Expertise from the Field

Stacey Kayden Teaches Inspiration and Kurzweil 3000

During the Fall of 2001, the High Tech Center Training Unit of the California community colleges launched a program to identify California community college faculty and staff with unique skills in the areas of assistive computer technologies, alternate media and Web accessibility. Faculty and staff with exceptional levels of expertise were invited to develop trainings which could be provided at regional locations around the state. This report summarizes the work of one such participant: Stacey Kayden, a learning disabilities specialist at Laney community college in Oakland, California.

Ms. Kayden's work with Inspiration and Kurzweil 3000 has been very well received by learning disabilities specialists statewide. Stacy has presented more than a dozen trainings over the last 18 months. She is generally regarded as the leading expert in California on the use of Inspiration and Kurzweil 3000 as instructional tools by learning disability specialists for students with learning disabilities.

This report documents the pedagogy and instructional methods employed by Ms. Kayden. More importantly, it attempts to discover the more subtle philosophical and conceptual underpinnings that make her an effective trainer. It is our hope that other California community college faculty and staff may find this information useful in developing or refining their own instructional techniques.

Training observations: Assistive Technology for Learning Disabilities Specialists

Technology has become a common—even essential—aspect of daily and academic life. For students, skill with technology has become necessary for research, writing, and communicating with faculty and staff. Although assistive technologies have been developed for use by students with learning disabilities, there are questions about whether these technologies are widely used by students and seamlessly integrated into the curriculum by faculty. This concern was expressed by a participant at a Kurzweil 3000 Training at the High Tech Center Training Unit , “We have five Kurzweils on our campus, but they are hardly ever used.” Effective use of technology by students with learning disabilities depends on staff understanding the potential and flexibility of these tools and ways in which to match the capacity of the tools to student needs.

The following comments and suggestions come from observation of three technology trainings for learning disabilities specialists designed and delivered by Stacey Kayden, a well-regarded trainer who is herself a learning disabilities specialist at Laney Community College. These observations highlight both the potential uses of assistive technology with students and the importance of the knowledge and comfort level learning disabilities specialists must have with the technology in order to implement its potential capabilities. The two programs that were the focus of the trainings were:

- Inspiration, a ‘mind-mapping’ program that is becoming commonly used in writing classes, and
- Kurzweil 3000, an optical character recognition screen reader with learning skills capacities.

The trainer was attentive to identifying the capacities of the technology to meet the needs of students with learning disabilities as well as to possible discomfort of students and faculty with the use of computers. In particular, she stressed the flexibility and adaptability of the learning skills aspects both programs. Although the trainings were designed primarily for learning disabilities specialists, participants also included mainstream academic faculty, counselors, and librarians who each brought different perspectives to the use of technology. Introduction to the programs was gradual and practical, as a result participants saw its potential use with a wide range of community college students, including ESL students.

The qualities described in these trainings are characteristic of any good training or professional development seminar focused on the unique needs and capacities of students with learning disabilities and the professionals who work with them.

1. *It’s about people, not technology*.

The underlying theme that shapes these trainings is that “*It’s about people, not technology*". At the beginning of these training sessions, Stacey makes the point that using technology effectively means finding ways to support the needs of people, both students and faculty. These trainings provide a solution to the types of student needs that faculty have experienced directly in their own classrooms. This approach establishes a meaningful context in which to learn a new skill.

Many adults who did not grow up with technology still find computers somewhat intimidating. While college faculty and staff have become increasingly familiar with some aspects of technology (most commonly Web browsing, email and word processing) adding new technological skills can still be a daunting prospect. The trainer is aware of this dynamic.

Each session starts with the trainer asking everyone to describe their experience (and comfort) with using computers, their familiarity with Inspiration or Kurzweil, and how they envision using these programs in their work. In two of the sessions, one or two people were clearly new to the use of computers. The training environment was comfortable enough for people to identify themselves as technological novices and frequently ask questions or ask that directions be repeated. The trainer checked in more often with those individuals or made sure that another participant could work with them.

A major component the training materials consisted of profiles of students with recognizable and familiar patterns of learning disabilities. The trainer spent time illustrating what she had learned about using the program from working with these students and how the technology could be used with similar students. She repeatedly

pointed out that the technology has the flexibility to be used differently to meet the needs of different students.

2. *Technology can help solve some of the real problems that students have.*

Stacy feels that a critical element in effective use of these technologies is in motivating students to understand and manage their own learning process. Students—especially younger students—may be more familiar with computers than are staff, so students may find technology to be a safer starting point than more traditional approaches. Programs such as Inspiration can be used to help students with learning disabilities organize and develop thoughts for writing by helping them move from a visual representation to words and sentences and providing them with a template and sequence of steps.

Learning disability specialists and faculty working with ESL students noted that a frequent problem is that many students do not understand the structure or progression of writing an essay. Students start by writing one sentence, then adding another sentence that is a new idea, followed by a third sentence and consider that a paragraph.

The trainer illustrated the effectiveness of Inspiration by demonstrating how students could begin telling a story by organizing a pattern of visual examples and then filling in descriptive words. Once a story board has been created, Inspiration can prompt students to write a topic sentence and then prompt them to add supporting examples. In addition, Inspiration has the capacity to translate from a visual map of words and pictures to an outline, giving students the opportunity to understand organization of ideas visually.

Stacey demonstrates how students move from visual cues to words and sentences, by showing that each picture can have a series of questions and prompts to help students develop sentences in a logical manner. For example, one sequence of questions for a simple essay included:

> Where does this happen?
> What happens first?
> What happens next?
> How does it feel?
> How does it end?

The logic of scientific nomenclature is another frequent stumbling block for students. Community college science professors have noted that many students—not only those with identified learning disabilities—have difficulty with the conceptual framework of knowledge in science. In high school they may have memorized terms, but not understood their conceptual relationships. Working with a science professor, the trainer created a template in Inspiration that can help students visualize the way scientific knowledge (in this case, biology) is organized hierarchically, visually organizing ideas so that smaller ideas follow larger concepts.

During the Kurzweil 3000 training, Stacey noted that Kurzweil has multiple learning studies capacities and is far more than a simple program for reading text. The training focused on flexible use of the Kurzweil's study skills. For example, the program can be used in the writing process. Learning disabilities specialists noted that when some students write, what they hear in their head is not the same as what they put on paper. Slowing down the program's reading speed can help students hear what they write and locate mistakes. Students can listen, edit, make changes, and listen again.

A participant asked how to work with a student who doesn't have a native speaker's ear for conversational English and so wouldn't recognize a mistake by sound. The trainer replied that an intermediate step would be to pair that student with another student; especially a student who has achieved after struggling. Struggling students who have achieved appreciate the opportunity to assist another student. The instructor can later review the drafts so that the final product does not rest solely on peer feedback.

Another common problem identified by LD specialists is that students are passive readers and need to be guided to interact with the ideas in the text. An example included readings from a biology text required for nursing. The text is so filled with information that students may end up highlighting everything. Kurzweil 3000 can let students slow down reading speed and with a split screen, let them make notes while reading. Students may also insert written or voice notes in the text that direct them to identify facts, opinions and use of quotations. The instructor can also embed a series of questions that build up from factual to conceptual to critical thinking.

Using Inspiration or Kurzweil, it is possible for the LD specialist to identify a student's common pattern of errors, then find ways for the student to recognize and correct them. The technology is presented as a way to solve problems that are not being solved any other way. It is not meant to replace other effective methods that are already in place. In addition, the trainer repeatedly stressed that the technology should help move students from dependence on staff to independence.

3. The training situation encourages participation and questions.

The instructor models making the learning environment a safe place where it is okay to know or not know things and it is okay to ask questions. The active training modeled the way LD Specialists could organize training for students.

At the beginning of the session, the trainer articulated how the day was organized and why. The trainer reviewed activities for the day of the Inspiration training: "We'll start by going through an overview of what the program can do, then we'll practice the most common uses, moving through the presentation together, with time for everyone to do it on their own. In the afternoon, in small groups, you will work on something that you can use in your work. That's the fun and creative part."

Throughout the training, Stacey regularly gave explicit directions and asked if people were able to follow the directions. People were comfortable saying when they felt lost or needed to request individual attention from the trainer or from a nearby participant. In one training, a woman noted that she "had come late to technology," she had frequent questions and the trainer regularly checked in with her, encouraging her and supporting her willingness to try a new program.

For each workshop, the trainer distributed page-by-page handouts that had copies of her slides. She explained that although she is not very inclined to take notes—that is her individual style— she knows that others might want to. The training handouts were available so that participants who didn't want to write would have the handouts later, but for those who wanted to write, there was plenty of space to make notes.

Questions were encouraged and were used to reinforce the overall pragmatism of fitting technology to the student's particular needs. In the Kurzweil training, one participant asked how you might use the multiple highlights with a student who has difficulty with colors. Stacey personalized the reply, "If this were my student, I wouldn't use the highlighter, I'd use just one color." When a participant had a question or comment at a time when it wasn't possible to address it, the trainer would say, "Hold that thought, we'll get back to it."

The overall tone of the workshop was light and buoyant. The trainer made the activities fun, shared her excitement about what the technology could do and tried to engage people's sense of play and creativity. She felt this increased the chance of participants gaining comfort with the tools and passing that sense on to students.

4. *Scaffold the steps*; *practice common moves* and *point out possible problems*,

Using technology to solve student problems depends on knowing the program and its particular functions and commands. Stacey recognizes that in order to work with students, LD specialists need to be familiar and comfortable with the functions and commands in order to get past the awkwardness of the user interface.

Throughout the training for both programs, Stacey regularly demonstrated and described how to carry out an operation; she repeated the commands and then had participants practice them. To get a desired effect, in Inspiration for example, to change the screen size, the trainer described a sequence of commands and had all the participants walk through the commands with her, more than once. The third or fourth time through the same sequence, the trainer might prompt with questions—how do we do this?—and then ask people to walk her through the commands. In addition, after practicing a set of commands, she frequently would point out ways to correct mistakes or undo a previous command (reminding people it was okay to change their minds).

Stacey noted that she learned the importance of repetition from her students. She noted that whether individually or in groups, she always has everyone start together with her and go through step by step. Those students who are unsure want the structure. Others

who may already know something about the technology can move ahead at their own speed, but it gives them an opportunity to see the steps they might otherwise skip over. Moreover, having students go through step by step gives them confidence that they know something, then they can help someone else, which increases their sense of confidence.

The trainer was fluent and familiar enough with the program to point out numerous pitfalls—places that students might find frustrating. For example, if a student changed to a larger or easier to read font, but did not change the default setting, every time they added text it would revert to the smaller, original font. “This is the sort of thing that students can find frustrating and give up.” In addition she would encouragingly point out to participants, “Places you find confusing students are likely to find confusing,” thus making a virtue of the difficulties or discomforts of learning new technology.

With both programs there were questions about commands that can be initiated either with the mouse or keyboard. This led to discussions of students with physical or visual limitations who can’t use a mouse and how important it is to have alternate ways to choose an option and how students might have a preference for learning to use a mouse or keyboard shortcuts.

5. *Give participants an opportunity to work on something practical for their own work.*

Every group of learning disability professionals will use the technology in different ways. Some are responsible for testing and assessment, some counseling or advisement of students, others work with students on their academic content. Understanding the technology and its capacities increases the likelihood that all these professionals will encourage and support students’ appropriate use of Inspiration or Kurzweil..

The trainer noted that Inspiration, for example, is widely used in writing classes, but used shallowly because people don’t have time to adapt it for the content of their own classes. When she works with faculty in content areas, she starts by asking them to identify the places where their students struggle. Recent changes in accreditation to require identification of learning outcomes may encourage more faculty to explore the potentials of technology.

During the afternoon, participants broke up into small groups and worked collaboratively on projects they might use with students. Constructing a work-related project was a way to give participants practice with the mechanics of the program, think about how they might apply its capacities, and have a concrete starting point for use with students.

Stacey is working on a year-long project to create templates in Inspiration that can be used in classes or edited and adapted for different students and settings. In the afternoon sessions, participants either worked on and added to templates already underway or began new ones. The templates and topics chosen for work covered common needs including a format for students to write a five paragraph essay, creation of an education plan, and how to fill in a job application. At the end of this year, templates on such common needs will be available online.

6. The source of the trainer's expertise is being a learner.

Many of the trainer's examples were about how and why she had learned to use the technology and how she is still learning what it can do. At one point, in response to a participant's comments she told the whole group, "John has just showed me how important it is to do these steps in a particular order or it can lead to a later problem." In another case, when a participant asked, "Can you change focus by tabbing?" Stacey answered as a learner, "I don't know, let's try it…..No, it doesn't. Why don't you try Control Tab and see if that works." Her active identity as a learner is part of what invites others to be learners.

The trainer's unabashed excitement and appreciation for these programs and their possible uses for students added to the positive feeling of the workshop. She explained that students may be scared of the technology, or they may be more comfortable with computers, but still be nervous about writing. Everything that adds to the sense of lightness can help open possibilities for students.

Her sense of being a learner extends to her role as a trainer. Stacey is willing to try new things and to listen to feedback. At least once in each workshop she would explain to participants that the materials are in the process of being developed so she would invite feedback, "I want to know from you what works and what doesn't."

7. W*hat happens after the workshop?*

This is an unresolved concern for the trainer. At the beginning of one workshop when people were asked about familiarity with the Inspiration program, several participants had heard about it or attempted to use it. One person said, "People told me about this program because I'm a mind-mapper. I got the program and opened it and never used it." This is a common experience. The trainer herself noted that you go to a tech training, then "If you don't use it, you forget it."

Even with a one-day workshop, the trainer wonders how many people are able to continue exploring and using the program. She also notes that sometimes people—faculty and staff—come to her trainings two or three times before they seem to "get it."

In the case of Inspiration, at the end of the workshop, participants receive a one month demonstration version of the program and are encouraged to keep in touch with the trainer via email. Many participants in the Kurzweil training also have the program on their computers. But it is an open question how effectively people build on the training and use the program in their daily work with students. The trainer and the participants realize that learning to use the technology effectively is time consuming, it requires not only practicing but exploring the program, struggling with it, pushing it to meet a student need. The training is a starting point, showing people how to begin and what is possible.

Along with the scaffolding within the training, Stacey suggests gradual steps for continued use. The trainer encouraged participants to try the technology with students, but to start small—not with the whole class but with one student and see how that student responds and build from there. She reiterates that the closer the use of technology is to practical and academic needs of students, the more likely they are to use it. The technology is only as effective as the way it is used.

In addition, at every training Stacey gets people's email addresses and gives out hers, encouraging participants to follow-up with her if they have questions.

Conclusions

Stacey brings her expertise and sensibility as a learning disability specialist to the training experience. She is first and foremost a learning disability specialist who has learned technology, not a technology person who has become involved with learning disabilities. She understands the work of LD specialists, speaks their language, and crafts her trainings from that perspective. Stacey's methodology for the creation of training content is informed by her work with students who have unique and idiosyncratic learning needs. Her use of technology is a direct and practical application of selected attributes within Inspiration and Kurzweil 3000 which meet those unique and idiosyncratic learning needs. She understands the barriers, pitfalls and frustrations that her students face. She also understands and captures the unique areas of strength and creativity of her students and colleagues.

Stacey's evangelical zeal for the potential of these technologies plays a significant role in her effectiveness as a trainer. She recognizes and communicates the empowerment students with learning disabilities experience when using programs like Inspiration that allow students to move from nonlinear, visual thinking to textbased, hierarchical organization of ideas. Stacey has become an "artist" in the use of Inspiration and Kurzweil 3000. Her level of fluency with these programs allows her to move beyond technical proficiency to a level of "musicianship". This level of skill allows Stacey to use these programs as instruments through which she can channel creativity and problem solving ability. At these levels of competency, the mechanics of Inspiration and Kurzweil 3000 do not intrude on the process of teaching and learning—the technology becomes a vehicle for a creative and transformational experience. During the course of her trainings, problems proposed by faculty and students allow her to improvise and elaborate on familiar themes in much the same way as a musician creates new music from familiar melodies.

Stacey brings a constant level of optimism and acceptance to training professionals who work with students who have learning disabilities. Whatever people bring to the training—from reluctance to enthusiasm, from fear of technology to familiarity with computers—forms the starting place. Stacey uses Inspiration and Kurzweil 3000 in her trainings to model effective ways to work with students: with patience and excitement she answers questions, repeats commands or does what is needed to get people to become comfortable and conversant with the technology.

Miss Kayden's work demonstrates that technology training for learning disabilities professionals should be designed to make the tools accessible and useful. Moreover, training should model ways that professionals can support student learning through the use of assistive computer technologies. This means giving participants practice with program basics as well as practical program applications.

These training workshops provide opportunities to learn new skills and explore new ways that assistive technologies can be used with a variety of students in diverse academic areas. Stacey's trainings suggest the levels of instructional creativity that might be achieved when learning disabilities professionals take the time to truly master their technology instruments. Moving beyond struggling with the mechanics of program operation, learning disabilities professionals may experience strikingly effective new ways of meeting the needs of their students. This necessarily implies achieving a level of competency with the capabilities of their chosen software far beyond that which is generally attained. As with any artist, much of this achievement will rest on the circumstances of motivation, time, practice and experience. Stacey Kayden's skills with Inspiration and Kurzweil 3000 point towards the possible.

In order to gain insight into the nature of Ms Kayden's trainings, the High Tech Center Training Unit engaged Rose Asera, a qualitative researcher, to observe and describe the trainings. Dr. Asera worked with the Emerging Scholars Program at UC Berkeley and has been the formative evaluator of the first four years of the California Virtual Campus Region 4 and the Professional Development Center. She is currently a Senior Scholar at the Carnegie Foundation for the Advancement of Teaching.