Executive Summary

As the main project for Ed 229a, LDT students were invited to design tools to help STEP students retain, relearn and reuse the skills that they were exposed to in a series of software training workshops. The workshops covered the use of iMovie, presentation software (Powerpoint, Legacy, and Netscape Composer), and the manipulation of images (scanning and Photoshop). Margaret Krebs, STEP’s Director of Technology Services, outlined the need for a product that would help STEP students complete their main assignment from their summer practicum independently, and could also be a reference for students to use in their own classrooms as well as with future Stanford assignments.

After completing a principled design process, LDT produced three distinct deliverables to support the STEP workshops: a paper handout, a website, and an interactive help lab. The three products were tied together with a consistent color scheme and common content to provide clear navigation for the STEP students. All three products were designed to complement the material that was being presented in the STEP workshops.

The LDT Assessment team used a variety of methods to evaluate the three products. To gather information for this report, LDT class members:

- Interviewed Margaret, the workshop instructors, and STEP students to get qualitative feedback
- Observed the use of LDT tools by STEP students in the Interactive Help Lab (the room)
- Conducted a broad survey of STEP students to determine the usefulness of LDT designs
- Observed workshops to analyze the proficiency of STEP students and record questions that arose

While the LDT students were proud of the projects and the STEP students and Margaret appreciated our hard work, it is unclear exactly how effective the LDT tools were in helping STEP students relearn, reuse and retain the information from the workshops. Since the LDT-created tools have only just been introduced one week ago, it is still too early to tell how helpful the LDT tools will be for STEP students in their classes at Stanford, or in the classrooms where they will be student teaching. We can, however, determine how effective these tools were for helping the STEP students complete their literacy assignments for the summer quarter.
In general, our paper product provided the most useful learning opportunities for STEP students. By converting the multimedia lab to an interactive help lab, the LDT students positively impacted a learning environment – the room offered the opportunity for collaborative learning in an inviting atmosphere although it is unclear exactly how much learning took place. For a variety of reasons, it appears that the website contributed very little to STEP students learning experiences.

From our observations and informal conversations with STEP students, we found that the most pressing technology questions that STEP students asked had little to do with using iMovie, Presentation software, or with manipulating images. Instead, we heard, and tried to answer, many more questions about more technical and operational issues. The most frequently asked questions were about issues such as Mac-PC compatibility, importing sound, transferring files (ftp), burning CDs, and choosing the right file format to save multimedia (.gif, .jpeg, .mov, etc.) Another round of assessment will need to be carried out in the future, perhaps in six months or a year to develop a more thorough evaluation of the LDT design.
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Summary of Observations of Workshops

Observations of the three multimedia workshops (images, presentation, and iMovie) that STEP students attended during August 7 – 9, 2001, were integral aspects of the assessment of our design for the “Recall, Remember, and Reuse” project. Over the course of the three days of workshops (See Appendix for schedule), different members of our design team observed the STEP students learning to use the various applications. In addition, our paper designs were distributed during each of the workshops. Some were presented at the beginning of the workshop and others were presented at the end. Our objective for the observations was to gather baseline data of the STEP students learning to use the various applications within the settings they were formally introduced. We were also interested to see how the students used our designs in learning to use the different tools during the workshop. The following sections summarize our method of observation and what our different members observed across workshops: images, presentation and iMovie.

Images
During the Images workshop the students were learning how to scan objects and then using Photoshop, they were learning some basics in how to manipulate the objects (e.g., image resolution, file size, file types and cropping). There was a lecture portion and then a hands-on practice session to the workshop.

Methods
Four members of our team conducted observations of the images workshop led by Gloria Miller in the “Big Tree” classroom and Multimedia Lab in CERAS, two people on the first day and two people on the second day. We did not do any observations on the third day. One member began to videotape the students learning during the session, however, found it difficult to hone in on individual students and noticed that the videotaping was making the students feel uncomfortable, so proceeded to just walk around and take notes during the lecture and while the students were exploring the tools. Observers tended to sit in the back of the room during the lecture and then float around during the hands-on session of the workshop focusing on a single student or group of students.

Observations
A majority of the students were familiar with scanning objects prior to the workshop. So, during the lecture there were numerous students “surfing” the Internet and reading other books. However, during the hands-on practice time, the students were actively engaged in small groups working to manipulate their photos and text in Photoshop. Because of limited scanners, the students had the opportunity to show each other what they already knew about scanning and manipulating images in Photoshop and to practice skills they learned in the lecture. For example, one observer saw that a member of a group was explaining to the others how to change image size. “I don’t know how pixels really work. My mind doesn’t work with pixels. I suggest we use percentages, it
make more sense to me.” There was a lot of collaboration between so-called experts and novices within the student groups and a lot of learning happening through trial and error. Although scanning images seemed to come easily to most of the students, using Photoshop and manipulating images seemed to pose greater learning problems.

Another observer focused on one particular student during the hands-on practice session. The student found the paper design “snazzy.” She observed the student getting familiar with the cropping tool in Photoshop and manipulating her photo to remove the red-eye. Once she figured out the tools to accomplish her task, her work moved much more rapidly and smoothly. Over the time the observed watched the students, she had become proficient with all the keyboard shortcuts for zooming and airbrushing.

Few students referred to the paper design during the workshop session. Mainly the novice users were referring to the document and using it as a step-by-step guide as they practiced. Others mentioned that it was going to be helpful as a refresher of what they had learned during the workshop in the ensuing weeks.

Although the students were becoming comfortable with scanning and the basics of manipulating images in Photoshop, one of the observers captured an interaction between Gloria and the students that may impact future use of technology by the students, as they become teachers. Gloria had asked the students why these skills were important to teaching and none of the students had an answer for her. Do the STEP students realize the value of the skills to enhance teaching? Will this affect the students’ ability to recall, remember and reuse these skills in the future?

**Presentation**

During the Presentation workshop the students were learning about two different applications for presenting information: PowerPoint and Legacy (The instructor was not going to cover Netscape Composer, however the students were given the LDT paper design to support its use). Each of the applications was given about one hour’s worth of time for lecture and then at the end there was a hands-on work session.

**Methods**

Four people observed the Presentation workshops over the three days, two people on the first day and two more people on the third day. Observers took notes on the handout, in their notebooks, and at workstations in the classroom. One observer focused on three students during the presentations and worked directly with one additional student during the hands-on session. Another observer spoke briefly with the instructor before and after the session and gathered most of her notes from comments made out loud by students during the workshop. Another observer who managed the video camera played the role of “invisible” observer.
**Observations**
There was a mixture of familiarity amongst the students with PowerPoint. However, the students did experience some technical difficulties at the start. These issues were mainly with technology in general. Many of them were unfamiliar with the Macintosh platform. One observer that focused on three students noticed that the novice user was having difficulty finding the various menu items that the instructor was leading them through in a text-based presentation. Another observer noted that the instructor led the students through creating a presentation using design template, but some of the machines were not set up for that function, which stalled the workshop for a bit. The observer also noted that another tool for creating presentation, using the Wizard, which is outlined in our paper design was not introduced. All of the observer noted that the students questions were more about compatibility issues between Mac and Pc, which may have been due to their initial technical difficulties and how PowerPoint works with other programs such as “Can you make a chart in Excel and bring it in?” to “Can you have PowerPoint control which browser it opens for a hyperlink? In addition, at the end of the presentation, the students posed a critical comment about using technology in the future. She said that she would not have her students do projects with it because “how do we know they’ll have a computer at home, let alone have PowerPoint on it?” In terms of using it as a presentation tool for their own students, they discussed reliability issues, the question of information overload with too many slides and the issue of putting students to sleep in a dark room.

There was less engagement and a sense of apathy during the Legacy presentation during the workshop. There was a sense of uncertainty of how the students would actually use the Legacy program during their STEP year and beyond. The presentation was basically an overview of the theory behind the software and a demo. By this time most of the students looked tired and only a handful took notes during this time.

During the hands-on session, there were few students exploring the two applications or practicing the skills presented during the lecture. Because Legacy was on CD-ROM and not available to all the students in the CERAS computer labs, the students were not able to practice using it. Most of the students were chatting with each other and checking their email. In addition, few students were referring to the paper designs that were handed out at the end of the session. One of the observers noticed one of the students glancing at the instructor’s handout just before leaving.

**iMovie**
During the iMovie session, the students were learning the basic features of the application (e.g., transitions, titles, audio, and file transfer) and how to take what some of them have already captured of their case study of a student’s literacy and edit the footage, enhance their footage and share their footage.
Methods
Two people conducted observations of the iMovie workshop, one of the first day
and one on the second day. There were no observations conducted on the third
day. One of the observers sat in the back of the room during the lecture portion
of the workshop and then walked around taking notes during the hands-on
session. The second observer was only able to attend the last hour of the
workshop and mingled around the groups during the hands-on session of the
workshop.

Observations
On the first day, there were four students who had use iMovie prior to the
workshop. In addition, 16 of the students only wanted to learn iMovie for their
literacy project and then did not plan to use the program afterwards. During the
beginning of the workshop, the students’ questions reflected more the students’
lack of general computer knowledge rather than specific application issues.
“What is a gigabyte,” “So, if you use 1GB of hard drive, once you move that file
do you get that space back,” and How do I open iMovie?” At the same time, a
few of the students demonstrated a much higher level of computer savviness.
Using the iBooks rather than PCs presented a greater learning problem for the
iMovie workshop. The most striking observation made on the first day, was that
students were paying little attention when the step-by-step procedures were
described. Instead, students were playing with the program or trying to complete
the last step because they had problems or were struggling with computer use.

On the second day, the observer noticed that for the most part students seemed
comfortable with what was being taught. She observed little frustration in the
room when the instructor allowed the students to work on their own. There were
a few questions raised and the instructor was able to answer them quickly.
About 4-5 students were observed taking notes during the session and one
student was consumed with checking her email, but was able to accomplish all
the tasked assigned by the instructor, leaving the observer with the impression
that the student was already proficient with the application.

Some specific areas that posed learning problems for the students during the first
day were audio, importing video, and cropping footage. Many students missed
the explanation that the camera could be controlled by the iMovie if it says
“camera connected” because they were busy connected their own cameras to
the computer. Others missed the difference between playing from the camera
and importing footage. Overall, the observer on the first day noticed that much of
the content presented during the lecture was being missed by the students
because of lack of attention and inexperience with computers, specifically the
Macintosh platform.

Conclusions
Over the three days, the 55 STEP students were presented with three-hour workshops each day on one of the above topics. There was a lecture component and a hands-on component to each of the workshops. Different people led each of the workshops and the setting for each of the workshops was also different. The Images workshop used primarily PC computers, where the Presentation workshop was given in a lab with iMac and the iMovie workshop used iBooks. There was a lot of technology for the students to become familiar with in a short period of time. The students’ expertise with computers, and the applications presented during the workshop also varied. This influenced how they interacted with each other and were engaged in the workshop. Overall, what was observed across workshops was that the STEP students were presented a finite amount of procedural information to conduct basic tasks within each of the application. Whether or not they covered how the students would integrate the tools to embedded the scanned images and movies into a PowerPoint presentation is unclear.

Presentation of the LDT designs, in particular the paper document and the website also varied across workshops. In the images workshop, Gloria presented it at the beginning and allowed students to go through it during her lecture. She made references to the document and the website. In addition, the students worked in the multimedia lab, which had been transformed into the Interactive Help, which may also support the students’ use of the Recall, remember, and reuse designs. In the Presentation workshop, Alan had created his own handout and did not present the LDT design until the end of the workshop. In addition, due to the nature of the workshop (e.g., that Legacy was presented but uncertain about future use and Netscape Composer was not presented at all), it is uncertain how the students might use our design in the future. As for the iMovie workshop, the students found the handout on the keyboard of their iBook at the beginning of class. There was quite a range in the extent of use of the paper-based product during class despite the fact that Kyle referred to it many times. However, based on the observations of many of the students missing steps in the process of capturing, editing, enhancing and sharing their work using iMovie, the Recall, Remember and Reuse design might well be used in the coming week to learn the steps they missed.

Summary of Client and Instructor Reviews

In order to assess client satisfaction and experts’ views on the tools the LDT students created, the three workshop instructors and the workshop coordinator were asked for interviews. Of the four, three agreed to personal interviews on the LDT tools. In general, all three felt that it was “too soon to tell” if the tools were really a success or not. However, satisfaction with the iMovie and images paper products was mutual. The coordinator commented that the iMovie takeaway was “very powerful” while the images instructor observed that the
Image paper handout was “100% on the mark!” The workshop coordinator and presentation instructor felt that certain of the paper products, specifically the Legacy and Netscape products, lacked important content. The instructor suggested the limited space, one side of a paper, was not enough room to cover the programs completely. All three reviewers also shared appreciation of the color schemes and layouts. While the coordinator had not viewed the web site, the instructors felt like it would be a valuable tool if students use it. Overall, the room was valued more because of its “feel” than the content presented on the walls. The presentation instructor felt that STEP students “appreciated someone making an effort to serve their needs.” The coordinator did not feel the room had been exploited to its full potential. Lastly, all three experts indicated that the questions that arose from the workshops and assignment reflected a large range of expertise in computer use. Additionally, the content of the questions was often out of the specific scope of one workshop or another. Instead the students’ questions focused on technical issues such as file transfer, cross-platform issues, and using two programs together.

**Findings**

The paper takeaways with a few exceptions were viewed as successful. The information on the web was inconclusive. The room was appreciated more for its atmosphere than as a tool for retention, reuse, and relearning.

**Summary of Room Studies/Student Interviews**

Each member of the Assessment Team spent at least one half hour session observing the STEP student’s use of the InterActive Help Lab. These sessions took place from August 10 – 14 at differing times of the day and evening. There was an average of 4.4 STEP students in the Lab at the beginning of each session and 5.6 present at the end.

As collected on our observation worksheets, we recorded an average of less than one instance of STEP students consulting the Wall Panels, the HelpLab website, the reference bookshelf or Message Central.

**Observations**

There was much information seeking and collaboration taking place in the Lab. As opposed to consulting the tools that the LDT class prepared, the STEP students by far sought each other out for help. We observed much sharing of knowledge in a friendly community. Often, they regarded the LDT students as experts to consult for help as well.

A common observation was that many of the problems encountered were not software or workshop specific, but related to external technical issues. There were several instances of confusion or frustration expressed regarding burning
CD’s, trouble-shooting the integration of sound into their movies and cross-platform issues. These issues were not covered by the tools developed by LDT.

**Interviews**

Conversations held with STEP students during our observation sessions yielded meaningful comments and attitudes. One student, while looking at the wall panels, expressed the view that she liked the ideas of the wall displays, but felt the text should have been made larger, with fewer details. She loved the overall feeling of the room. “I didn’t have to do my work here because I have a laptop, but I wanted to work here.”

Another student said that the best outcome of the tools we created was that STEP students now knew that we (the LDT students) were “accessible and willing to answer questions”.

Many of the students interviewed expressed that they didn’t know that the Help Lab website existed. Even though there were business cards in clear view, and the URL posted on the wall, they were unaware.

**Summary of Surveys**

**Survey Process**

A ten-question survey was distributed to STEP students on the day their major project was due. STEP students were asked to rate on a scale of 1 to 5 how helpful or how useful the LDT resources (room, paper handouts, and website) were for completing their current assignment. They were also asked to rate how likely they were to use the materials in the future. Lastly, they were invited to make general comments about the LDT resources. We had a 20% response rate to our surveys.

Overall, STEP students found the LDT resources fairly helpful for planning, producing, and delivering their assignment. Of the 12 surveys collected, only one found our product not helpful at all. The remaining 11 rated our project as at least somewhat helpful. These same 11 students agreed that the concepts of the workshops were communicated clearly in the room, takeaway and the website.

**Room**

Only about half of the respondents found the “Message Central” board somewhat useful in solving problems. Even fewer students (4) found the software content areas on the wall fairly helpful or very helpful. On the other hand, the vast majority of the students were generally comfortable using the resources of the multimedia lab.
Paper Handout
Only one student did not find the handouts helpful for remembering the concepts taught in the workshops. Around half of the students found the handouts helpful for troubleshooting. Everyone surveyed found the layout helpful for locating important information (Good news! A unanimous verdict)

Website
Only 2 of the students found the website helpful and only 3 students believed that the website will be somewhat helpful in the future. Half of the STEP students answered N/A for both the website questions.

Short answer questions
When asked to name one thing to be included in a future version of these resources, STEP student comments included:

- “Personal Help: 1 on 1 guidance, even if only available at certain times”
- “More handouts made for a two-year old, that’s me!”
- “Help via e-mail or a tech in the lab”

One student recommended adding graduated resources for more advanced users of technology

When asked for general comments, users responded:

- “I like the that they made handouts, they are more useful to me than a 3 hour class”
- “Present it sooner for the next class but nice format overall. Everyone I worked with personally was fantastic”
- “The people were amazingly patient! – Thank you!”
- “This needs to be done earlier in the quarter”

Findings
Very few students knew the web site even existed – Most of the surveys came back rated as “not useful” or handwritten N/A; however, the website can still be useful as STEP and/or LDT can continue to promote and contribute to the site throughout the year. The comments from the STEP students reflected a different set of expectations of our work from our own expectations. All of the LDT discussions, brainstorming sessions, and designs were based around how to best use specific software (iMovie, Presentation, Photoshop) or specific hardware (scanners). The STEP comments from the survey reflect an expectation that they would like to see more personal tech support.
Summary of Web Information

The web server logs were analyzed for the period of Tuesday, Aug. 7, 2001, the first day of workshops, to Thursday, Aug, 16, 2001, the day the last group of STEP students handed in their projects. The statistics for the HelpLab website show 965 successful requests for web pages, which translates to an average of 109 hits a day. The home page was hit 107 times. These requests were made from 37 distinct hosts (computers). The host list indicates that about half of those request, or more, came from LDT students (the website creators and maintainers) not STEP students. We estimate, therefore that about 10 - 15 STEP students accessed the site during those 9 days.

An analysis of which parts of the website were visited shows that the Presentation section was the most popular. The Presentation section received 269 hits (44%), the iMovie section 198 (33%), the Image section 121 (20%), and the Help section 21 (3%).

Conclusion

The LDT class created tools for the STEP students to help them with long-term retention of the information presented to them in authoring tool workshops. Now, one week after the workshops, it is too early to determine to what extent our LDT-created tools have helped the STEP students retain the information presented during the workshops.

The tools were being used to varying degrees. Students found the paper products to be useful tools for recall of concepts learned in the workshops and valuable for future use. In fact, the Academic Computing Services requested our product to be available for school-wide use. To our surprise, the website was not visited by STEP students. We found that many STEP students were unaware of its existence. Even those who knew about the website, did not consult it. We wonder if this will change in six months from now. There was overall approval and appreciation for the inviting and supportive environment of the InterActive Help Lab. However, the graphic wall panels and reference books were not used and Message Central was used on a limited basis. We found that students were more likely to consult a person rather than a paper or media application. A lot of the questions fielded were not content-related but external, technical issues not addressed during the workshops, specifically cross-platform issues.

Since our tools are still in the process of being utilized, we suggest that our client conduct another assessment in six months. In this way, true retention can be measured as well as the long-term effectiveness of our tools. At this time, we suggest evaluating the frequency that the tools are consulted as well as which aspects of these tools are most helpful. From this information, future iterations of the products can be designed in a principled way.
Appendix

Client and instructor reviews

Margaret Krebs, client
The conversation with Margaret divided itself into fairly distinct parts. The first part of the conversation focused on the learning problems that she has seen since the beginning of the workshops. The second part focused on the learning principles behind our designs. From the beginning of the conversation, Margaret indicated that she felt that it was too early to really assess the benefits of our tools with the STEP students.

Sound and video are the major issues she has seen arise since the STEP literacy project has started. The problems began with students attempting to ftp their sound and video files. Unless it was transferred as binary, the file would be converted to a text file. Students also had trouble understanding the different kinds of sound files and which ones were most appropriate for what use. Once the students determined which format to use, questions still remained. How do they edit and import these files into iMovie and PowerPoint? How do you get it to play? There also have been major compatibility issues with PowerPoint and QuickTime.

Margaret was very interested in the learning principles behind our design. While she had not viewed the Web component yet, she was very familiar with the paper takeaway and the Room. Her observations on the paper takeaway led her to several questions. First, “Are we teaching pedagogy or are we teaching them the tool (program)?” She believed the Legacy takeaway was a good example of this confusion. It “didn’t construct the problem well.” Three-fourths of the content of the Legacy takeaway focused on pedagogy. When I indicated that as a class we had little experience in Legacy, she immediately told me that no one had ever talked to her about this.

Margaret did not see the paper takeaways as parallel constructions. For example, Margaret questioned the PowerPoint takeaway. She wondered, “how is this a take home on the skill?” It also led her to question if we had “specific categories for the content criteria?” I outlined briefly the content categories we examined. Despite the fact that the LDT students had tried to maintain consistency of content and layout, this was not apparent to Margaret. In contrast to the PowerPoint takeaway, Margaret viewed the iMovie takeaway as very powerful. On the front of the takeaway, she pointed out that one can immediately see the conceptual content of iMovie and then it follows through with more detail on the back. She viewed images as being produced in similar vein. However, the other takeaways she saw as more “amorphous.” From all of these issues, Margaret concluded, “The problem didn’t get correctly diagnosed for the function of the takeaway.”
When the conversation moved to the room, the first thing Margaret said was, “Fantastic.” However, she questioned if the room idea was being exploited to its full potential. She understood the concept of the room to be a place for help; yet, she didn’t feel like it supplied all of the support it could. She wondered, “Why you chose the room when you aren’t going to be able to support it?”

Lastly, Margaret provided her opinions on the issues revealed in the final design. She felt that perhaps a disservice had been done to the LDT students by not having a consistent client or learning problem. The problem was not clearly constructed from the beginning. She thought the LDT students were creating a take home document that would focus on some of the learning problems. This was only one of the components we produced. Now, she believes the focus should be on removing the things that are misleading. She feels there are too many sources of information for STEP students to check. She believes a final source of information needs to be determined.

**Alan Marcus, iMovie workshop instructor**

Alan Marcus, who gave the presentation workshop, said his goals were two-fold: to teach STEP students how to create simple PowerPoint presentations and to get them thinking about when it’s appropriate or inappropriate to use. The biggest learning problems in his workshops were with issues specific to the students’ immediate assignment, particularly with “fancier PowerPoint things” like using sound throughout their presentation. Marcus tried to email responses to student questions if he could not answer them on the spot.

In general, he was pleased with his workshops – they went “pretty much 90 percent” according to plan. But since he didn’t know the students that well, he made some changes in his slides and presentation for each workshop in response to the particular audience (randomly, one of the three groups had a much higher knowledge base than the other two). He also had some difficulties in the first workshop with the Mac versus PC language/dialect difference. In the end, he is confident that the students are now capable of basic PowerPoint skills, but are also thinking about the bigger picture about its proper use.

Marcus said he thought that, in general, the LDT tools were useful for knowledge retention and independent use. He explained that specific instructions for software and sample lesson plans were most important, followed in order by ease of use, detailed resources and a glossary of technical terms.

Specifically, he said that the handouts were “nice, something to take with them” that some STEP students will “definitely use.” He added that the website will also be useful “if they use it,” “but the web clips – while great for long-term retention – will be least useful in the short term because reviewing the clips may take too long. Marcus was also impressed with the “simple, functional” layout of the website and the “cool colors” on the handouts. He added that the room was “something a little different. I think they appreciated someone making an effort to
serve their needs.” But he believed it might be difficult to get students to go to the lab since many work on projects at home.

The best longer-term retention tools, Marcus said, were the video clips as well as the screenshot on the handouts. The screenshots will enable students to recognize the general layouts and quickly identify where to find specific features.

He couldn’t think of specific tools he would have liked to see to further retention, but thought some of the handouts were more complete than others (particularly lacking were large programs relegated to only one sheet – like Netscape Composer). Marcus suggested that pizza (!) in the room might draw more students, convincing them that their specific project could benefit from its resources. He also thought that if the LDT students had done some live demos before the workshops showing “cool things” STEP students could do with the application, it might have gotten them more excited about learning the software. (He was, however, not entirely convinced that the basketball hoop helps with learning retention. But he hypothesized that its stress-relieving qualities might in turn help them retain more information.)

**Gloria Miller, Image workshop instructor**

The Image Workshop (scanning and Photoshop) was conducted by Gloria Miller last Aug 7-9. Initially, due to equipment problems, the workshop didn’t go as smoothly as planned. However, by the third day, everything went as organized. Based on the instructor’s personal observations that “there’s a better way to teach”, she consciously tailored the workshop to meet the STEP students’ needs. This meant spending not more than 40 minutes on scanning, including a demo first by the instructor, followed by hands-on for the students. There was more emphasis on Photoshop by the third day, where students played around with images they scanned themselves. First though, they had to overcome their fear of ruining their pictures by manipulating sample images included in Photoshop using filters and other tools in Photoshop. By the end of the workshop, students generally felt comfortable ‘experimenting’ with the various features of Photoshop.

A major learning problem during the workshop from the instructor’s perspective was the varying degrees of expertise among the learners and how the instructor needs to change her teaching style so all students, from novices to experts, can learn something new from the workshop. For students new to scanning, questions centered on scanning modes, file output types, file resolution and different file types. On the other hand, for those already proficient in scanning, questions focused more on adding special effects in Photoshop. In addition, the equipment set-up where students have to move from Big Tree to the MM Lab and back again distracted students and made them lose focus (although this set-up is common in work situations, thereby adding an element of realism to the workshop!).

Because not all scanners worked during the workshop duration, problems rose
when students futilely tried to use the faulty equipment. But because of their
inexperience, most usually thought it was something wrong they were doing. This
is an important lesson for students, because software or hardware interface can
also be the problem. It’s not always them!

All in all, the instructor felt students understood the concepts imparted during the
workshop. They were able to explain in their own words the steps they took to
achieve the results they wanted for their images. Perhaps, some simply followed
the step-by-step instructions on the handout for scanning, but because this was
more of an end product-oriented workshop where students attend to create a
final product, it was not really emphasized. The most important concept to learn
is to grasp the “big concept of imagery” and its powerfulness, so STEP students
can effectively use them in the future as teachers.

To improve STEP students’ retention of software skills and accurately assess
them, the instructor suggests giving the workshops at an earlier date, say at the
beginning of the quarter, and monitor the students’ progress to see whether they
are still able to use it by the end of the quarter for a project. Since the tools and
templates for the workshops already exist, this can be done more easily. In
addition, STEP students should be given an opportunity to practice their software
skills in an authentic situation, where they will be able to use the applications in
class and see their students’ reactions to them!

With regards to the tools LDT students created, the instructor sometimes found it
difficult to evaluate, and felt she’s “too close” to LDT to really comment.
Nonetheless, she observed that the Image paper handout was “100% on the
mark!” Students referred to it often, especially the glossary. They can flip
through it and write down their own notes independently, without needing an
instructor to guide them through the product. The Panfora forum and message
central in the room were also used, although the reference desk and materials
posted on the wall of the Room were seldom used. It will take a longer project
though to see whether the Room and the web page support retention though. It is
still “too soon to tell”. In general, Gloria personally felt the content organization is
‘excellent’, and that the paper products are ‘visually appealing’ and the color and
layout absolutely striking. She did have a difficult time associating the colors
(violet, green and aqua) with the specific applications though.

From the five criteria to foster retention and independent use, ease of use tops
Gloria’s list based on her observations and past experience. The other four
(specific instructions for software, sample lesson plans, glossary and list of other
resources) are all tools that support each other.
Room Studies and Student Interviews

Name: Page McMullen
Date: 8/13/01
Time: 4:30 – 5:00

Number of STEP students in lab at beginning of observation session? 6
Number of STEP students in lab at end of observation session? 5 (3 of which were the same student)

Compilation:

Instances of a student consulting a Paper Takeaway product: 1 One student was looking through her papers to find out how to change the font color in her PowerPoint. She looked at the handout the instructor gave her first. Secondly, she looked at our handout. She then searched through her other documents. She finally asked the person next to her who also did not know how to complete this task. I offered to help them with this issue. I showed them two options to change font color.

Instances of a student consulting our Web Site: 0

Instances of a student consulting the Wall Panels: 0

Instances of a student consulting the reference Book Shelf: 0 I did not see any students use the reference Book Shelf when I was in there, but it had been moved since we went in there this morning. I think this may have meant it had been used.

Instances of a student consulting Message Central: 0

Conversations with students (include useful comments and/or quotes):
While I was observing, a STEP student came into the lab and looked around. After about 30 seconds she approached me and questioned, “You are an LDT student, right?” She then explained her problem to me. She said that she couldn’t get her laptop to be displayed on the projector. As we walked upstairs to look at the laptop, we talked about the LDT tools. She said that they loved the room, that it was much more comfortable to spend time in there now. She also indicated that message central initiated a collaborative learning environment. As for the web, she indicated that she had been checking Panfora a lot for the solutions to problems. When I asked her about the paper-based product, she said that it might have been better to have just step-by-step procedures. The conceptual nature of many of the takeaways appeared too overwhelming to her when she just wanted to get something done. However, she did use them as a reference.
However, she said the best outcome of the tool was that STEP students now knew we (the LDT students) were “accessible and willing to answer questions.” Overall, the STEP students appeared to prefer to have their questions addressed by real people, but they definitely appreciated the tools and the environment we created.

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Name: Dan Gilbert
Date: August 10, 2001
Time: 5:10 – 5:40 pm

Number of STEP students in lab at beginning of observation session? 5
Number of STEP students in lab at end of observation session? 6

Compilation:

Instances of a student consulting a Paper Takeaway product: 0

Had a great conversation with one STEP student working on her project. She loved the paper takeaway, “It took the pressure off of having to take notes during the workshops.” She was very impressed with the layout of the takeaway, but found the language in the Where to Find section “a little too technical”

Instances of a student consulting our Web Site: 0
The student I talked with didn’t even know the website existed. The URL wasn’t posted anywhere in the lab, and it sounds like our ‘business cards’ weren’t distributed to everyone – maybe we can put a fresh stack of them in the lab on Monday.

Instances of a student consulting the Wall Panels: 1
For the room, she liked the idea of the walls, but felt that the text should be made larger, with fewer details. She loved the overall feel of the room, “I didn’t have to do my work here because I have a laptop, but I wanted to work here.”

Instances of a student consulting the reference Book Shelf: 0

Instances of a student consulting Message Central: 0
Conversations with students (include useful comments and/or quotes):
How do they feel about our products? Helpful? Make a difference in the process? Will they use them in the future?

Her biggest concerns are with hardware, and compatibility issues between Macs and PCs. More information about “what names (extensions) to give files and where to save them” would be helpful.

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Nina Weber
I observed the InterActive Help Lab from 8:45-9:45 on Sunday, August 13. 1 student was there when I began the observation with 3 other STEP students joining later. One student was with a non-STEP student showing her projects, one alone, and a pair of students. I primarily observed the student who worked alone. She worked for the entire hour, alone, with headphones, and was very focused. She did comment to another student that she just wanted to finish her project but she appeared very patient with her work. She was scanning objects by herself, quite successfully. At one point, she got up and went to the reference library to consult the PowerPoint paper. I asked if she needed help and she asked whether she should save her image as Tiff or JPG. She was very accepting of my opinion, coupled with another LDTer's. I did not approach this when she was working alone because she was wearing her headphones.

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Name: ‘Alim Beveridge
Date: 8/13/2001
Time: 17:35 – 18:45
(further interviews conducted on 8/14/2001 at 21:30 with 3 students)

Number of STEP students in lab at beginning of observation session? 3
Number of STEP students in lab at end of observation session? 3

Compilation:

Instances of a student consulting a Paper Takeaway product: 0
Instances of a student consulting our Web Site: 0
Instances of a student consulting the Wall Panels: 0
Instances of a student consulting the reference Book Shelf: 0
Instances of a student consulting Message Central: 0

Conversations with students (include useful comments and/or quotes):

  How do they feel about our products? Helpful? Make a difference in the process? Will they use them in the future?

**Student 1:**
Paper Takeaways were useful, especially PPT & scanning ones
Didn’t use web site, (didn’t know about it till we mentioned it earlier), did visit it, but needs human contact
Found the Room “homey”, but didn’t consult the Wall Panels
Didn’t use Reference bookshelf
Never used Panfora or Message Central

Other comments:
Handouts were very good, people amazing cause they helped her “will keep them forever” (the handouts), wouldn’t go to the website

**Student 2:**
Used iMovie paper takeaway. Seems to think she didn’t get the PPT one
Didn’t use website
Didn’t come to Room except to burn CDs. Preferred to work at home “I stay away from campus as much as I can”
Didn’t use Reference bookshelf
Didn’t use Message central or Panfora

Other comments:
Work sheets well done
Not sure what changed in Room, except decorations and more user friendly
Will use paper takeaways (pictures help), might use website after checking it out
Differences between Macs and PCs should have been made more explicit
Didn’t at all appreciate having to burn her stuff on a CD
A lot of people really frustrated cause their iMovie work wouldn’t import to PPT

**Student 3:**
Used PPT paper takeaway, but no thorough enough, showed me a more detailed laminated cheat sheet type thing (what Minette brought to class) she used, said Alan’s handout was more useful. Didn’t understand iMovie handout. Scanning handout didn’t help.
Didn’t use web site.
Looked at wall panels but didn’t find them useful
Didn’t use Reference bookshelf
Didn’t use Message central or Panfora
Other comments:
Needed people
Environment of room helped, found it friendly, calm, not intimidating, much better than Little Tree, wishes the decoration would stay. Would have asked people for help anyway. Suggested making it more like kindergarten or preschool or first grade, with tons of pictures. Won’t use our stuff in the future

Name: Gloria Miller
Date: August 9, 2001
Time: 7:30 pm

Number of STEP students in lab at beginning of observation session? 4
Number of STEP students in lab at end of observation session? 3

Compilation: Comments:

Instances of a student consulting a Paper Takeaway product: 0
Students were working independently and were very focused. I saw one student briefly review the Scanning step-by-step handout and then did not look at it again.

Instances of a student consulting our Web Site: 0
I did not observe that at all.

Instances of a student consulting the Wall Panels: 0
Everyone was very engaged in their projects

Instances of a student consulting the reference Book Shelf: 0
One student did look at the material, but not a consultation.

Instances of a student consulting Message Central: 2
Once to see if the answer was posted and once to write an answer and corresponding question once she had figured it out.

Conversations with students (include useful comments and/or quotes): “The room is very comfortable. It feels like we are welcome.” The student mainly asked each other questions and a couple of times asked me specific questions. From my observation it seems as though the majority of the questions had to do with file platform compatibility, iMovie, and audio in
iMovie. I have a speculation to why the students had more questions about these items:

- The iMovie technology is a little more complicated than Powerpoint or scanning (including Photoshop).
- The iMovie technology is more appealing because it captures the subject of their study in a very natural way. And once you have captured the audio there is no other “file” you need to prepare except iMovie and its exports.
- iMovie files get big fast and saving files becomes an issue right away.
- Posting files to the Web space etc. was not covered in the workshops, likewise the cross-platform issues were not covered.

How do they feel about our products? The students I observed were indifferent to the products. I would say they neither had positive nor negative feelings.

Helpful? This is difficult and perhaps too soon to answer.

Make a difference in the process? Yes, the message board in particular was useful. I think it did change the practice of using technology. Asking questions became part of the process. I believe this is an important change leading to successful use of technology.

Will they use them in the future? Yes, again I think we need to wait and see. Perhaps a follow-up survey in three months or even six.

Sign-in/out assessment by Lia Woo
The sign-in/out sheet proved ineffective. Unfortunately, no students signed-in. Initially the sign-in sheet was placed near the entrance. Due to the lack of visibility there, the sheet was moved to Message Central with a note written on the white erase board requesting STEP students to sign-in. After two days at this location and still no activity, the sign-in sheet was moved to the tables. This location also proved ineffective.

One can speculate that STEP students did not sign-in because of a variety of reasons. First, there was no incentive or motivation for students to sign-in. Second, students were not held accountable to sign-in. Third, the use of a sign-in sheet was never established as part of a routine for using the multi-media lab. Fourth, STEP students are busy and the importance of the sheet was never explicitly communicated.
Surveys

Questionnaire

August 15, 2001

Dear STEP student,

We hope you made it through your assignment in one piece and are excited/relieved to have some time off between summer and fall quarters. As you are probably aware, the students of the LDT program redesigned the multimedia lab, developed the handouts from your recent technology workshops, and produced the “Interactive Help” website as resources for current and future STEP students.

Thanks in advance for taking the time to give us some feedback on this project. This information is strictly confidential and will only be used to assess our work and make recommendations for next year’s LDT and STEP classes.

<table>
<thead>
<tr>
<th>Question</th>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Overall, how helpful were the LDT resources in helping you plan, produce, and deliver STEP Assignments (or classroom lessons)</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>2. In general, were concepts communicated clearly in the room, takeaway and website?</td>
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<tr>
<td><strong>Multimedia Room, CERAS 129</strong></td>
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<tr>
<td>3. How useful was the &quot;Message Central&quot; board in solving problems?</td>
<td>1 2 3 4 5</td>
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<tr>
<td>4. How useful were the software materials posted on the walls?</td>
<td>1 2 3 4 5</td>
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<tr>
<td>5. How comfortable were you using all of the resources (computers, scanners, help materials) of the multimedia lab?</td>
<td>1 2 3 4 5</td>
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<tr>
<td><strong>Paper handout</strong></td>
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<td>6. How helpful were the handouts for remembering the concepts taught in the workshops?</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>
7. How helpful were the handouts for troubleshooting? 1 2 3 4 5

8. How effective was the layout for locating important information? 1 2 3 4 5

**STEP/LDT Website**

9. How easy was it to find the information you needed on the STEP/LDT website? 1 2 3 4 5

10. How effective do you think this website will be for helping you in the future? 1 2 3 4 5

What one thing would you include in a future version of these resources?

Please add any general comments about the LDT resources on the back of this sheet.....Thanks again!

**Survey Results**

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<th>Datasheet</th>
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Web site statistics

The complete web report can be seen at the following location:
http://www.stanford.edu/~alim/report/

Some highlights from the report:

Analysed requests from Tue-07-Aug-2001 14:04 to Thu-16-Aug-2001 10:05 (8.83 days).
Successful requests for pages: 965
Average successful requests for pages per day: 109
Distinct hosts served: 37
Data transferred: 1.075 Gbytes
Average data transferred per day: 124.641 Mbytes

Daily Summary
This report lists the total activity for each day of the week, summed over all the weeks in the report.
Each unit (■) represents 8 requests for pages or part thereof.
day: reqs: pages:
---: ----: -----:
Sun: 516: 198:
Mon: 336: 99:
Tue: 199: 62:
Wed: 826: 272:
Thu: 890: 285:
Fri: 111: 41:
Sat: 50: 8:

Host Report
This report lists the computers which requested files.

Listing hosts, sorted alphabetically.
reqs: %bytes: host

----: ------: ----
46:  1.05%: 63.219.209.34
16:  0.01%: 169.204.192.198
13:  0.01%: 208.51.153.219
  1:       : tank.dreamhost.com
29:  0.03%:  c1563996-a.smateo1.sfba.home.com
26: :       : atlwebproxy1.core.hp.com
69:  4.90%:  bigtree01.stanford.edu
116:  0.04%:  bigtree06.stanford.edu
62:  0.04%:  bigtree07.stanford.edu
118:  0.04%:  bigtree12.stanford.edu
14:  4.19%:  bigtree13.stanford.edu
14:  0.01%:  bigtree15.stanford.edu
36:  0.02%:  bigtree16.stanford.edu
126:  3.74%:  bigtree17.stanford.edu
28:  0.02%:  bigtree18.stanford.edu
99:  2.85%:  bigtree19.stanford.edu
17:  0.01%:  bigtree20.stanford.edu
47:  4.21%:  ceraslab5.stanford.edu
340:  7.23%:  ev-00-st3224b.stanford.edu
123:  0.08%:  ev-00-st3225b.stanford.edu
  5:       : meyer-183.stanford.edu
13: :       : meyer-ll-13-class-mac.stanford.edu
148: 24.88%:  meyer-mm-g4t-08.stanford.edu
153:  3.36%:  michiko2.stanford.edu
53:  0.02%:  pkim-w2k.stanford.edu
29:  0.23%:  pnicholson-w2k.stanford.edu
40:  0.02%:  rains-00-28k.stanford.edu
24:  0.01%:  sul-ki-ed4.stanford.edu
239:  0.11%:  suse-mgriffin-laptop.stanford.edu
118: 16.68%:  suse-mmdvpc1.stanford.edu
135: 16.99%:  suse-mmdvpc2.stanford.edu
22:  0.01%:  suse-mmdvpc3.stanford.edu
13:  9.05%:  suse-mmg4-dp2.stanford.edu
28:  0.02%:  92.san-francisco-18-19rs.ca.dial-access.att.net
10: :       : pool1212.cvx21-bradley.dialup.earthlink.net
34:  0.01%:  cache-1.sfm.ca.webcache.rcn.net
524:  0.14%:  cpe-66-87-88-213.ca.sprintbbd.net

Request Report
This report lists the files on the site.
Listing files with at least 20 requests, sorted by the number of requests.

<table>
<thead>
<tr>
<th>reqs</th>
<th>%bytes</th>
<th>last time</th>
<th>file</th>
</tr>
</thead>
<tbody>
<tr>
<td>203</td>
<td>0.01%</td>
<td>16/Aug/01 08:23:</td>
<td>/step.css</td>
</tr>
<tr>
<td>184</td>
<td>0.01%</td>
<td>16/Aug/01 08:23:</td>
<td>/images/sm_logo.gif</td>
</tr>
<tr>
<td>152</td>
<td>0.10%</td>
<td>16/Aug/01 08:23:</td>
<td>/presentation/</td>
</tr>
<tr>
<td>107</td>
<td>0.01%</td>
<td>16/Aug/01 10:05:</td>
<td>/</td>
</tr>
<tr>
<td>93</td>
<td>0.02%</td>
<td>16/Aug/01 10:05:</td>
<td>/images/3balls.gif</td>
</tr>
<tr>
<td>93</td>
<td>0.01%</td>
<td>16/Aug/01 08:23:</td>
<td>/images/head_presentation.gif</td>
</tr>
<tr>
<td>92</td>
<td>0.01%</td>
<td>16/Aug/01 10:05:</td>
<td>/images/med_logo.gif</td>
</tr>
<tr>
<td>92</td>
<td>0.01%</td>
<td>16/Aug/01 10:05:</td>
<td>/images/2balls.gif</td>
</tr>
<tr>
<td>92</td>
<td>0.01%</td>
<td>16/Aug/01 10:05:</td>
<td>/images/head_image.gif</td>
</tr>
<tr>
<td>76</td>
<td>0.02%</td>
<td>16/Aug/01 10:05:</td>
<td>/images/head_imovie.gif</td>
</tr>
<tr>
<td>76</td>
<td>0.01%</td>
<td>16/Aug/01 10:05:</td>
<td>/images/3balls.gif</td>
</tr>
<tr>
<td>69</td>
<td>0.02%</td>
<td>15/Aug/01 05:57:</td>
<td>/imovie/</td>
</tr>
<tr>
<td>65</td>
<td>0.04%</td>
<td>15/Aug/01 05:57:</td>
<td>/imovie/images/share_cd.jpg</td>
</tr>
<tr>
<td>65</td>
<td>0.01%</td>
<td>15/Aug/01 05:57:</td>
<td>/imovie/images/camcorder.jpg</td>
</tr>
<tr>
<td>65</td>
<td>0.01%</td>
<td>15/Aug/01 05:57:</td>
<td>/imovie/images/strip.jpg</td>
</tr>
<tr>
<td>64</td>
<td>0.01%</td>
<td>15/Aug/01 05:57:</td>
<td>/imovie/images/enhance.jpg</td>
</tr>
<tr>
<td>58</td>
<td>0.01%</td>
<td>16/Aug/01 08:23:</td>
<td>/images/setup.gif</td>
</tr>
<tr>
<td>57</td>
<td>0.02%</td>
<td>16/Aug/01 08:23:</td>
<td>/images/assistance.gif</td>
</tr>
<tr>
<td>55</td>
<td>0.07%</td>
<td>14/Aug/01 16:31:</td>
<td>/image/</td>
</tr>
<tr>
<td>49</td>
<td>0.01%</td>
<td>14/Aug/01 13:47:</td>
<td>/imovie/video.html</td>
</tr>
<tr>
<td>49</td>
<td>0.02%</td>
<td>14/Aug/01 13:48:</td>
<td>/presentation/video.html</td>
</tr>
<tr>
<td>47</td>
<td>0.01%</td>
<td>14/Aug/01 16:31:</td>
<td>/image/umax_astra6450.jpg</td>
</tr>
<tr>
<td>47</td>
<td>0.02%</td>
<td>14/Aug/01 16:31:</td>
<td>/image/microtek_scanmaker_v6u6l.jpg</td>
</tr>
<tr>
<td>46</td>
<td>0.03%</td>
<td>14/Aug/01 16:31:</td>
<td>/image/thekeeper-original.jpg</td>
</tr>
<tr>
<td>46</td>
<td>0.01%</td>
<td>14/Aug/01 16:31:</td>
<td>/image/hp_5370cxi.jpg</td>
</tr>
<tr>
<td>45</td>
<td>0.02%</td>
<td>14/Aug/01 16:31:</td>
<td>/image/thekeeper-crosshatch.gif</td>
</tr>
<tr>
<td>42</td>
<td>0.01%</td>
<td>13/Aug/01 11:14:</td>
<td>/presentation/handouts.html</td>
</tr>
<tr>
<td>40</td>
<td>0.02%</td>
<td>14/Aug/01 13:47:</td>
<td>/images/getquicktime.gif</td>
</tr>
<tr>
<td>39</td>
<td>0.01%</td>
<td>13/Aug/01 11:13:</td>
<td>/image/video.html</td>
</tr>
<tr>
<td>29</td>
<td>0.01%</td>
<td>14/Aug/01 13:47:</td>
<td>/imovie/links.html</td>
</tr>
<tr>
<td>28</td>
<td>0.04%</td>
<td>15/Aug/01 05:57:</td>
<td>/imovie/faq.html</td>
</tr>
<tr>
<td>27</td>
<td>0.04%</td>
<td>13/Aug/01 11:13:</td>
<td>/image/glossary.html</td>
</tr>
</tbody>
</table>
Directory Report

This report lists the directories from which files were requested. (The figures for each directory include all of its subdirectories.)

Listing directories with at least 0.01% of the traffic, sorted by the amount of traffic.

<table>
<thead>
<tr>
<th>reqs</th>
<th>%bytes</th>
<th>directory</th>
</tr>
</thead>
<tbody>
<tr>
<td>426</td>
<td>72.23%</td>
<td>/presentation/</td>
</tr>
<tr>
<td>558</td>
<td>15.81%</td>
<td>/imovie/</td>
</tr>
<tr>
<td>496</td>
<td>11.75%</td>
<td>/image/</td>
</tr>
<tr>
<td>937</td>
<td>0.14%</td>
<td>/images/</td>
</tr>
<tr>
<td>191</td>
<td>0.06%</td>
<td>/help/</td>
</tr>
<tr>
<td>310</td>
<td>0.02%</td>
<td>[root directory]</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>[not listed: 1 directory]</td>
</tr>
</tbody>
</table>

The wedges are plotted by the amount of traffic.