P3T3: Purdue Program for Preparing Tomorrow's Teachers to use Technology

Final Evaluation Report

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P3T3 SUMMARY

P3T3, Purdue Program for Preparing Tomorrow's Teachers to use Technology (#P342A000075), was funded through a grant awarded by the Department of Education's Preparing Tomorrow's Teachers to Use Technology (PT3) Program.
The PT3 Program provides grants to consortia that are helping future teachers become proficient in the use of modern learning technologies. The purposes of the program are: (1) to prepare prospective teachers to use advanced technology to prepare all students to meet challenging State and local academic content and student academic achievement standards; and (2) to improve the ability of institutions of higher education to carry out such programs.

Purdue University received one of the PT3 implementation grants in 2000 and the grant came to an official end in May 2004 after a one-year no-cost extension.

Purdue's P3T3 project was designed to address two main goals:

Goal #1: Faculty will teach pre-service teachers in technology-rich environments, using conceptual technologies (technologies for learning and thinking about complex systems), modeling approaches that future teachers should use to teach their K-12 students.

Goal #2: All teacher education majors will demonstrate fundamental technology competencies, using technology as a tool for teaching/learning, personal productivity, communication with faculty and peers, observation of diversity and exemplary practices, and reflection on practice and the role of technology in practice.

This evaluation provides data and information to determine the extent to which P3T3 was successful in completing the above goals.

EXECUTIVE SUMMARY

In summary the School of Education's P3T3 grant was very successful. Faculty and students alike began to use technology to observe, assess, present, teach, and a wide variety of other purposes. A number of changes occurred over the life of the grant.

Students began to maintain their work from each core class in an e-portfolio where they were able to demonstrate their abilities and advancements to their professors and other students if they chose. Many students were given the opportunity to work with K-12 children outside of the immediate Purdue area through live video streams. Students were learning in classrooms outfitted with the most recent technology and from professors who were trained in and used technology.

Faculties from the Schools of Education, Liberal Arts, and Science, among others were given numerous opportunities to attend workshops and presentations where they were shown how to use and incorporate a wide variety of technologies in their teaching, research, and personal lives. Technical support personnel were on hand to work with professors on a one-to-one basis as needed. Some of the School of Education professors were able to link with K-12 schools to show their students diverse classrooms and help teach their students how to work with them. Professors were able to observe their student teachers teaching live without sitting in the classroom. Professors were given the tools, knowledge and abilities to teach their students using current technology.

Survey data shows a significant increase in use and abilities of both students and faculty in word processing, spreadsheets, presentation software, digital cameras, video conferencing, and hand-held technology tools. Students and faculty alike found fewer barriers to integrating technology into their instructional programs. Faculty used more technology in their teaching and requirements for students.

Faculty impressions of their own proficiency in technology and their students remained stable. Faculty consistently rated their own abilities as proficient to intermediate while rating their students intermediate to introductory.

Students continued to rate faculty more proficient than themselves. However, over the life of the grant students significantly increased their own proficiencies in general computer knowledge, internet, e-mail, databases, presentation software, and overall. In addition they rated their professors as more proficient in general knowledge and the Internet.

The data collected over the life of the grant provides overwhelming support that P3T3 was successful in completing its goals and objectives.

METHODOLOGY

Data for the P3T3 grant was collected over the life of the grant through a multitude of surveys, interviews, document analysis, and e-portfolios. This report focuses primarily on the pre and post surveys.

Pre Survey

The first survey administered was the pre survey. This was given before the official grant work began in August 2000. The first survey was a paper survey. The survey was given to all faculty attending the fall school meeting (59 total) and teaching assistants (44 total).

In order to survey the students a stratified random sample of classes was chosen in September 2000. Afterwards the professors of those classes were asked to administer the survey over the next two weeks and return the completed surveys to the office. A total of 307 students completed the survey. Due to the time of year of the survey, when no freshmen are enrolled in Education classes, the survey did not have any freshmen respondents.

The initial survey contained sections on demographics, technology use and comfort, potential barriers, technology integration, field experiences, communication types, and instruction.

Self and Counterpart Technology Proficiency Assessment

The following year it was determined that the students and faculty should assess their own technology proficiency in nine areas and then assess their counterparts (students rated faculty, faculty rated students). This survey was a web-based survey. It was administered to faculty and students in the School of Education at Purdue in March 2002 and then again in March 2003. One survey was specific to faculty and another was specific to students. The faculty in the School of Education and affiliated faculty in the Schools of Science and Liberal Arts were e-mailed the URL of the survey and asked to respond to the survey before spring break. After a few reminders a total of 39 faculty members completed the survey in 2002 and 40 in 2003.

In order to survey the students a stratified random sample of 20 classes was selected. The instructors of those classes were asked to announce the survey and the survey's web address to their classes and encourage the students to respond to the survey. A total of 286 undergraduate students completed the survey in 2002 and 228 in 2003.

Post Survey

It was determined that the post survey should use a paper format to more closely resemble the pre survey. The post survey consisted of two parts. The first part was almost identical to the pre survey except for a few changes in technology types. In addition the self/counterpart technology proficiency assessment that had been administered over the past two years via the web was attached to the end of the paper survey.

Faculty were e-mailed and called and asked to fill out the survey. A total of 50 faculty members completed the survey.

In order to survey the students a stratified random sample of 20 classes was selected. The instructors of those classes were asked to administer the surveys prior to spring break in class and drop the completed surveys off at the office. A total of 455 undergraduate surveys were completed. The demographics were slightly off from the pre survey due to the time of year of survey administration. In the spring semester freshmen are involved in Education classes, so the post responses had a large percentage of freshmen responses and less senior responses, since many of the seniors were away from campus student teaching. Taking into account the time of year of the survey administration, beginning of the fall semester and end of the spring semester, the respondents can be compared. The pre survey sophomores are comparable to the post survey freshmen. The pre survey juniors are comparable to the post survey sophomores. The pre survey seniors are comparable to the post survey juniors.

Analysis

Descriptive statistics were collected from all surveys.

The post survey was compared internally for differences in responses by student year, completion of technology classes, and major using a level of significance of .05.

The post survey responses were compared to the pre survey responses and examined for significant differences in responses using a level of significance of .05.

Data and results can be found in the following sections of this report.

POST-SURVEY DEMOGRAPHICS

A total of 505 post surveys were returned from faculty and students. The break down of returns from each group is as follows:

- Faculty 10% (50)
- Students 90% (455)

Faculty

Rank

Assistant Professor	26% (13)
Associate Professor	36% (18)
Professor	30% (15)
Other	8% (4)

Years at Purdue

Less than 1	4% (2)
1-3	14% (7)
4-10	39% (19)
Over 10	43% (21)

Students

Student responses came from a majority of freshman, sophomores, and juniors. This fits with the time of year the survey was administered. Since it was in the middle of the spring semester freshman have enrolled in Education classes and most graduating seniors are in the field student teaching.

- Freshman 29% (132)
- Sophomores 37% (167)
- Juniors 24% (108)
- Seniors 7% (30)
- Other 4% (17)

Majors in Teaching

Elementary	33%	Agriculture Science	4%	Health/Safety	1%
Mathematics	12%	Special Education	4%	Consumer Sci	1%
English	11%	Visual Sci.	4%	Early Childhood	1%
Social Studies	9%	Foreign Lang.	3%		
Physical Ed	5%	Chemistry	2%		
Tech Ed.	5%	Biology	2%		

General Science, Physics, Speech Communications, and Vocational each had less than 1%.

3% of the students checked **Other** for their major, with the majority of those nondegree students.

POST SURVEY DESCRIPTIVE STATISTICS

USE OF COMPUTER TOOLS/APPLICATIONS:

The tools/applications where the majority checked ***used frequently or regularly*** are:

STUDENTS	FACULTY
1. Word Processing (100%)	1. Word Processing (98%)
2. E-Mail (97%)	2. Web Browser (94%)
3. Web CT (96%)	3. E-Mail (94%)
4. Web Browser (95%)	4. Presentation Software (86%)
5. Presentation Software (74%)	5. Spreadsheet (70%)
6. Spreadsheet (67%)	6. Digital Camera/Scanner (66%)
7. Digital Camera/Scanner (58%)	7. Hand-Held Technology Tools (64%)
8. Hand-Held Technology Tools (56%)	8. Web CT (54%)

The top eight tools/applications ***not or barely used*** are:

STUDENTS	FACULTY/TAs
1. Conceptual Visualization Software (95%)	1. Desktop Multimedia Development Software (90%)
2. Video Conferencing (92%)	2. Conceptual Visualization Software (90%)
3. Desktop Multimedia Development Software (90%)	3. Content-Specific Instructional Software (82%)
4. Content-Specific Instructional Software (86%)	4. Database (74%)
5. Video Digitizer/Digital Video Equipment (84%)	5. Computer-Based Reference Software (66%)
6. Web Page Development Software (80%)	6. Video Digitizer/Digital Video Equipment (66%)
7. Database (71%)	7. Graphics Software (60%)
8. Computer-Based Reference Software (67%)	8. Video Conferencing (54%)

TECHNOLOGY ACTIVITY

The top five activities that ***"I do this, or this is easy for me"*** are:

STUDENTS	FACULTY
1. Word Processing (97%)	1. Word Processing (100%)
2. E-Mail (95%)	2. Operate a Computer (98%)
3. Web Browser (92%)	3. Web Browser (94%)
4. Operate a Computer (90%)	4. E-Mail (92%)
5. Presentation Software (70%)	5. Presentation Software (84%)

The top five activities that ***"I can not do or have not done"*** are:

STUDENTS	FACULTY
1. Conceptual Visualization Software (89%)	1. Conceptual Visualization Software (86%)
2. Video Conferencing (82%)	2. Desktop Multimedia Development Software (76%)
3. Desktop Multimedia Development Software (77%)	3. Content-Specific Software (74%)
4. Content-Specific Software (73%)	4. Video Digitizer/Digital Video Equipment (60%)
5. Video Digitizer/Digital Video Equipment (70%)	5. Video Conferencing (50%)

SUPPORT: Those who have provided support in integrating technology into students' work.

STUDENTS	FACULTY
1 Education TAs (69%)	1. Technology Support Staff in SOE (92%)
2 Faculty in the School of Education (63%)	2. Faculty in SOE (61%)
3. Other Faculty at Purdue University (40%)	3. Students (33%)
4. TAs in Other Courses (38%)	4. Other Faculty at Purdue (27%)
5. Purdue Lab Personnel (33%)	
6. Technology Support Staff in the School of Education (14%)	

BARRIERS

Major or Minor Barriers to Integrating Technology

STUDENTS	FACULTY
1. Lack of adequate technical support for technological projects (53%)	1. Students do not have access to necessary technology at home (63%)
2. Do not have access to necessary technology at home (51%)	

Not a Barrier to Integrating Technology

STUDENTS	FACULTY
1. Not enough or not the right computer software on campus (63%)	1. Students do not have enough or have limited access to technology on campus (84%)
2. Do not have enough or have limited access to technology on campus (61%)	2. Technology integration is not a school priority (82%)
3. Faculty does not integrate technology into curriculum. (59%)	3. Not enough training opportunities (77%)
4. Not enough computers on campus (56%) 4. No availability of technology-rich classrooms (56%)	4. I don't have access to the necessary technology at home. (67%)
6. Do not have the access to the necessary technology at home. (49%)	5. Not enough computers (64%)

FIELD EXPERIENCES

- 89% of responding students have been involved in a ***field experience and/or student teaching.***

The top five types of technology students experienced in the field were:

1. Word Processing (57%)
2. E-Mail (51%)
3. Web Browser (33%)
4. Presentation Software (25%)
5. Spreadsheet (20%)

The types of technology that less than 10% of the students experienced in the field were:

1. Desktop Multimedia Development Software (1%)
2. Conceptual Visualization Software (1%)
3. Web Page Development Software (2%)
4. Video Digitizer (4%)
5. Video Conferencing (4%)
6. Content-Specific Instructional Software (6%)
7. Computer-Based Reference Software (6%)
8. Graphics Software (7%)
9. Database (8%)

- 49% of students participating in field experience/student teaching indicated they had ***limited to no access to diverse populations***.
- 67% of all responding students said ***many, most or all of their courses used online resources.***

INSTRUCTION

- 70% of students checked they have been taught how to ***plan and design a learning experience involving technology.***
- 70% have been taught how to ***implement methods and strategies involving technology to help students learn.***
- 69% have been taught how to ***use technology for assessment and evaluation.***
- 64% have been taught how to ***understand social, ethical, legal, and human issues surrounding the use of technology.***

FACULTY

- **TEACHING PRACTICES**
  Most faculty indicated that ***the use of technology*** has not changed ***instructional practices.*** Some went on to say that technology would not change practices. One person stated, "Teaching practices focus on inquiry, discussion, and social learning. Technology (computer software) impacts this very little".

- **ETHICAL ISSUES**
  The faculty was divided on their knowledge of ethical issues concerned with technology.
  41% of the faculty ***is aware of only a few issues.***
  40% ***have a firm grasp on the issues and can speak to a variety of the issues.***

- **TECHNICAL SUPPORT**
  Most faculty (96%) indicated that technical support is available within one day.

- **TRAINING**
  - 65% of faculty used the ***Technical Support Staff*** for training the past academic year.
  - 59% used ***Self Study.***
  - 51% checked that they relied on ***Peer Assistance***.
  - Only **35% claimed to have used *P3T3 Training* over the past academic year.**

- **FACULTY DEVELOPMENT**
  - 34% of the faculty checked that there are only a ***few workshops available. Limited content integration. No training incentives.***
  - 34% said there are ***many workshops. Content focused. Training incentives.***
  - 21% said ***multiple forms of training available. Mentoring, peer, or student assistance. Integrated with goals. Generous training incentives.***
  - 11% said ***formal and informal training and mentoring available to all faculty with incentives for application in teaching and research.***

- **ONLINE RESOURCES**
  Online resources are used ***frequently or regularly*** by 89% of the responding faculty.

- **COMMUNICATION TECHNOLOGY**
  98% of participating faculty use e-mail to communicate with students. 54% use Web CT, 48% use the Web, 42% use a List Serve, and only 29% use a Discussion Group.

- **INSTRUCTION**

  Yes, Use Technology Occasionally or Frequently
  - 89% of responding faculty used technology for personal productivity and professional enhancement.
  - 85% required students to use the Web to conduct research.
  - 75% implemented methods and strategies involving technology to help students learn.
  - 73% required students to use presentation software and multi-media.
  - 71% used presentation software and multi-media.
  - 69% used the Web as an online resource for syllabi, lesson plans, and course material.
  - 69% planned and designed learning experiences involving technology.
  - 63% used technology for assessment and evaluation.

  No, Do Not Use Technology
  - 83% of responding faculty **did not** use asynchronous, editable learning modules or learning objects.
  - 75% **did not** use video for preservice students to observe K-12 teachers modeling integration of technology in classroom instruction.

Technology Proficiency Assessment

Students and faculty were asked to rate their own proficiencies and each other's proficiencies in the following areas: general computer knowledge and skills, internet, e-mail, word processing, databases, spreadsheets, presentation software, instructional technology knowledge and use, and overall. For each technology they were able to rate themselves and then faculty rated their students and students rated their professors on an introductory, intermediate, or proficient level.

Students rated their proficiencies equal to or below those of their faculty.
Faculty continually rated themselves as much higher than their students and they rated their students as much lower than students rated themselves. The table shows the majority rating for each proficiency and group. The ratings that appear inconsistent are in italics.

General Computer Knowledge and Skills	Students rated themselves **Proficient**	65%
	Faculty Rated Students **Proficient**	41%
	Students Rated Faculty **Proficient**	64%
	Faculty Rated themselves **Proficient**	78%
Internet	Students rated themselves **Proficient**	67%
	Faculty Rated Students **Proficient**	48%
	Students Rated Faculty **Proficient**	62%
	Faculty Rated themselves **Proficient**	74%
Email	Students rated themselves **Proficient**	77%
	Faculty Rated Students **Proficient**	74%
	Students Rated Faculty **Proficient**	77%
	Faculty Rated themselves **Proficient**	90%
Word Processing	Students rated themselves **Proficient**	65%
	Faculty Rated Students **Proficient**	41%
	Students Rated Faculty **Proficient**	64%
	Faculty Rated themselves **Proficient**	78%
Databases	Students rated themselves ***Intermediate***	35%
	Faculty Rated Students ***Introductory***	59%
	Students Rated Faculty **Proficient**	50%
	Faculty Rated themselves ***Introductory***	53%
Spreadsheets	Students rated themselves ***Intermediate***	43%
	Faculty Rated Students ***Introductory***	49%
	Students Rated Faculty **Proficient**	54%
	Faculty Rated themselves **Proficient**	42%

Presentation Software	Students rated themselves **Proficient**	58%
	Faculty Rated Students ***Intermediate***	43%
	Students Rated Faculty **Proficient**	71%
	Faculty Rated themselves **Proficient**	45%
Instructional Technology Knowledge and use	Students rated themselves ***Intermediate***	42%
	Faculty Rated Students ***Introductory***	51%
	Students Rated Faculty **Proficient**	54%
	Faculty Rated themselves **Proficient**	37%
Overall	Students rated themselves ***Intermediate***	50%
	Faculty Rated Students ***Intermediate***	55%
	Students Rated Faculty **Proficient**	60%
	Faculty Rated themselves ***Proficient and Intermediate***	47% 47%

Post Survey Comparisons

No significant differences were found in responses by student class year, completion of EDCI270/271, or by Major.

PRE VS. POST SURVEY COMPARISONS

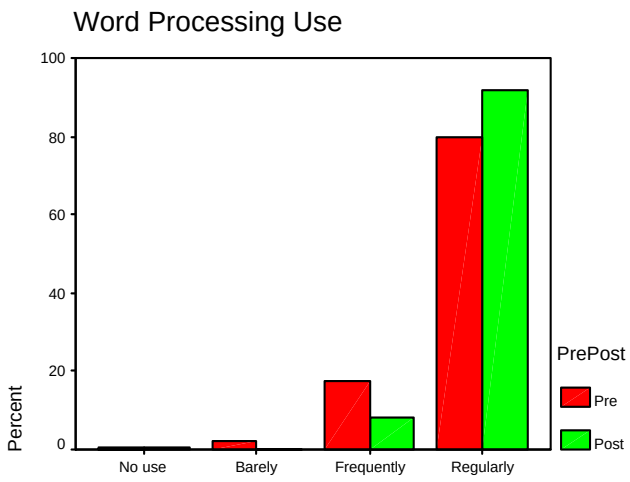
In order to determine if behaviors and attitudes have changed over the past four years pre and post survey results were compared.

STUDENT COMPARISONS

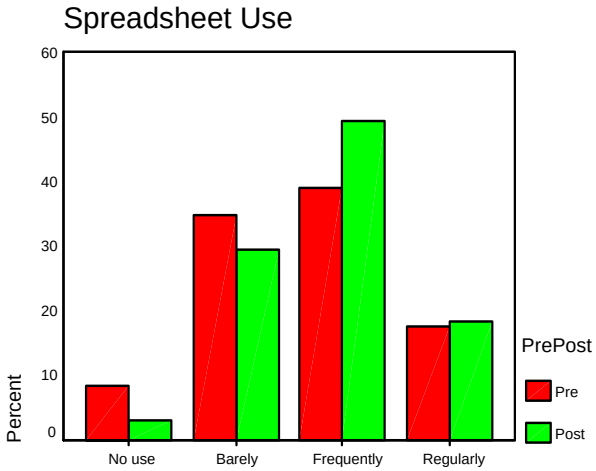
There were a number of significant differences found in student responses from the pre survey to the post survey.

<u>Use of Computer Tools/Applications</u>

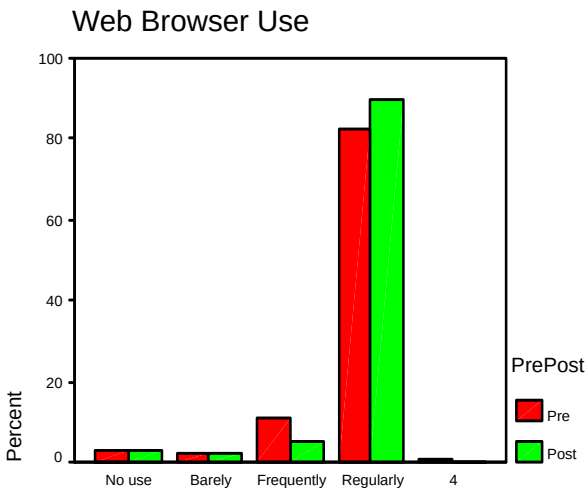
- Student Use of Word Processing Increased.
- Student Use of Spreadsheets Increased.
- Student Use of Web Brower Increased.
- Student Use of E-Mail Increased.
- Student Use of Presentation Software Increased.
- Student Use of Digital Cameras Increased.
- Student Use of Hand-Held Technology Tools Increased.



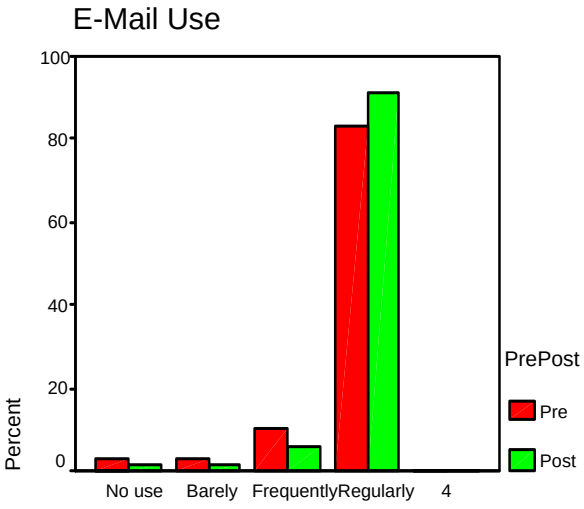
Word Processing 4a



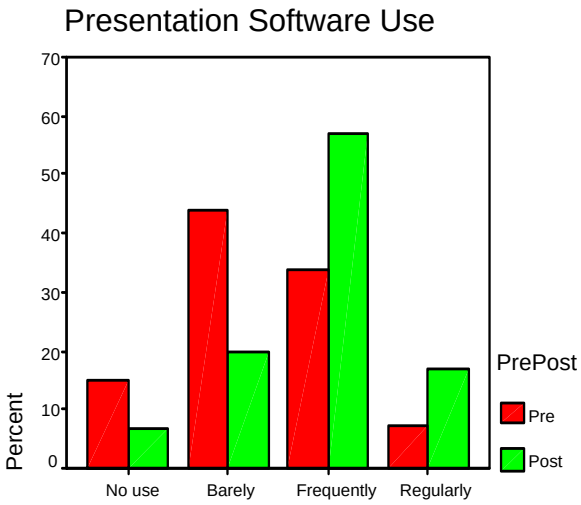
Spreadsheet 4c



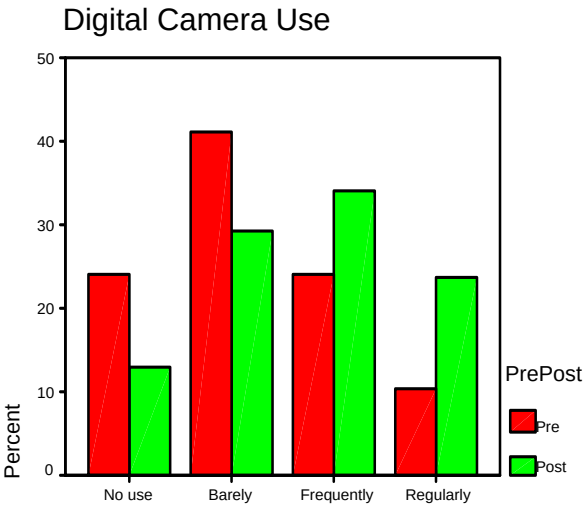
Web Browser 4e



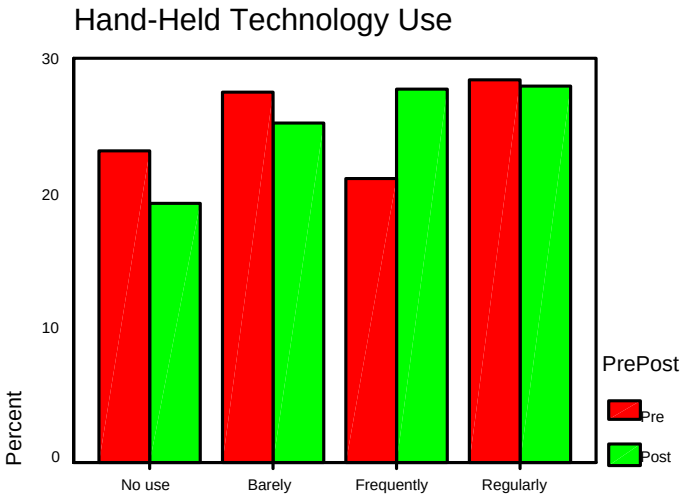
E-Mail 4f



Presentation Software 4g



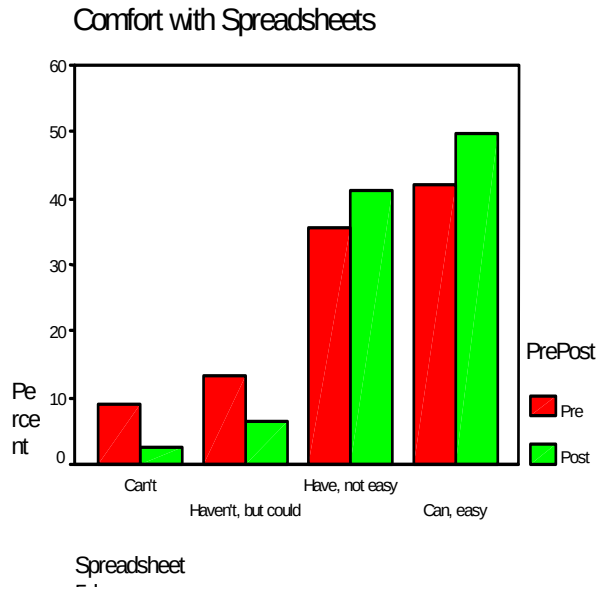
Digital Camera 4m



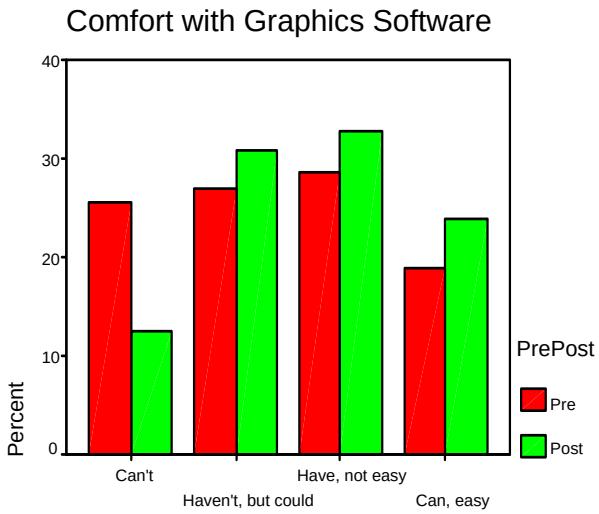
Hand-Held Tech 4p

Technology Activity

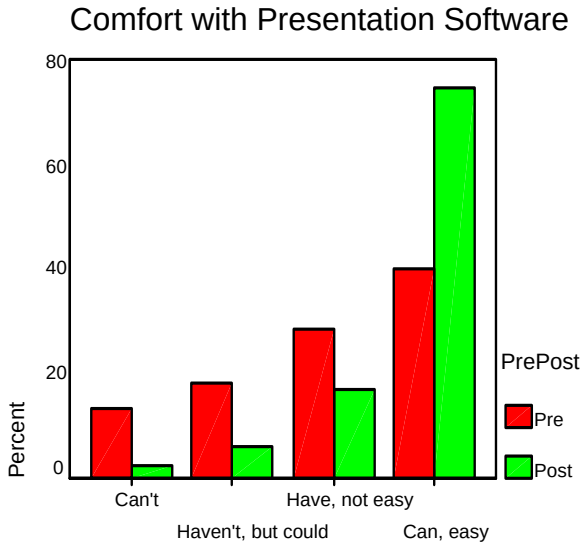
- Student comfort level with Spreadsheets Increased.
- Student comfort level with Graphics Software Increased.
- Student comfort level with presentation software Increased.
- Student comfort level with Desktop Multimedia Software ***Decreased***.
- Student comfort level with Digital Cameras Increased.
- Student comfort level with Hand-Held Technology Tools Increased.



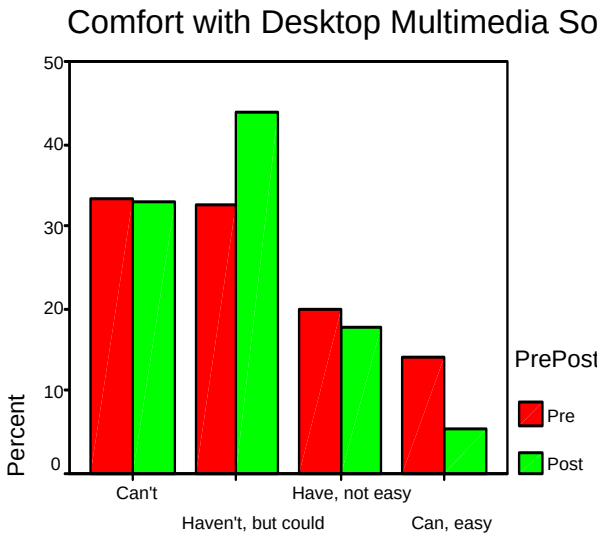
Spreadsheet



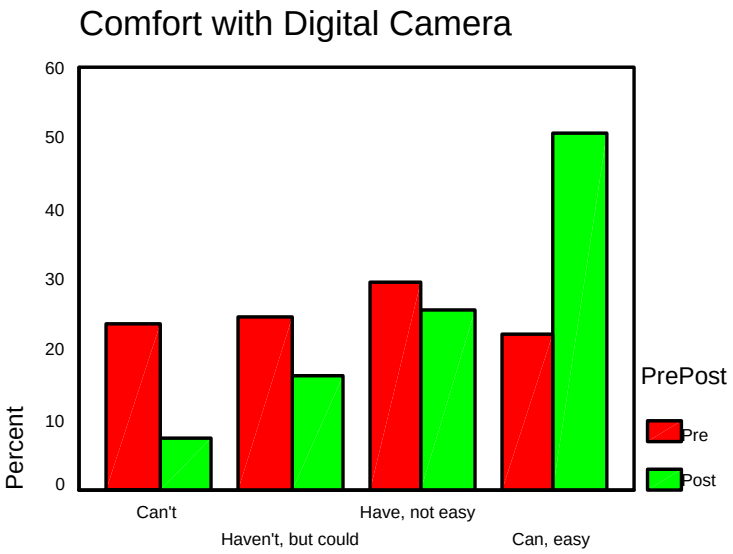
Graphics Software 5e



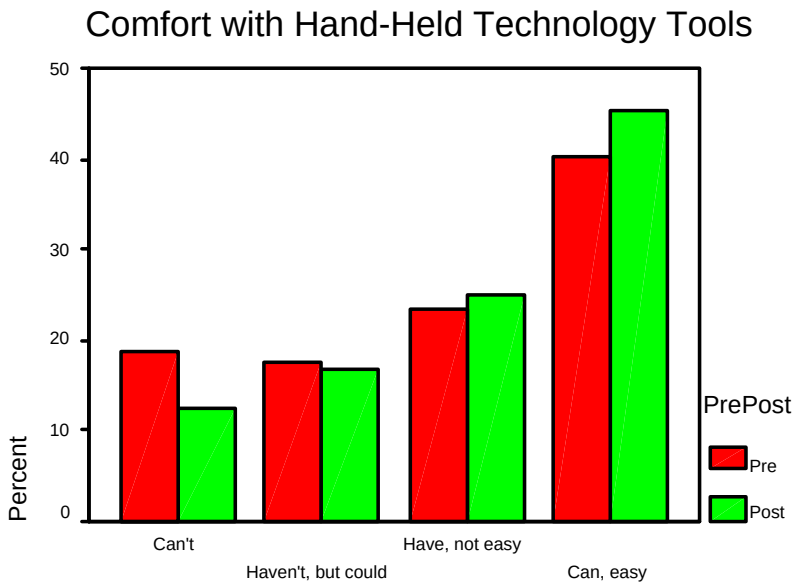
Presentation Software 5h



Desktop Multimedia 5i



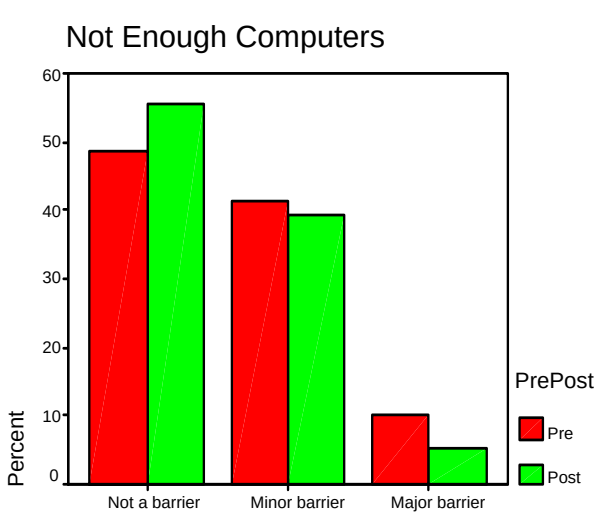
Digital Camera 5n

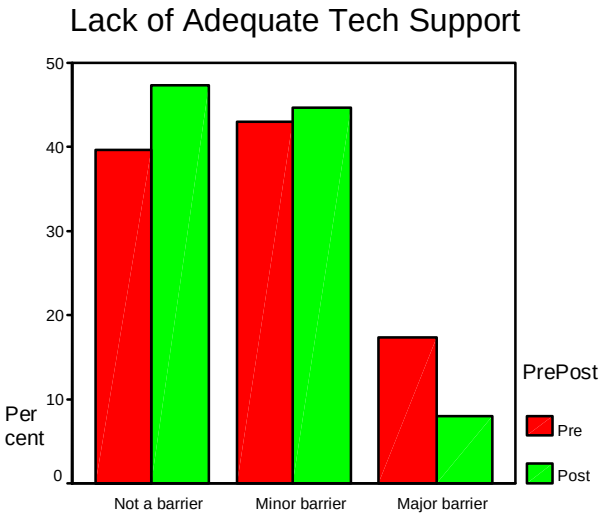


Hand-Held Tech 5q

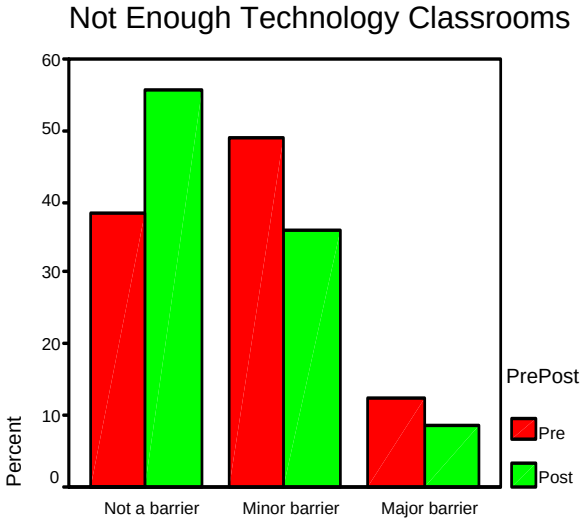
Barriers

- Significantly more students rated Not Enough Computers as Not a Barrier in the post survey.
- Significantly more students rated Lack of Adequate Technical Support as Not a Barrier in the post survey.
- Significantly more students rated Not Enough Technology-Rich Classrooms as Not a Barrier in the post survey.
- Significantly more students rated No Access to the Necessary Technology at Home as Not a Barrier in the post survey.

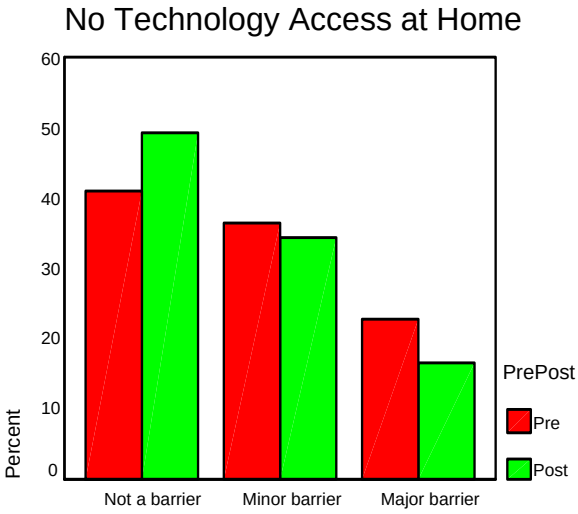




Not enough computers 8a



Lack of tech classes 8h



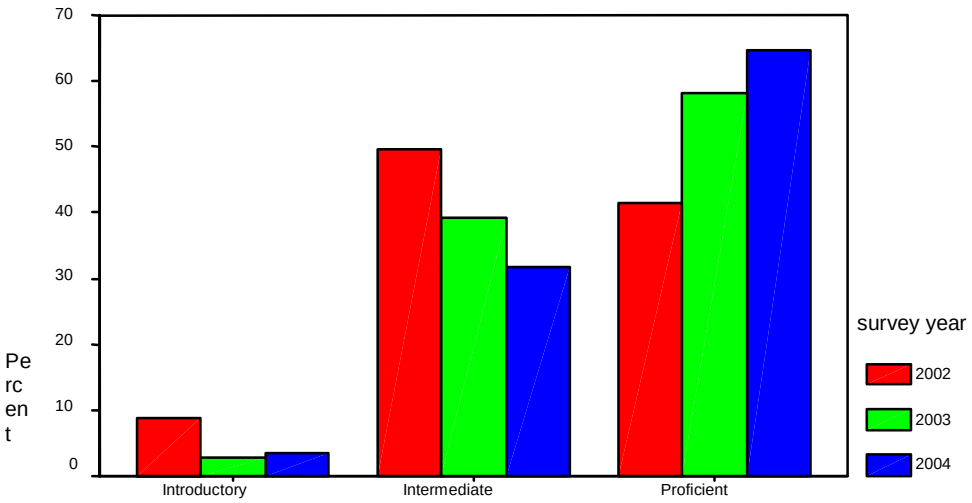
No home access 8j

Self and Professor Technology Proficiency Assessment

Data for this section of the survey was taken for three consecutive years (2002, 2003, and 2004). As a result data analysis determined if there was a significant difference through the years and between which years.

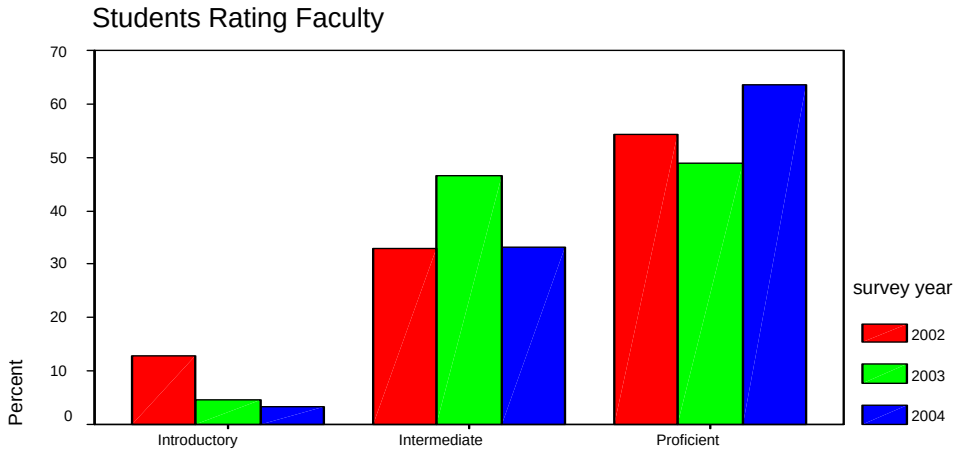
General Computer Knowledge and Skills.

- Students in 2002 rated themselves as significantly lower than did students in 2003.
- Students in 2002 rated themselves as significantly lower than did students in 2004.



STUD6

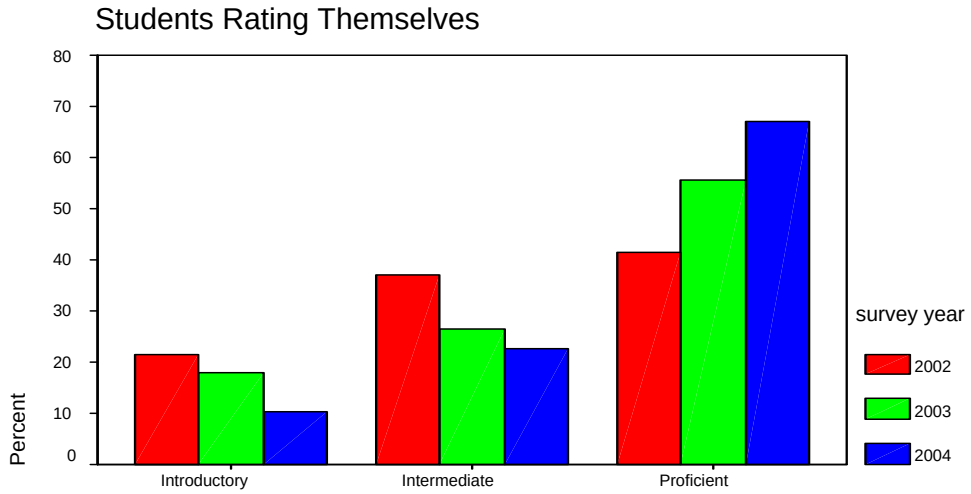
- Students in 2002 rated faculty as significantly lower than did students in 2004.
- Students in 2003 rated faculty as significantly lower than did students in 2004.



STUDFAC6

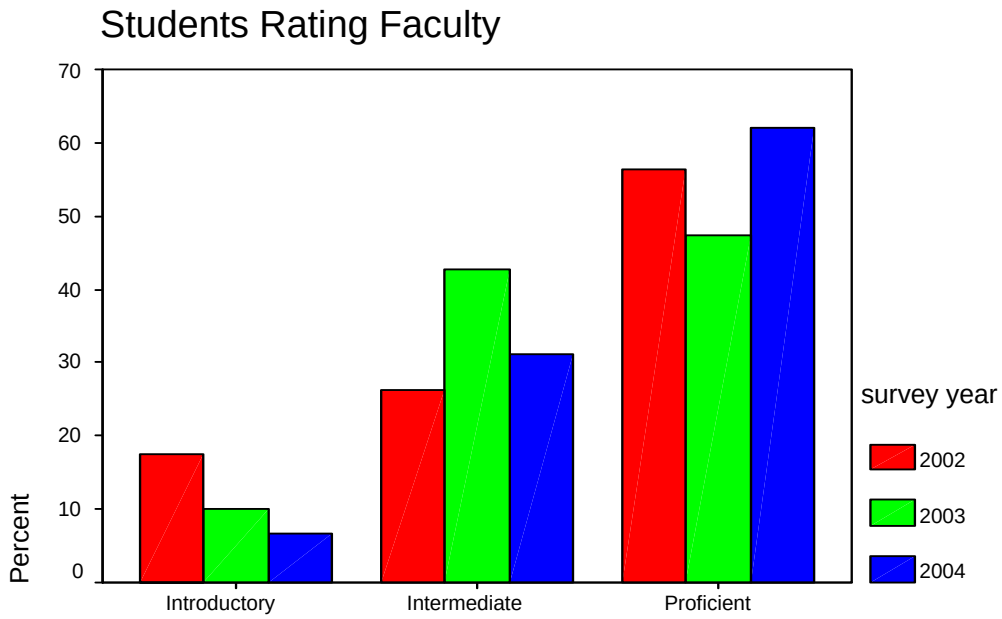
Internet

- Students in 2002 rated themselves as significantly lower than did students in 2003.
- Students in 2002 rated themselves as significantly lower than did students in 2004.
- Students in 2003 rated themselves as significantly lower than did students in 2004.



STUD7

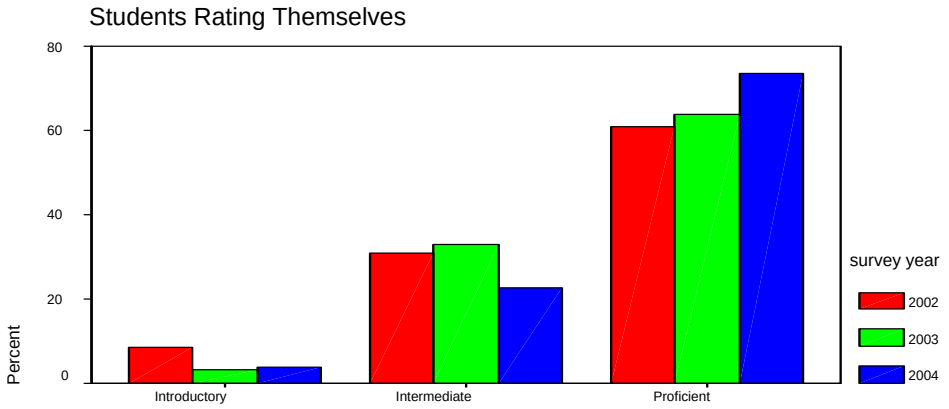
- Students in 2002 rated faculty as significantly lower than did students in 2004.
- Students in 2003 rated faculty as significantly lower than did students in 2004.



STUDFAC7

E-Mail

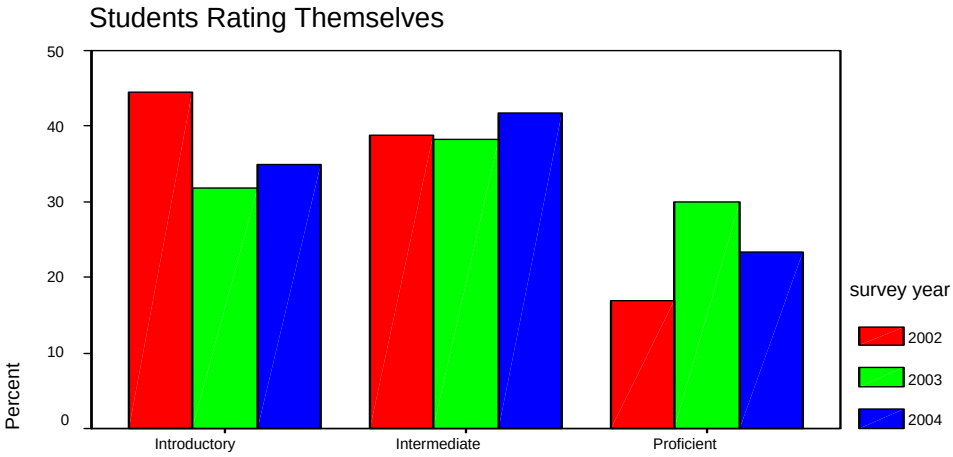
- Students in 2002 rated themselves as significantly lower than did students in 2004.



STUD8

Databases

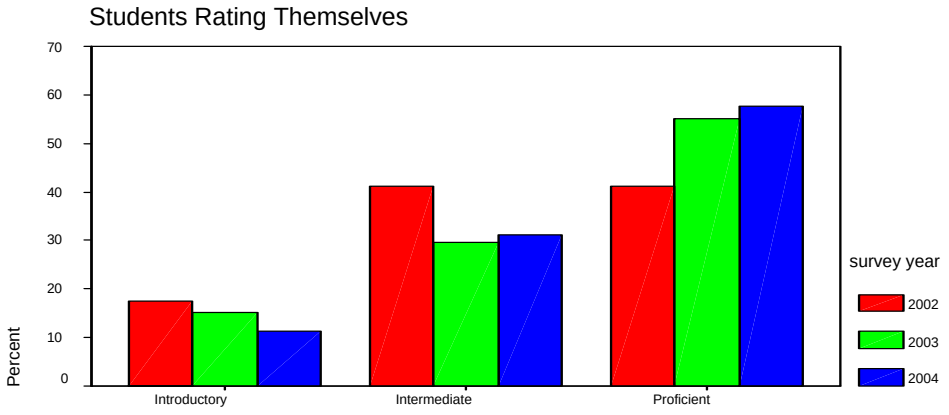
- Students in 2002 rated themselves as significantly lower than did students in 2003.
- Students in 2002 rated themselves as significantly lower than did students in 2004.



STUD10

Presentation Software

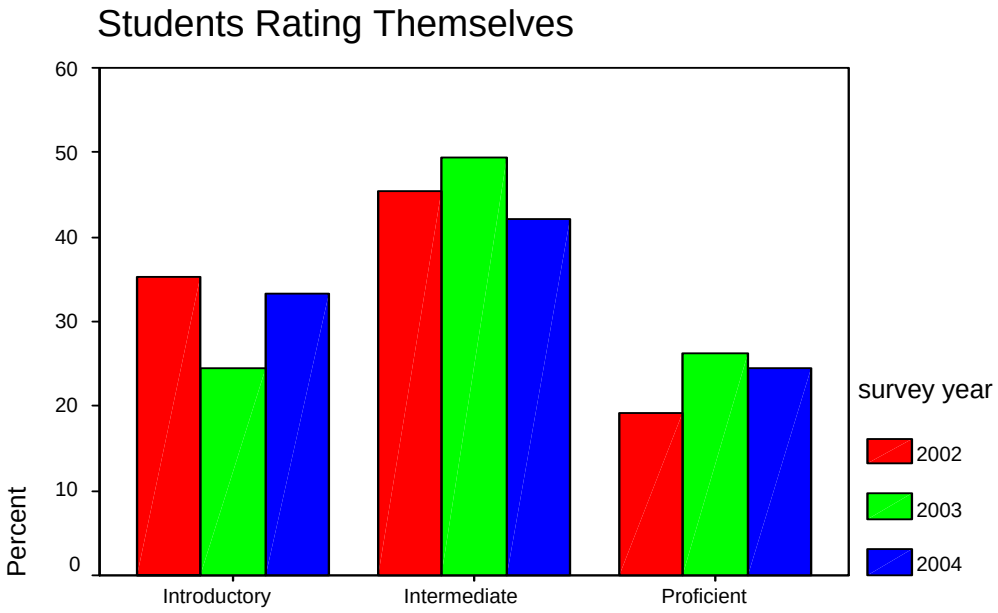
- Students in 2002 rated themselves as significantly lower than did students in 2003.
- Students in 2002 rated themselves as significantly lower than did students in 2004.



STUD12

Instructional Technology Knowledge and Use

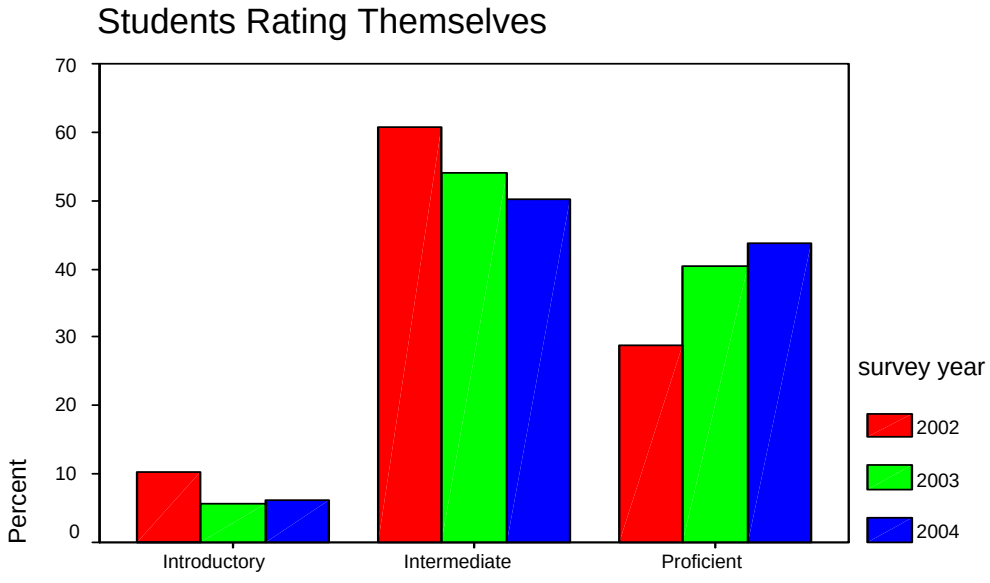
- Students in 2002 rated themselves as significantly lower than did students in 2003.



STUD13

Overall

- Students in 2002 rated themselves as significantly ***higher*** than did students in 2003.
- Students in 2003 rated themselves as significantly lower than did students in 2004.

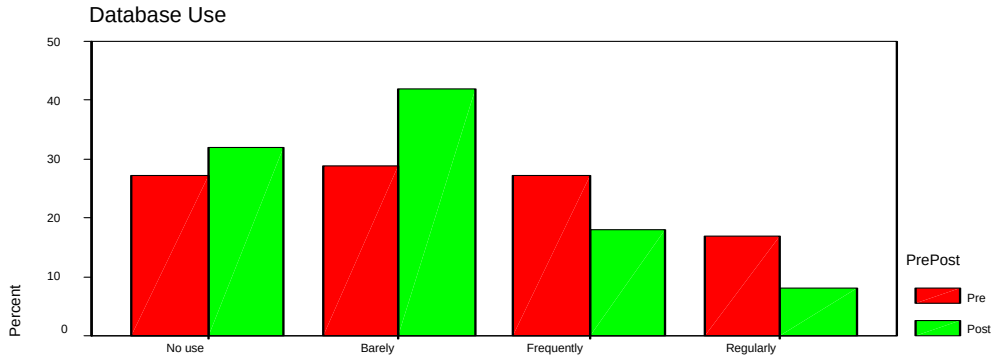


STUD14

FACULTY COMPARISONS

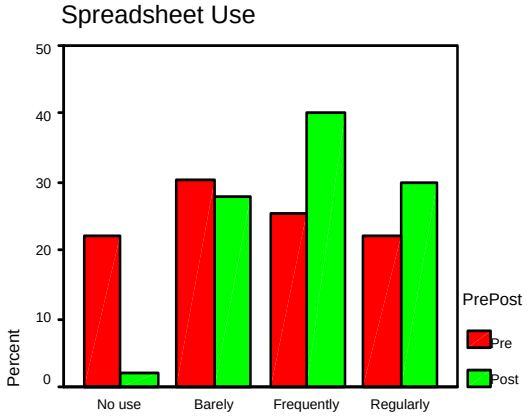
Use of Computer Tools/Applications

- Faculty Use of Databases ***Decreased.***

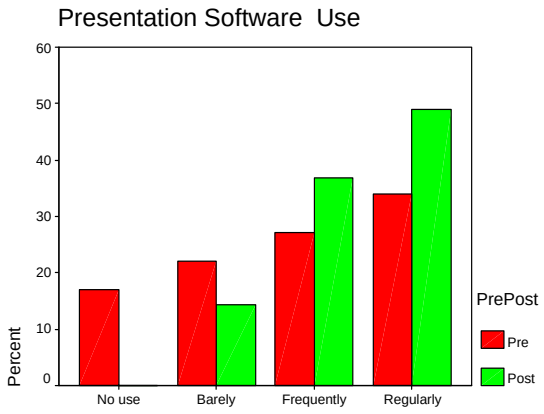


Database 4b

- Faculty Use of Spreadsheets Increased.
- Faculty Use of Presentation Software Increased.

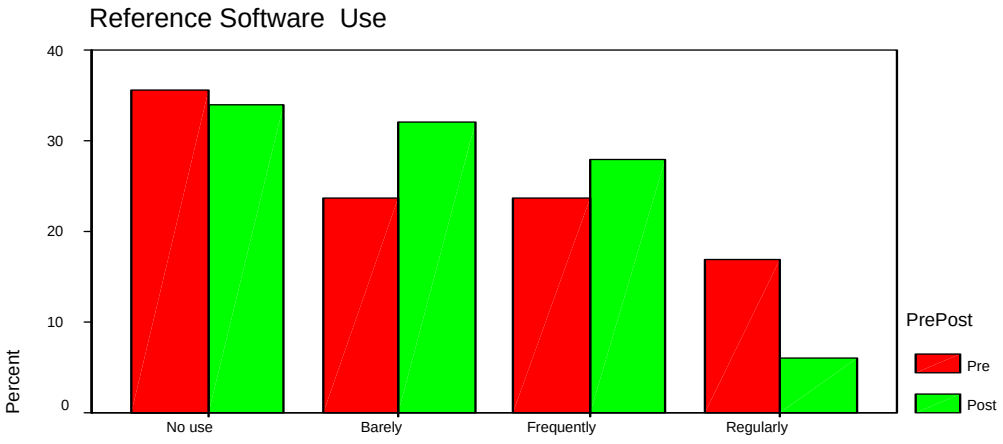


Spreadsheet 4c



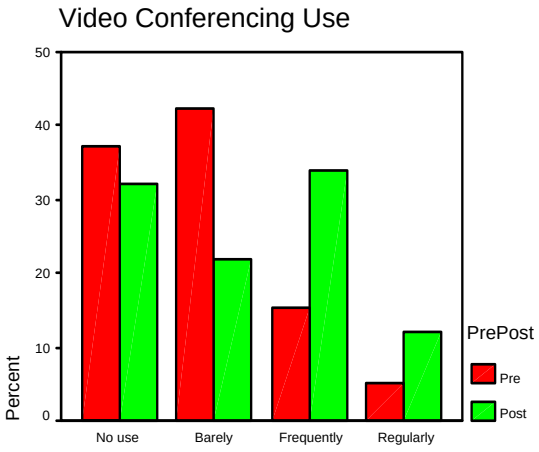
Presentation Software 4g

- Faculty Use of Computer-Based Reference Software ***Decreased.***

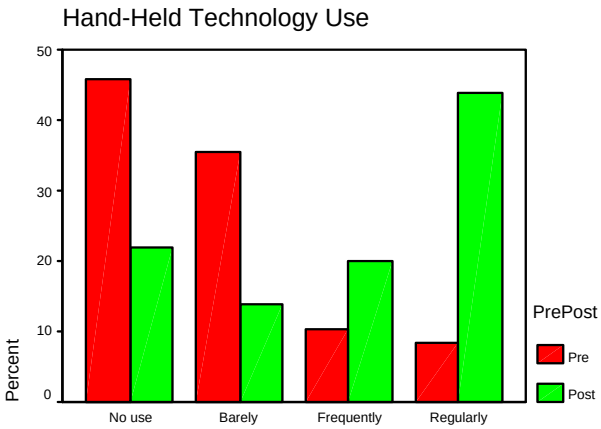


Reference Software 4l

- Faculty Use of Video Conferencing Increased.
- Faculty Use of Hand-Held Technology Tools Increased.



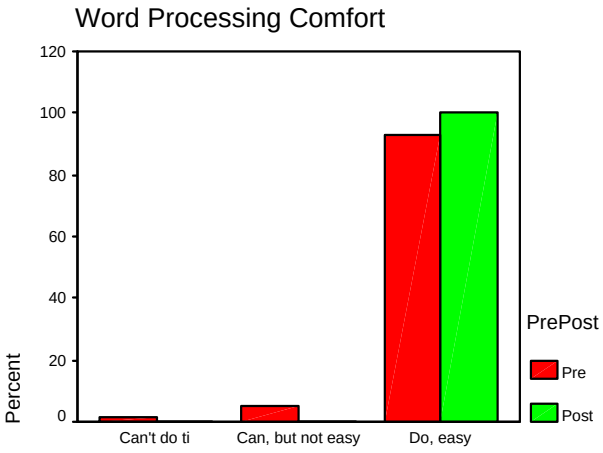
Video Conferencing 4o



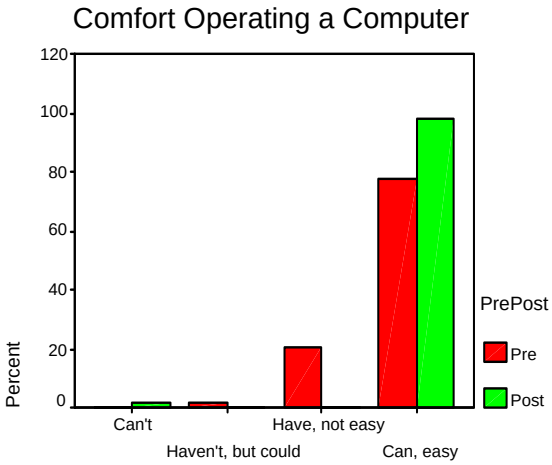
Hand-Held Tech 4p

Technology Activity

- Faculty Comfort Level with Word Processing Increased.
- Faculty Comfort Level with Operating a Computer Increased.

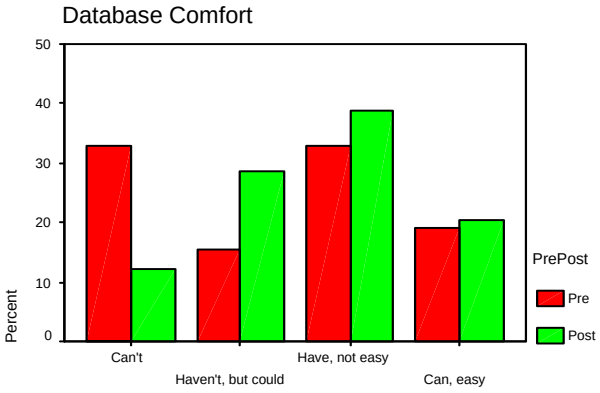


Word Processing 5a

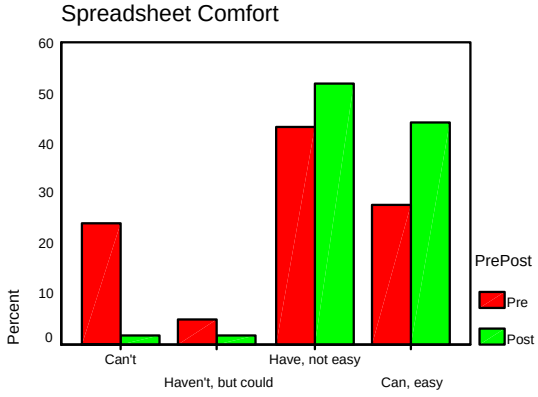


Operate a computer 5b

- Faculty Comfort Level with Databases Increased.
- Faculty Comfort Level with Spreadsheets Increased.

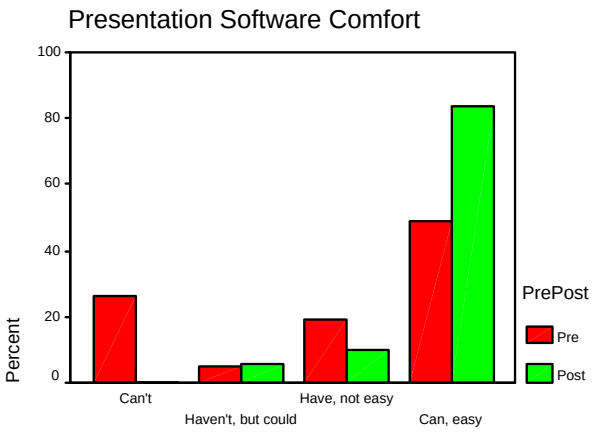


Database 5c

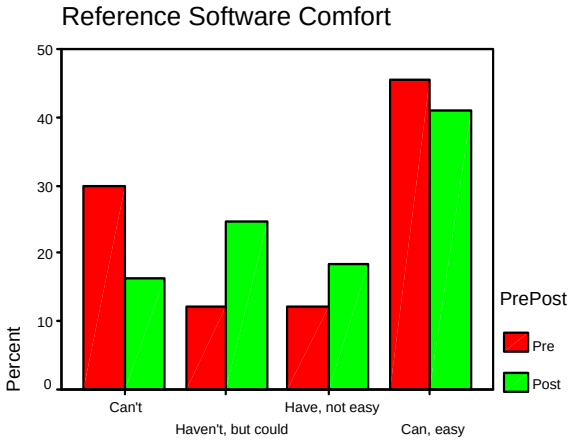


Spreadsheet 5d

- Faculty Comfort Level with Presentation Software Increased.
- Faculty Comfort Level with Computer-Based Reference Software Increased.

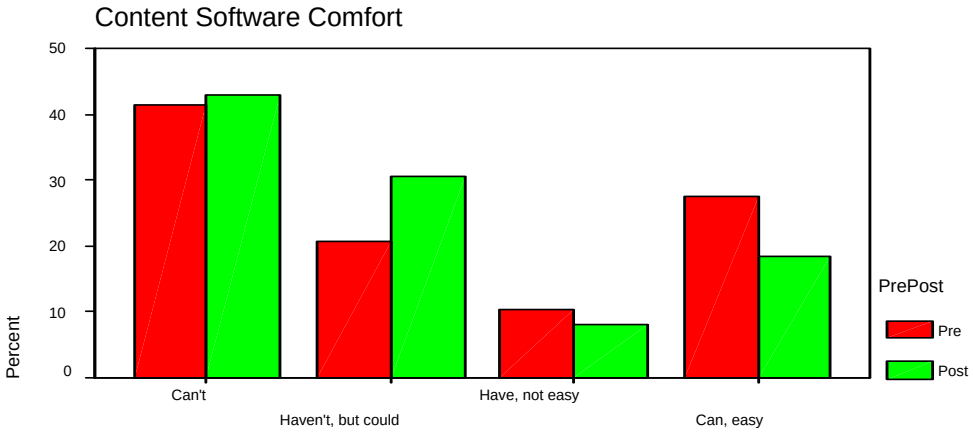


Presentation Software 5h



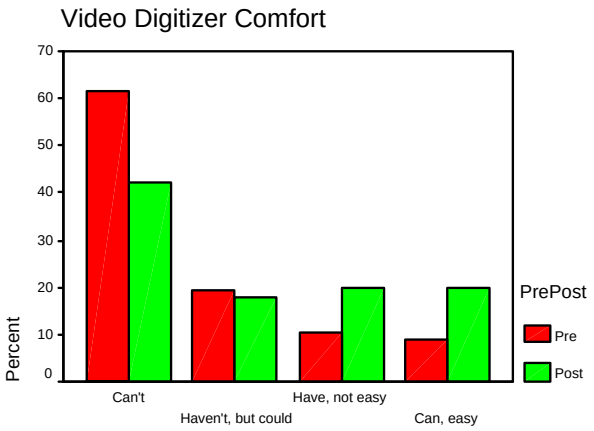
Reference Software 5m

- Faculty Comfort Level with Content Specific Instructional Software ***Decreased.***

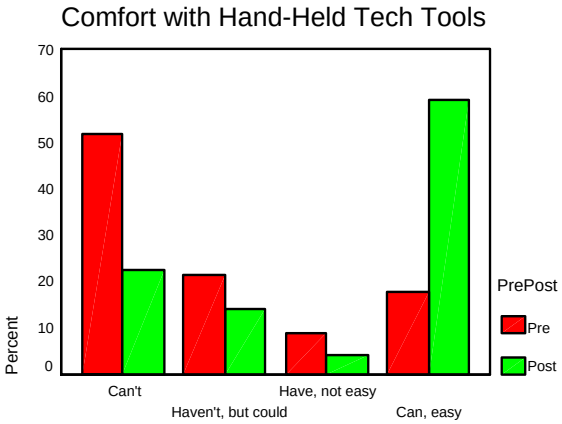


Content Specific Software 5l

- Faculty Comfort Level with Video Digitizer/Digital Video Equipment Increased.
- Faculty Comfort Level with Hand-Held Technology Tools Increased.



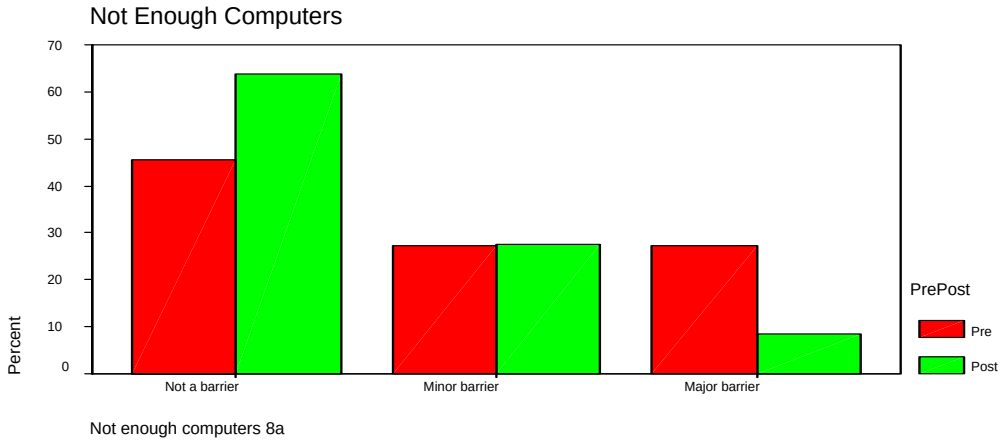
Video Digitizer



Hand-Held Tech 5q

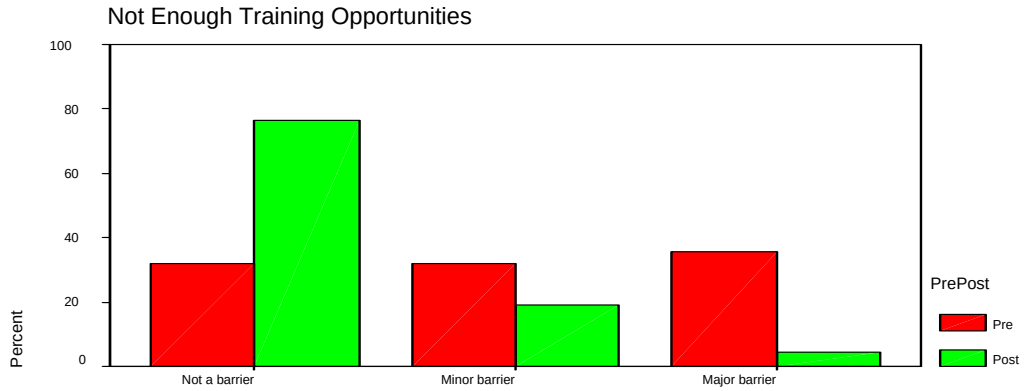
Barriers

Significantly more faculty members rated *Not Enough Computers* as Not a Barrier in the post survey.



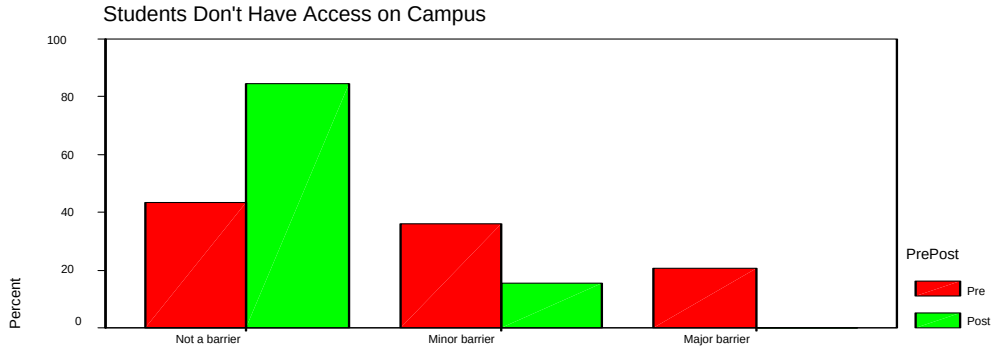
Not enough computers 8a

Significantly more faculty members rated *Not Enough Training Opportunities* as Not a Barrier in the post survey.



Not enough training 8d

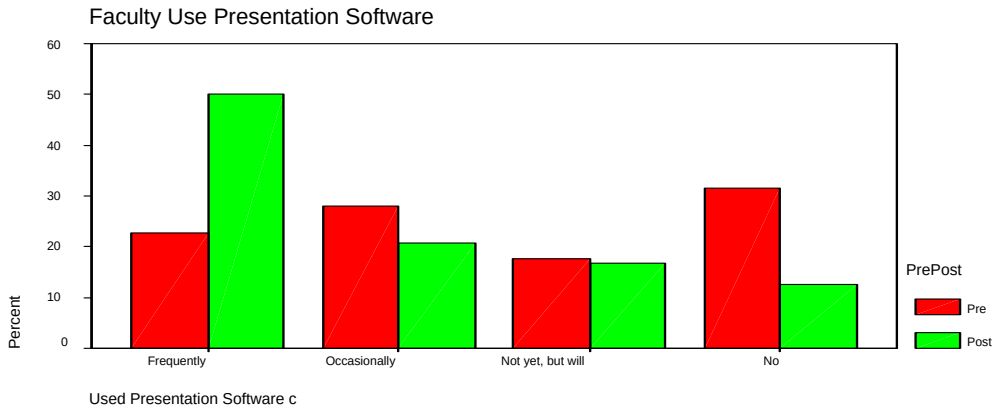
Significantly more faculty members rated *Students do not have Enough Access to Technology on Campus* as Not a Barrier in the post survey.



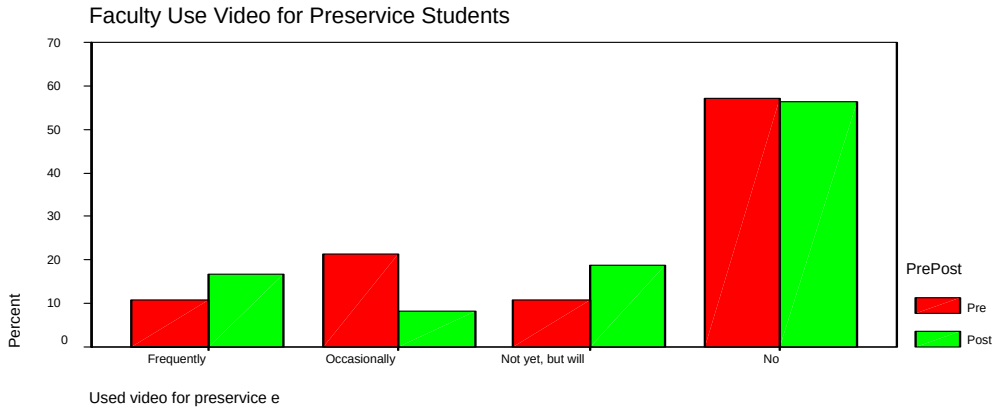
Low student access 8g

Instruction

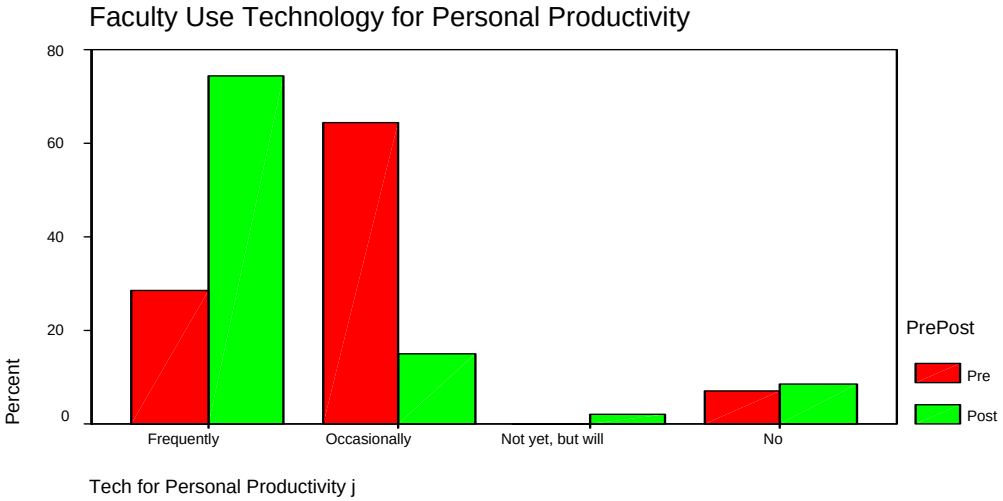
Significantly more faculty use *Presentation Software and Multi-Media to Develop Presentations and Demonstrations* in the post survey.



Significantly more faculty use *Used Video for Preservice Students to Observe K-12 Teachers* in the post survey.



Significantly more faculty use *Technology for Personal Productivity and Professional Enhancement* in the post survey.



P3T3 GOAL COMPLETION

Purdue's P3T3 project was designed to address two main goals:

Goal #1: Faculty will teach pre-service teachers in technology-rich environments, using conceptual technologies (technologies for learning and thinking about complex systems), modeling approaches that future teachers should use to teach their K-12 students.

Goal #2: All teacher education majors will demonstrate fundamental technology competencies, using technology as a tool for teaching/learning, personal productivity, communication with faculty and peers, observation of diversity and exemplary practices, and reflection on practice and the role of technology in practice.

The project established five objectives to meet goal #1 and four objectives to meet goal #2. These are each shown below:

Objective 1	All teacher education faculty, including graduate teaching assistants and key faculty in the Schools of Science and Liberal Arts, will meet or exceed all ISTE/NCATE foundations in technology competencies for teachers. (GPRA 1.1, 1.2, 1.4, 3.1)
Definition of Success	By the end of year 1 of the grant, 25% of faculty will have engaged in workshop and mentoring network. By the end of year 2, 60%. By the end of year 3, 100%.
Progress	Status: Accomplished. Four two-day start-up workshops were offered -- May 2002, June 2002, Aug 2002, and Oct 2002 -- bringing the project total to 9. A total of 67 Education faculty members (about 95% of the current total) have participated as well as 8 adjunct/visiting Education faculty members, 12 faculty members from Liberal Arts and Science, 4 other faculty members, and 15 teaching assistants. Since the beginning of the project, there have been over 800 technology workshop attendees. Attendees' ratings of the workshops are: 66% Great, 25% Good, 3% OK, 0% Fair, 0% Poor, and 6% No opinion. Techie Talks (short lunch time presentations on various technology topics and faculty success stories), which began during the 2001-2002 academic year, were continued in the 2002-2003 academic year. There were 7 Techie Talks offered in the fall of 2002 and 10 in the spring of 2003. Project staff continued to provide mentoring and support for participating faculty members. All participants in a P3T3 start-up workshop were assigned a staff graduate assistant to act as a liaison with the project and to provide one-on-one personal assistance. In addition, regular drop-in help time was available each week through the academic year. Every faculty member who was interested in receiving training or attending a

	workshop was given every opportunity to attend one. As far as abilities with technology, Students report that: • 96% of faculty are intermediate or proficient in overall technology proficiency. • A high percentage are at the intermediate or proficient level with regard to specific technologies such as General Computer Knowledge and Skills (97%), Internet (93%), Email (99%), Word processing (98%), and Presentation software (94%). Faculty self-report surveys found that: • 94% of faculty rated themselves as intermediate or proficient in overall technology proficiency. • A high percentage of faculty rated themselves intermediate to proficient with regard to specific technologies such as General Computer Knowledge and Skills (100%), Internet (90%), Email (100%), Word processing (100%), and Presentation software (80%) as well as Instructional technology knowledge and use (72%).

Objective 2	Technology will be meaningfully integrated into teacher preparation courses and key courses taken by pre-service teachers in the Schools of Science and Liberal Arts. (GPRA 1.1, 1.4, 3.1)
Definition of Success	By the end of year 1 of the grant, 25% of the courses will have integrated technology. By the end of year 2, 50%. By the end of year 3, 75%.
Progress	Status: Accomplished 100% of responding faculty claim to use technology in their classes. (Spring 2004 Post Survey) 85% of faculty report that they have refined the use of technology in their classes as a result of participation in the P3T3 project. (March 2003 Faculty Survey) Students report that 99% of their professors use technology in classes. (March 2003 Student Survey)

Objective 3	The School of Education at Purdue will meet or exceed all CEO Forum StaR Chart institutional standards at the Advanced Level.
Definition of Success	By the end of year 1 of the grant, the SOE will meet or exceed the Early Tech Standards of the StaR Chart. By the end of year 2, it will meet or exceed the Developing Tech Standards. By the end of year 3, the Advanced Tech Standards. (GPRA 1.2, 1.4)

Progress	Status: Partially Accomplished Several of the StaR Chart indicators at the Advanced Technology level have been achieved. A campus strategic plan, developed in 2001, clearly incorporates technology. The School of Education receives excellent funding support from the campus. Campus facilities are well equipped. Faculty use of technology is rewarded, and technology use is a priority in hiring. The program aligns with NCATE standards. Faculty development initiatives and technology support meet advanced levels. However, some of the advanced level indicators have not been met. Technology, while well supported in the past, has only partial line item budget support. Further, technology use, while encouraged, is not a required component of student teaching.

Objective 4	Sufficient technological support and resources will be available. (GPRA 1.4)
Definition of Success	A full-time technical curricular support person will be hired. Faculty and students will deem the access and adequacy of the hardware and software satisfactory.
Progress	Status: Accomplished A full-time technical curricular support person for the P3T3 project was hired in the fall of 2000. Within the SOE, approximately 4-5 FTE are dedicated to technology support. Faculty and students deem the access to and adequacy of hardware and software to be satisfactory. • 96% of the faculty report that technical support is available within 24 hours. (2004 Post Survey) • 92% of faculty has used technical support staff for training in the past year. (2004 Post Survey) • 83% of the faculty report the School of Education has sufficient facilities and hardware to allow them to use technology as they would like. (March 2003 Faculty Survey) • 90% of the faculty the SOE has sufficient software to allow them to use technology, as they would like. (March 2003 Faculty Survey) • 82% of the faculty report the SOE has sufficient technical support to allow them to use technology, as they would like. (March 2002 Faculty Survey) • 95% of the students say they have sufficient access to facilities, hardware, and software on the Purdue campus to support their technology needs. (March 2002 Student Survey)

Objective 5	Technology resources will be expanded through continual development of innovative school-based technology. (GPRA 1.4)
Definition of Success	By the end of year 1 of the grant, a mobile computer "lab" will be established. By the end of year 2, a flexible classroom space will be developed. By the end of year 3, at least one additional classroom will be converted to accommodate new student uses of technology.
Progress	Status: Accomplished A mobile "lab" of wireless laptop computers and a cart was acquired and deployed during year 1. Project partner Intel has donated additional laptops, as well as desktop machines for the School's Technology Resources Center. Faculty and students regularly use these machines. A new flexible classroom space was developed as part of the TCCT (Twenty-First Century Conceptual Tools) Center within the School of Education. Also, wiring within the building was upgraded to accommodate bandwidth intensive applications such as video conferencing.

Goal #2: Student Use of Technology

Objective 1	All graduating students will meet or exceed the ISTE/NCATE foundations in technology competencies for teachers by the end of the project. (GPRA 1.3, 2.1)
Definition of Success	By the end of year 2 of the grant, students will be competent in basic computer/technology operations and concepts. They will apply tools to enhance their own professional growth and productivity. Students will apply computer and related technologies to support instruction.
Progress	Status: Accomplished Students and faculty agree that student competency and use of technology is high. (2004 Post Survey, March 2003 Student Survey, March 2003 Faculty Survey) Faculty report that: • 95% of students are intermediate or proficient in General Computer Knowledge and Skills (2004 Post Survey) • A high percentage of students rate themselves at the intermediate or proficient level with regard to specific technologies such as Internet (96%), email (94%), word processing (91%), and presentation skills (75%). • 67% of students are at an intermediate or proficient level in their

	Instructional Technology Knowledge and Use. • Overall, faculty rated 84% of the students as intermediate or proficient. Students self-report surveys found that • 97% of students rated themselves as intermediate or proficient in General Computer Knowledge and Skills • A high percentage are at the intermediate or proficient level with regard to specific technologies such as Internet (90%), email (96%), word processing (98%), presentation software (89%), and spreadsheets (82%). • 67% of students ranked themselves intermediate or proficient in Instructional Technology Knowledge and Use • Overall, 94% of responding students rate their technology proficiency as intermediate to proficient.

Objective 2	The Purdue School of Education will create a model web-based infrastructure for portfolio creation, maintenance, flexible manipulation, and use in the teacher education programs. Throughout their program of study, students will construct, build upon, and use electronic portfolios as part of their preparation to become teachers. (GPRA 1.3, 1.4, 2.1)
Definition of Success	The web-based infrastructure will be complete by the end of year 1 of the grant. Upon completion of EDCI 270, all students will have begun a portfolio and will have met all criteria upon graduation. At checkpoints in unit assessment, students will evidence reflection on evolving teaching.
Progress	Status: Accomplished The web-based infrastructure was established at the end of year 1 and was piloted during the 2001-2002 academic year. All students in Block I, Block II, EDCI 270, and EDFA 200 are currently using the electronic portfolio system. It is now required for all students who entered teacher education after the fall of 2002.

Objective 3	In cooperation with partner K-12 schools, students' practical experiences will be enhanced through the capability to observe diverse school sites via electronic access. (GPRA 1.4, 3.2)
Definition of Success	By the end of year 1 of the grant, at least 1 diverse experience will be integrated into courses in blocks one and two. By the end of year 2, at least 1 additional experience in blocks three and four. By then end of year 3, at least 1 additional experience in blocks five and six.
Progress	Status: Accomplished

	Since year one of the grant, students in one section of a Block I course have participated in a virtual field experience using video conferencing to connect with diverse students in East Chicago. This experience continues and was expanded to 2 sections this year. Multiple additional experiences involving video conferencing linkages with partner schools in Crawfordsville, Lafayette, and Indianapolis have been implemented including experiences in Block V and the secondary equivalent of Block IV.

Objective 4	In cooperation with partner K-12 schools, students' practical experiences will be enhanced through the capability to observe sites featuring technology-proficient in-service teachers and communication among students, faculty, and K-12 partners will be enhanced by using technology (two-way interactive video, multimedia cases, and the Internet). (GPRA 1.1, 1.2, 3.2)
Definition of Success	By the end of year 1 of the grant, a web-based community linking all consortium partners and all teacher education students will be established. By the end of the project, desktop video conferencing will be piloted with at least three school sites involving teachers and university supervisors.
Progress	Status: Partially Accomplished Roughly four to five classes each semester have participated in two-way video conferencing since the inception of the grant. A web-based community linking all consortium partners and teacher education students was not established.