a) or DO-IT Pals (DO-IT, 2000), depending on the program in which they are involved; DO-IT Ambassadors, who are graduates of the DO-IT Scholars program and now in college or employed; and DO-IT Mentors, who are volunteer college students and working professionals. DO-IT’s peer and mentor support model differs from more traditional approaches that pair one mentor with each protégé. Through the use of Internet discussion lists, mentors and protégés talk about topics of mutual interest in a many-to-many style of communication.
Advantages of the DO-IT e-mentoring model over individual mentor-protégé matches include the following:

- Each student can receive feedback and advice from a large group of mentors with knowledge and/or experience in the topic of interest.

- Other participants besides the one who poses a question benefit from the lively discussions and varied opinions that emerge.

- Mentors have the opportunity to help a large group of protégés, applying specialized skills where they are most useful, without the need to address all transition and academic issues for any single protégé.

- Students can offer peer and near-peer support and receive affirmation for fulfilling this role, thereby building their confidence and preparing them to take on the role of mentor once they graduate from high school and move on to college as DO-IT Ambassadors. Leadership skills are enhanced by learning about disability challenges and solutions faced by those whose disabilities are different than their own.

- Mentors as well as protégés are “mentored”; they gain perspectives from other participants.

- Mentor-protégé pairing in DO-IT occurs naturally as a mentor and a protégé find interests in common during online discussions or at in-person events hosted by DO-IT. Unlike in a one-to-one traditional mentoring model, mentor-protégé pairs do not need to be reassigned when academic and career interests of a protégé change.

In short, through DO-IT’s intentional e-mentoring community, each participant gets the proverbial “village” of influences. The model embraces the value of a mentoring team in which young people find guidance not only from traditional mentors but also from peers and near-peers. Being able to tap into this village of support is of great value. For example, a young woman who is blind and interested in studying computer science is able to gain perspective and advice from several mentors who are successful in this career field and from near-peers pursuing studies in this area. If later her interests move on to accounting, different mentors and near-peers can give advice in that field. In each case, she might also connect with several peers with similar interests.
Most DO-IT e-mentoring conversations are open and visible to everyone in the community. Members of the community typically jump in to discuss or even debate a topic. Protégés often receive disparate advice and discover that mentors, near-peers, and peers do not all have the same attitudes, experiences, or approaches to a problem. For instance, one participant in the community asked whether members of the group were proud of their disabilities. Mentors and protégés submitted responses that ranged from expressing pride in having a disability to feeling pride in how they have dealt with disability to feeling neither pride nor shame in having a disability. The young people on the list had the rare opportunity to see a wide range of different opinions and approaches among their peers and those who have gone before. In a traditional mentoring pair, a conversation on this topic between one mentor and one protégé would not have exposed the protégé (or the mentor) to this rich set of viewpoints. The practical benefit of access to mentors is expressed this way by a DO-IT participant: “If I have an issue that I want to get resolved right away, I can write to the mentors and get several responses. This allows me to read each mentor’s advice and follow the course of action that I think works best.”

DO-IT’s type of community blurs and expands the definitions and roles of mentor, protégé, peer, and near-peer, since the experiences of any member can serve as a model for others. As one DO-IT Mentor points out, “I am constantly energized by the students I have had the pleasure to communicate with. Their fresh views on issues I struggle with every day help me see that experience can sometimes create unintentional blinders. Fresh views and perspectives are as eye-opening to the mentor as to the mentee.”

Participants in the DO-IT mentoring community communicate at their own convenience. Protégés look to DO-IT Mentors for advice on assistive technology, school, work, and social situations. As one participant explains, “If I have a problem with any of my special technology, the mentors have been very helpful at getting my technical issues resolved. This is much faster than calling technical support on the phone and sitting on hold while waiting for a technician to answer my call.” This participant, who is blind and uses text-to-speech technology, also appreciates that the advice he receives is in a form he can access with his adaptive tools and that he can save messages for later reference. If he is unsure of something he gets from a mentor, he knows he can easily write back for clarification.

DO-IT’s e-community demonstrates the value of long-term relationships. For example, while she was in high school, one participant with a mobility
impairment met a mentor who uses a wheelchair for mobility too. The mentor has a career in architecture and encouraged the protégé to consider this field. After two years of college studies, the protégé applied for and was admitted into a very competitive school of architecture at a large research institution.

In DO-IT’s e-mentoring community, young people with disabilities draw from a large and diverse resource that would be impossible to put together in one physical location. In the next section of this article, authors share lessons learned from DO-IT that can be useful to other organizations that wish to offer similar interventions.

**Guidelines for Implementing an E-Mentoring Community**

DO-IT’s program offers unique and practical insights into using the Internet to help students with disabilities avoid or overcome barriers they have traditionally faced when trying to achieve academic and career goals. The following paragraphs list key steps to establishing and sustaining an effective online mentoring community and examples of how DO-IT addressed these issues in its e-mentoring community. This content is adapted from the comprehensive publication *Creating an E-Mentoring Community: How DO-IT does it, and how you can do it, too* (Burgstahler, 2006b).

**Establish goals for the program.** DO-IT staff identified lack of role models, a support network, and access to information technology as barriers for people with disabilities in their pursuit of challenging academic studies and careers. When DO-IT was founded, it was hypothesized (Burgstahler, 1997; Burgstahler & Cronheim, 2001) that providing access to computers and the Internet and creating an e-mentoring community were interventions that could address these barriers. Objectives of the DO-IT e-mentoring community are to increase the technology, academic, leadership, self-determination, social, and career skills of people with disabilities. The ultimate goal for participants is a successful transition to college, a career, and other adult life experiences.

**Select technology for communication.** Selecting appropriate technology to use to support an e-mentoring community is critical, especially when dealing with people who have a wide variety of disabilities. Possibilities include e-mail and electronic distribution lists, bulletin boards, and real-time chat
systems. While all of these options are familiar to many people, some have attributes that make them inaccessible to certain disability groups or that discourage the participation of some people. For example, chat systems, which support real-time communication, are not accessible to those who are very slow typists, perhaps because of limited fine motor control. On the other hand, web-based bulletin boards require that all participants have the motivation and, more importantly, the discipline to regularly access the system; this is not always true of teens.

DO-IT has been successful with using e-mail and distribution lists to maintain its e-mentoring community. Messages sent to a list address are forwarded to all members of the list. This text-based asynchronous approach is accessible to everyone, including those who use assistive technology to operate a computer. If students and mentors regularly access their e-mail, it is difficult for them to ignore the conversations that occur in the e-mentoring community. To maximize the safety of participants and to facilitate group communications, DO-IT uses closed e-mail distribution lists, to which a program administrator alone can add participants.

**Develop the communication structure.** DO-IT started its mentoring community with two electronic discussion lists, doitkids@u.washington.edu for the DO-IT Scholars and mentors@u.washington.edu for the DO-IT Mentors and Ambassadors. Separate groups were established so that mentors could have the option to talk with only other mentors and teens could talk with their peers. To include all members and protégés in a conversation, messages were sent to the addresses of both groups simultaneously. This required that participants include both list addresses on their initial messages and replies; staff members monitored communications and forwarded messages that were meant for both lists but accidentally sent only to one.

As the community grew over the years, more lists were needed. A second list for teenagers, doitpals@u.washington.edu, is composed of students with disabilities from around the world who are not DO-IT Scholars but who share the desire to pursue college and challenging careers. Allowing this group to join the electronic community extended the reach of the DO-IT program. A larger list, doitchat@u.washington.edu, was created to include all members of doitkids@u.washington.edu, mentors@u.washington.edu, and doitpals@u.washington.edu. This list allows participants in all three groups to communicate with each other by sending messages to one address.
Over time, the members of DO-IT’s e-community expressed interest in communicating in smaller groups with people whose accommodation strategies are similar to their own. Members of doithi@u.washington.edu, set up for mentors, near-peers, and protégés who have hearing impairments, chat about topics such as sign language interpreters, FM systems, and cochlear implants. Special distribution lists were also set up for individuals with visual impairments, learning issues, chronic health conditions, mobility impairments, and Autism Spectrum conditions. At least one DO-IT staff member is included on each DO-IT distribution list. His or her role is to stimulate and facilitate communication and to assure that all messages are appropriate (Figure 1).

![Diagram of DO-IT discussion list structure](image-url)

**Figure 1.** Example of DO-IT discussion list structure

**Develop guidelines for protégés, mentors, and parents.** Procedural and behavioral guidelines for both protégés and mentors should be distributed to the participants and mentors not only when they first enter the program but also periodically throughout the years. Guidelines should be simple and straightforward and help participants understand their roles and responsibilities in the program. Include online safety rules such as those provided by the National Center for Missing and Exploited Children (Magid, 2003), including a statement that tells the protégés to inform their parents and the e-community administrator if they receive e-mail messages that are inappropriate or that make them feel uncomfortable. Also, provide safety recommendations for parents and guardians of participants. Encourage parents to:
place internet-connected computers in high-traffic areas of their homes and/or in stall parental control programs;

talk to their children about both the benefits and the dangers of the Internet;

be clear about what activities their children are allowed to engage in. Tell them not to give out identifying information (for example, their last name, home address, phone number, or school name) to anyone online; and

tell their children not to arrange a face-to-face meeting with a program participant, a mentor, or anyone else they meet on the Internet without parental permission.

Recruit participants. Standardize procedures for recruiting and screening both protégé and mentor applicants. Combinations of written applications, personal interviews, reference checks, and criminal record checks should be considered. DO-IT regularly distributes printed and electronic newsletters, brochures, and other publications to schools, parent groups, and organizations that come in contact with teens with disabilities. Application materials should include the purpose of the mentoring community, operational details, and participant roles and requirements. If your community includes young people under the age of 18, be sure to obtain informed consent from parents before allowing young people to participate in your program. Consider asking mentors to agree to a criminal history investigation as part of their mentor application. Assign a staff member to collect completed application packets, call references, and submit recommendations for approval to the program director or a review committee.

DO-IT applications are accepted by the e-mentoring community administrator who calls references and arranges for background checks. Applications are then reviewed by a committee, and each member makes a recommendation for approval or denial. The DO-IT director reviews each application and recommendations from the committee and grants the final approval or denial.
Orient participants. Decide how to provide orientation and ongoing training for mentors and protégés. Training that is interactive and engaging is best. Content will depend on the complexity of the program and the specific roles protégés and mentors are to take. Topics covered in DO-IT’s online and printed training for protégés and mentors and additional in-person training for protégés includes an overview of how communication is to occur in general and on specific discussion lists, with guidelines for participation. Mentors also receive tips on effective communication strategies, e-mail etiquette, conversation topics, and information on adolescent development and on disabilities. Protégés also learn about appropriate questions to address to mentors.

Introduce new mentors and protégés to community members. A DO-IT staff member introduces a new e-community member to the group. The introduction includes the new person’s name, interests, and e-mail address and an invitation to existing list members to send the new member an e-mail message to introduce themselves. The introductory e-mail is kept short and friendly and contains a piece of interesting information about the new member that is expected to spark conversation. It might be the new member’s career goal, college plans, or hobbies. His or her disability is never mentioned in the e-mail introduction; that is considered personal information that each participant may choose to disclose or not to disclose.

Provide supervision and ongoing support of mentors. New mentors often experience some confusion regarding their roles, especially early on. It is important for program staff to regularly communicate with each mentor to answer questions and to identify solutions to any challenges the mentor may be facing. Providing a means for new mentors to access administrative staff and more experienced mentors can help. At DO-IT these issues are handled by the e-mentoring community administrator. The mentors@u.washington.edu discussion list is used for disseminating training, information, and resources (Burgstahler, 2003; DO-IT, 2005) and for facilitating communication between mentors.

Manage online discussions. DO-IT has learned not to assume that protégés and mentors will automatically begin to communicate with one another appropriately and regularly. Staff are assigned the task of monitoring and managing the discussions of the community. This task may require sending discussion questions to the group or privately encouraging individual mentors, near-peers, and protégés to participate when they have not done so.
in a while. For example, to promote active involvement, a DO-IT staff member periodically sends an idea for a discussion question directly to a DO-IT Scholar, Pal, Ambassador, or Mentor and asks this participant to submit the question to the doitchat group. A staff member is also assigned the task of searching the Internet for useful resources and providing them to the list on a regular basis. There is no guarantee that these messages will always spark conversation, but if they are tailored to fit the interests of the audience, they will often act as a catalyst for participation and discussion. “DO-IT Lessons” are sent to the e-mentoring community each Friday with “DO-IT Lesson: [lesson title]” in the subject line. For samples of these messages, consult DO-IT Internet Lessons for Students at http://www.washington.edu/doit/Lessons/. Permission is granted to distribute these lessons within other communities provided the source is acknowledged.

Other tips for stimulating conversations and keeping them on topic include the following:

- post short questions focused on one issue at a time;

- use open-ended questions that solicit a variety of opinions rather than one right answer; for example, “When, if ever, should you disclose your disability in a job application process?” is better than “Should you disclose your disability on your résumé?”;

- monitor the discussion so that you can revise or refocus questions or topics as needed, and add your own comments in order to stimulate the involvement of others;

- use a subject line that indicates the content of the discussion so that participants can quickly search for a topic they are interested in; for example, “job interview advice” is a better subject line than “questions 2.”; and

- whenever possible, let the participants resolve their own disputes, and reprimand privately those who send inappropriate messages.

**Evaluate the program.** Periodically seek feedback from community members and update application and training materials as appropriate. Online surveys, requests for feedback from specific participants, and observations of conversations may all provide useful information for the e-community administrator. Feedback from DO-IT participants (Burgstahler
Association for the Advancement of Computing In Education Journal, 15(2)

& Cronheim, 2001; Kim-Rupnow & Burgstahler, 2004) have lead to significant improvements in the operation of its e-mentoring community.

CONCLUSION

Electronic mentoring communities provide students with disabilities with a chance to fully participate in positive and rewarding mentoring experiences. The e-mentoring model discussed in this case has many advantages over individual mentor-protégé models, including access to advice and multiple views from a large group of people, opportunities for peers and near-peers to support each other while still being mentored themselves, and an environment where one-to-one mentor-protégé relationships with experts in specialized areas develops naturally. Using the Internet and electronic distribution lists, DO-IT has created an electronic community in which students can communicate with peers as well as with near-peer and adult mentors regardless of their disabilities, schedules, and places of residence.

References


Acknowledgements

This article is based on work supported by the Mitsubishi Electric America Foundation and the National Science Foundation (cooperative agreement #HRD0227995). Any opinions, findings, and conclusions or recommendations expressed in this material are those of the authors and do not necessarily reflect the views of the funding agencies. Some of the content of this article was previously published in the book *Creating an E-Mentoring Community: How DO-IT does it, and how you can do it, too* (Burgstahler, 2006b) and the information brief *Creating an E-Mentoring Community* (Burgstahler, 2006a).