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CITES



CITES Classroom Technologies

2007 Instructor Survey

Overview of Results

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2007 Instructor Survey Report

Executive Summary

- 316 faculty and staff responded to the survey, resulting in a 30% response rate.
- 90% of the instructors who responded report that the ITS classrooms are “very important” or “important” to their teaching. This percentage has been steady for the last four years, although “very important” has shown a slight decline.
 - When asked about the benefits of having the technology in the classroom, the most commonly coded theme was, “Can use multimedia easily during lecture” (83 responses), and the second most common response was the theme, “Can use PowerPoint during lectures” (70 responses).
 - In the final open-ended question at the end of the survey, where respondents were free to write their own comments, either positive or negative, the leading number of comments (11 responses) offered compliments and appreciation for the technology and services. The second most popular (8 responses) were complaints about having to bring a laptop to rooms without a resident computer.
 - 87% of respondents say they use the ITS equipment either every session they teach or once a week. This was a slight decrease from the year before. Only 2% of respondents claim they never use the ITS equipment.
- Use of the resident Windows PC stayed at nearly the same level as last year. The number of instructors who say they use a laptop in class at least once a week or more also stayed relatively level at 57%.
- The top software applications used by instructors in the classroom are all part of the basic installation package (e.g. PowerPoint, Internet Explorer). Of particular note—Internet Explorer, Microsoft Word and Adobe Acrobat are below PowerPoint as the most frequently used applications, all hovering around 48% usage. The browser, Firefox, jumped from 25% of users in 2006 to 41% this year.
- There has been a downward trend in the number of respondents who say they have been trained by CITES ClassTech coordinators, dropping from 92% in 2005 to 78% this year. This is in stark contrast to the overall number of training sessions conducted by ClassTech, which have steadily increased every year. The quality rating did rise from 49% indicating “excellent” a year ago to 53% this year. There has been only one “poor” customer service response in seven years of the survey, and that was given by an instructor in 2005.

- The use of the document camera continues to decline. 54% of respondents indicate they never use it, up from 34% the year before. Transparency projector and chalkboard usage stayed at a relatively constant level.
- 27% of respondents indicated that they never encountered an audiovisual problem that required the lecture or presentation to be cancelled or changed significantly. This is a slight increase from the previous year's survey. 4% indicated that they had a problem either once a week or every class session, a number that has remained fairly constant.
- Teaching assistants continue to be involved in the use of the ITS, as indicated by 24% of respondents. This is down from 35% in 2006. However, a significant number of calls we receive from the classroom are coming from teaching assistants.
- Based on comments made by respondents in the open-ended portion of the survey, CITES ClassTech needs to continue to upgrade classrooms into ITS classrooms. ClassTech also needs to repair or replace problematic or outdated equipment, and modify the process of acquiring access codes and using equipment, because the process is judged to be too complicated or too time-consuming.

Introduction

This is the seventh year our office has collected data on instructional use of audiovisual tools in classrooms. The results of the surveys have been used to make decisions about technological funding when questions were asked about priorities and allocations, as well as shaping policies around classroom use. The report has been used both internally as evidence to guide decision-making, and externally to assist the administration in prioritizing resources and understanding instructional needs. The focus of the surveys has always been the Integrated Teaching Systems (ITS) or “smart” classrooms. However, this is the second year two additional surveys have been used to gather information about the Language Video Cabinets on campus, and to gather information specifically from teaching assistants or graduate student instructors.

The ITS classrooms contain a collection of audiovisual tools for instructors to use in class presentations. As of May, 2007, 142 ITS classrooms have been remodeled with presentation systems. For a list of ITS installations that were in use at the time of the survey, see Appendix A.

In addition to installing and maintaining the systems in these rooms, CITES ClassTech also provides training and assistance for those who are utilizing the classroom technology. Faculty and staff who wish to use the ITS equipment may attend a hands-on training session that can be scheduled throughout the year, as well as workshops or drop-in sessions prior to the start of semesters. Typically all ITS equipment is secured with an alarm system or padlock and the code for each room is changed at the conclusion of each academic term. Instructors as general practice can receive the codes via e-mail upon request. Codes are sent within a few hours of their request. CITES ClassTech technicians can make adjustments and repairs to ITS equipment when identified.

Instructors may request the installation of particular software packages on ITS classroom computers. Although Microsoft Office Suite is installed by default on each system along with web browsers, basic applications, as well as many of the campus-licensed packages, instructors occasionally require additional programs for their course instruction. CITES ClassTech works with each instructor on an individual basis to ensure that these programs work correctly and do not inhibit the use of the ITS systems more generally.

Information about CITES ClassTech, ITS policies, guidelines, and services offered, as well as descriptions of each of the ITS classrooms, can be found on the CITES ClassTech website at www.cites.uiuc.edu/classtech. The website was significantly redesigned and improved in the summer of 2006, with a new layout and navigation, a new listing for classrooms, and new photos.

This report is comprised of the following nine sections:

- How This Survey Was Made and Who Responded
Survey construction details and demographic data on the faculty and staff who responded.
- Purpose and Utility of the Audiovisual Systems
Survey responses having to do with the ITS classrooms as a whole.
- Specific A/V Equipment Usage

Feedback regarding specific items such as the projector, VCR, visual presenter, microphone, or other items.

- “Low-Tech” Equipment
Feedback regarding the transparency projector and chalkboard.
- Emerging Technologies
A new section containing inquiries about the instructional use of such technologies as podcasting, videoconferencing, and rich media capture.
- Computers
Synopsis of information concerning the use of computers, both resident and laptops, in the ITS classrooms.
- Customer Service, Training, and Support
Commentary concerning the training sessions and support services provided by CITES ClasTech.
- Security Codes
Issues regarding how the ITS cabinets are secured and who has access.
- Specialized Surveys
Two additional surveys were sent to Language Video Cabinet users and graduate student instructors.

The main survey questions were grouped into one of these topic areas and the results are described in more detail in the relevant sections. The comments from the open-ended questions were coded based on themes that arose from the data and are generally summarized in one the corresponding topic areas. A few examples of responses are provided in the body of the report. A complete listing of the open-ended responses for the main ITS survey is included at the end in Appendix C.

How This Survey Was Made and Who Responded

In May of 2007, CITES Classroom Technologies gathered ITS-related data from instructors for its seventh year. As in the past, an online survey was used to collect data because it reaches the intended audience quickly and at little expense. The survey application is provided by SurveyMonkey.com and data are maintained securely online by the company. They do not make the data available to third parties nor do they have access to any identifying information to connect back to the respondent. The university is no longer allowing the purchase of a SurveyMonkey subscription and CITES ClassTech has been directed to use an alternative online survey application in the future.

In 2006, we completed the Application for Review of Research Involving Human Subjects. This was submitted to the UIUC Institutional Review Board (IRB), an office that evaluates the impact to humans for all ongoing or proposed studies. Our project was deemed exempt from further IRB review, unless the survey or the data-gathering methods changed significantly from what was proposed. It continues to be exempt because it has not changed in any major way.

Many of the questions in the 2007 survey were asked in previous surveys, allowing for an analysis of longitudinal trends and patterns. The number of questions increased to 32. One question was removed and two new ones were added from the 2006 survey. In comparisons across years, data from 2004 is conspicuously missing. A different kind of survey was used that year and it did not use any of the previous questions, therefore no data from 2004 is included in this report.

Some of the longitudinal questions have changed. The question concerning challenges was changed from a multiple-choice question to an open-ended question, because in previous years a growing number of respondents chose to write their own response in the "Other" field rather than select from the available choices. The question asking respondents to rank order their classroom activities is the question omitted from the 2007 survey.

This year, the list of potential respondents consisted of those who had contacted CITES ClassTech to receive training or security codes between July 1, 2006 and May 1, 2007. Using the Office of Facilities Management and Scheduling's Astra software, we were also able to manually gather the names of instructors who taught classes and had been assigned to ITS classrooms during the fall 2006 semester and the spring 2007 semester. E-mail invitations were sent to 1,059 faculty and staff. This is down from the 1,133 invitations that were sent to in 2006. A separate survey was used to solicit feedback from instructors who used the Language Video Cabinets. 109 of these instructors were identified. Invitations were sent to 34 graduate students for their survey. E-mail invitations were sent out April 27th to all invitees for all three surveys. An example of the e-mail message for the faculty who use the ITS classrooms is shown on the following page. The invitations for the other two surveys are similar.

Dear UIUC Faculty and Staff,

CITES Classroom Technologies is conducting its annual survey to learn more about the use of the Integrated Teaching System (ITS), or "smart" classrooms on campus. The survey consists of thirty-two multiple-choice questions and should take less than 15 minutes, on average, to complete.

There are 141 ITS classrooms on campus. We are interested in hearing the comments of faculty or staff who are involved in the use of these classrooms. The results of the survey will be reviewed by various educational technology committees and working groups. In addition, a summary of the results will be posted on the CITES Classroom Technologies website. In the past, the survey results have had a significant impact on the decisions made by these groups.

To access the survey, point your browser to:
<http://www.surveymonkey.com/s.asp?u=450673767077>

The survey will close at 5 pm on Monday, May 14th.

We use surveymonkey.com because it is a self-service electronic surveying tool with powerful reporting features.

If your web browser does not open automatically when clicking on the link above, cut and paste the link into the address field of whatever browser you prefer.

If you would like to respond to the survey but prefer to complete it in a non-electronic format, we can issue a paper version. Please e-mail us at mcnurlen@uiuc.edu to make this request.

Yours,

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The survey was extended for an additional week, for a total of three weeks. 316 people responded to the ITS user survey. This translates to a 30% response rate, up 5% from the year before and the highest rate of any year to date. 28 responded to the Language Video Cabinet survey (26% response rate) and only 3 graduate students responded to their survey (9% response rate). All survey responses were submitted electronically.

To view the format of the survey and the corresponding questions, see Appendix B.

The proportion of respondents who indicated they were teaching in a partial ITS classroom, a room without a computer and document camera, was 10%, up from the 6% last year. The increase is expected because the newer ITS classrooms are smaller and are Partial ITS. In other words, the ratio of Partial ITS classrooms to full ITS classrooms is growing with each passing year.

In Table 5 below, the top ten campus departments are rank-ordered according to the number of survey respondents affiliated with them.

The numbers in parentheses are the previous year's rankings.

Table 5

Rank order of departments based on number of survey responses

1 (2)	Electrical and Computer Engineering	17
2 (8)	Kinesiology	11
3 (5)	Business Administration	10
4 (1)	Chemistry	10
5 (20)	Community Health	9
6 (10)	Psychology	9
7 (16)	History	8
8	Other	8
9 (9)	Political Science	7
10 (36)	Speech and Hearing Science	7

In Table 6, one can see that the number of respondents represented by the College of LAS far outnumber the next six colleges. They also represent the largest college on campus.

Table 6

Rank order of colleges based on number of survey responses

1 (1)	College of Liberal Arts and Sciences	128
2 (2)	College of Engineering	46
3 (4)	College of Applied Life Studies	29
4 (3)	College of Agricultural, Consumer and Environmental Sciences	19
5 (5)	College of Business	16
6 (6)	College of Education	15
7 (8)	College of Fine and Applied Arts	10
8 (7)	College of Communications	8
9 (9)	Institute of Aviation	3
10 (10)	College of Law	2
11	College of Medicine at Urbana-Champaign	1
12	Institute of Labor and Industrial Relations	0
13	Graduate School of Library and Information Science	0
14	School of Social Work	0
15	College of Veterinary Medicine	0

Purpose and Utility of the Audiovisual Systems

One of the primary goals of the survey was to figure out faculty and staff perceptions of the Integrated Teaching System classrooms. Several questions were aimed at discovering how often the systems were used and how important their use was to classroom teaching.

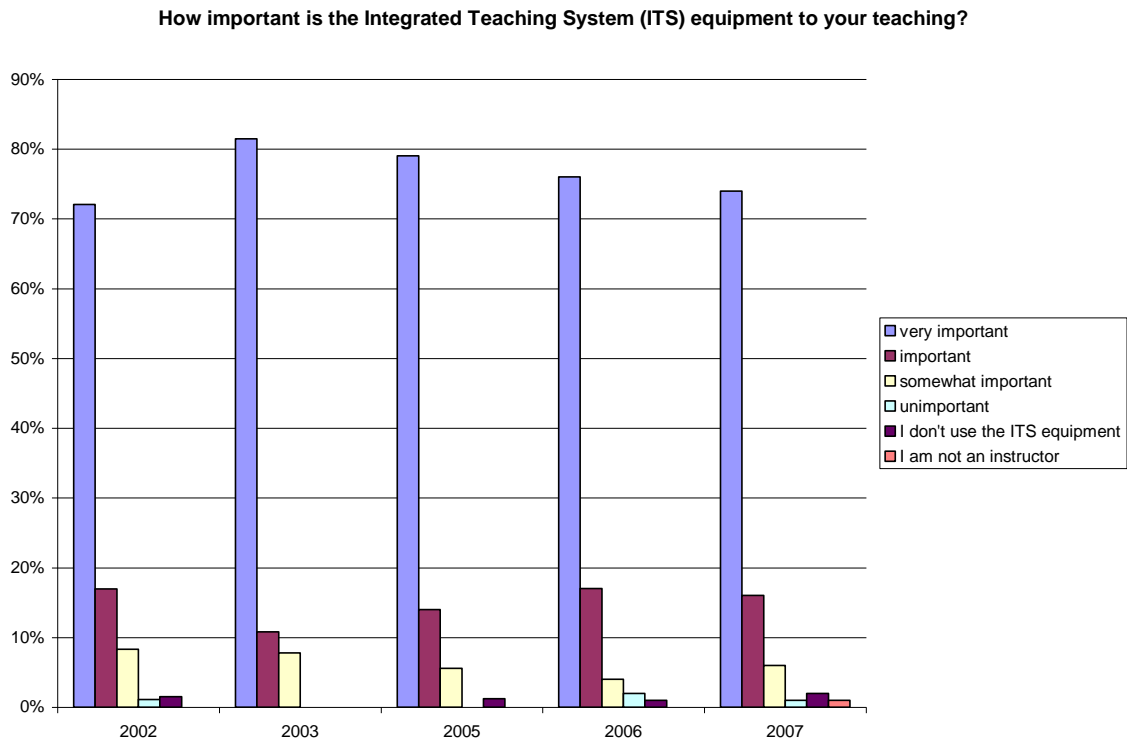
Note that the main survey is only addressing ITS classrooms, not classrooms in general, departmentally controlled classrooms or other learning spaces. Some respondents have been confused by the intention of the survey and have openly wondered why some questions were not asked about the technologies or environmental concerns in their particular classroom or lab. In addition, the survey does not contain questions about student seating quality or arrangement because those are issues outside the purview of CITES ClassTech. Nevertheless, many instructors will note in the open-ended portion of the survey their concerns about classroom environment, scheduling, and other issues not under the control of CITES ClassTech.

Importance of ITS Classrooms

The first ITS classrooms were remodeled in 1994. Three rooms were completed that year, with four coming online in 1995. The peak year for rooms outfitted with an ITS was 2000 when 29 classrooms were added. Prior to the ITS installations, most classroom audiovisual tools consisted of the blackboard and a transparency projector. A number of rooms had a slide projector, but only the largest lecture halls, Lincoln Hall Theatre and Foellinger Auditorium for example, had any form of voice reinforcement.

Today, presentation technology has become an integral part of teaching and learning. Figure 1 below shows how important the new generation of audiovisual tools is to instruction on campus.

Figure 1



This year, 90% of respondents said that the Integrated Teaching System is “very important” or “important” for their instruction. This has been steady for the last four years in a row. Less than 1% indicated that they do not use the ITS equipment at all.

When asked, “What are some of the benefits to your teaching that the presentation technology in the classrooms allows?,” a few instructors responded:

“Mostly illustration of otherwise less easily understandable content. I teach Roman Civilization, and the use of photographs, maps, diagrams, and (parts of) documentaries deepens the understanding of the students.”

“It allows me to present information more clearly and effectively than I could otherwise. Because the presentation takes less time, I can use part of the class period for active, group learning.”

“Greatly increases the effectiveness of my teaching. I am able to integrate PowerPoint and video to provide examples of class topics.”

Additional comments can be found in Appendix C at the end of the report.

The responses were also coded based on 24 themes that arose from the data. The themes are listed below in Table 5 in descending order, based on the number of coded responses from the participants. Not everyone responded to this particular question.

Table 7

Benefits

"What are some of the benefits...."	# of respondents
Can use multimedia easily during lecture; convenience; reliable; multiple technologies; easy of switching	83
Can use PowerPoint during lectures	70
Allows for web access during class	58
Allows for highly visual presentation of material	45
Can show course-related motion pictures, videos, clips, animations	32
Because of technology, can make greater use of class time	20
It is essential to instruction	18
Provide sound and visual effects to course materials	17
Allows students to do multimedia presentation	14
Answered, but not worth coding	11
No longer need to carry my own equipment	10
Can integrate lecture with Illinois Compass or course website	9
Provides sound/voice reinforcement	9
Addresses the multiple learning styles of students	7
Can display the textbook or other printed materials	6
More dynamic; interactive	5
Allows the use of my tablet PC	4
Time required to prepare for class is reduced	4
Meets students' demands	4
Visiting lecturers	3
Allows for distance education	2
Comments concerning support	1
Reliable	1
Consistency between locations	1

Comments Concerning Classroom Design and Overall Environment

Instructors enjoy making use of new technologies without sacrificing access to other tools as well. This becomes very clear in the comments from instructors who wish to use tools like PowerPoint while at the same time making use of the chalkboard. This presents a physical problem because in many ITS classrooms the projection screen needs to be raised to gain access to the chalkboard. This has been an issue reported by instructors in every survey since 2000.

There are many variables that impact projection screen size and placement—size of the room, distance to the farthest seat, viewing angles, aspect ratio of the image to be viewed, location of the presenter and the podium, entry and egress from the room, and more. Many of the campus buildings are over one-hundred years old and the physical requirements for media presentation were never anticipated. Visual “real estate” at the front of a classroom is finite and always at a premium. Compromise solutions are often the norm and setting up projection screens and blackboards so that they can be used simultaneously is often not possible.

Lighting also competes when using multimedia simultaneously. For example, when using the chalkboard there should be ample light provided at the front of the room. However, added light will diminish the brightness of the projected image. A compromise occasionally means that the audience cannot see either the chalkboard or the projected image satisfactorily.

Below are two examples of the kinds of open-ended responses received concerning room design and environment:

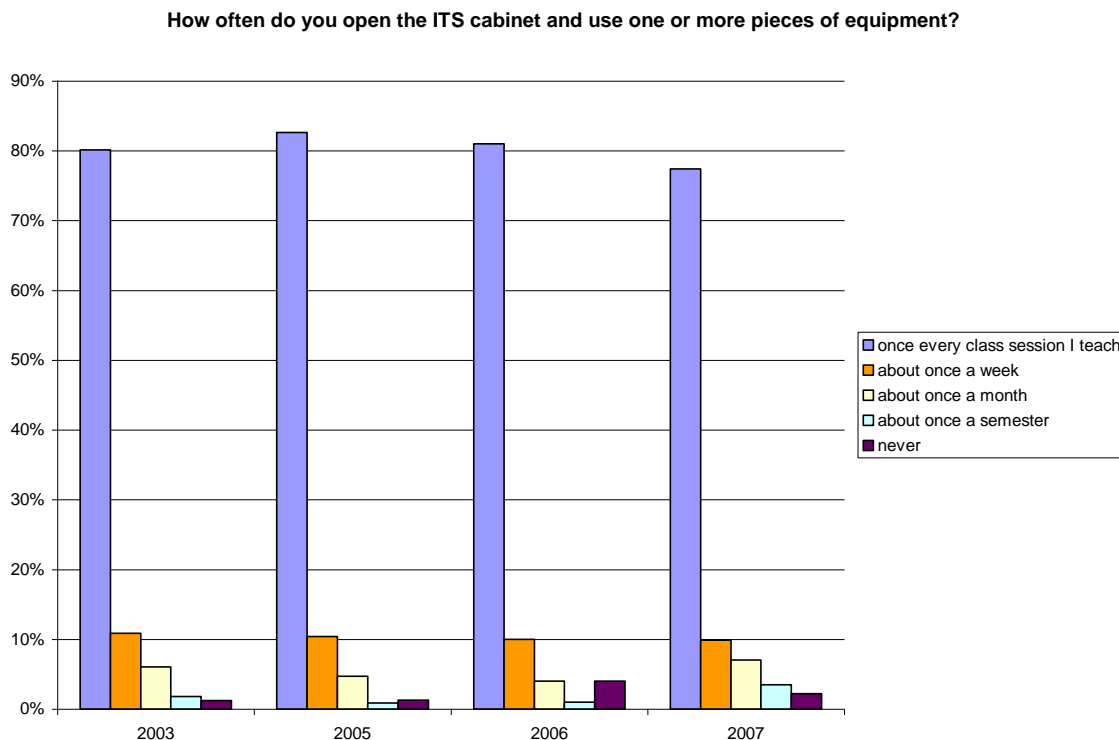
“For a short person, the top cabinet cover in XXX is difficult to open gently. I suggest a rope or chain attached to a corner, so that one could hold the rope/chain as the lid opens. This is not your problem, but I note for the record that XXX is almost always too warm.”

“I need to be able to display 2 'slides' simultaneously. Because of the way the ITS equipment is set up, it is too time-consuming to switch between media modes during a lecture (i.e. back-and-forth). I need 2 overhead projectors: I had to carry a projector from XXX to XXX every day. They are heavy, especially because I have many other items to carry...”

Frequency of ITS Use

Connected to how dependent instructors are on the audiovisual tools is how often they need to use it. Equipment needs to always be in a functional state because of how reliant most faculty are on the equipment, day in and day out. See Figure 2 for a summary of how frequently instructors accessed the ITS equipment.

Figure 2



Clearly the numbers have stayed relatively constant since the 2005 survey. Four out of five instructors are using the system everyday. As the number of classrooms has increased, there are many more courses taking advantage of the technology at any given time of day. Therefore it is very important for the trained staff of technicians and support personnel to conduct preventative maintenance whenever possible and to be prepared to assist instructors when the situation requires it. This has always been one of ClassTech's main objectives.

Challenges to ITS Use

Using the ITS equipment can occasionally present problems. When these problems or limitations are encountered not only is it an annoyance for the instructor, it can also be very distracting for the students. Table 8 lists the challenges when dealing with the ITS classrooms.

Table 8

"What are some of the challenges when using an ITS classroom?"	# of respondents
Not reliable; or having to rely on it	40
Comments concerning resident computers	26
Problems with access, padlock complaints	24
Remembering how to use; training issues	21
Process too complex, time consuming, locating equipment, usability issues	20
Other instructors	14
Problems with lighting, projection screens, temperature, etc.	11
Having to bring a laptop	10
Quality of document camera	10
Need more campus Macintosh support; PC support for Mac users	9
Cannot use ITS and chalkboard at the same time	8
Control problems; seamless integration of tech is absent	8
"pedagogical issues"	8
Cabinetry	7
Microphone problems	7
Standardization; classroom-to-classroom problems	6
Need wireless remote	6
Comments concerning projectors	5
Laptop connection or interface problems	5
Need to show different images on two screens	5
Batteries, replacing	5
System does not have equipment/features I desire	4
DVD control/ no remote	4
Need better documentation in the classrooms	3
VCR problems	3
Not enough ITS classrooms	3
Time for set-up, testing	3
one-off problem	2
Cleanliness; lack of cable management	2
Comments (negative) concerning support	1
Improve communication about services, or whether it is an ITS classroom	1

Missing document camera; some materials too big to display	1
Lack of VCR (Siebel)	1
DVD audio, video	1

These 34 categories arose from the open-ended responses. A small number of responses were considered “uncodable.”

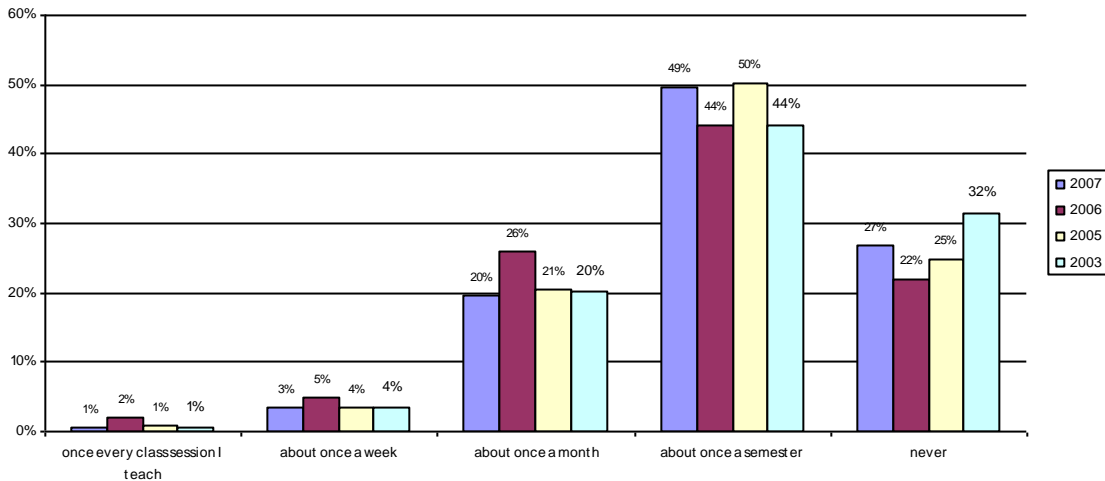
It should be noted that some of the issues that are mentioned could be resolved with coordinator training or guidance. Fewer instructors are volunteering for ClassTech training and orientation, and so the opportunities for correction are rare. It is hoped that with improved methods of communication and more “self-help” content on the website, these issues and concerns will be reduced.

Frequency and Source of Problems

Some technical problems, such as those listed in the section titled, Challenges to ITS Use, are simply a nuisance. However, some problems result in a lost class session or a topic has to be skipped entirely for the course, seriously impeding learning. Figure 3 shows how often instructors indicated this occurred in their class during the past year.

Figure 3

How often do you encounter problems with the ITS equipment that requires you to modify your classroom lecture/presentation?



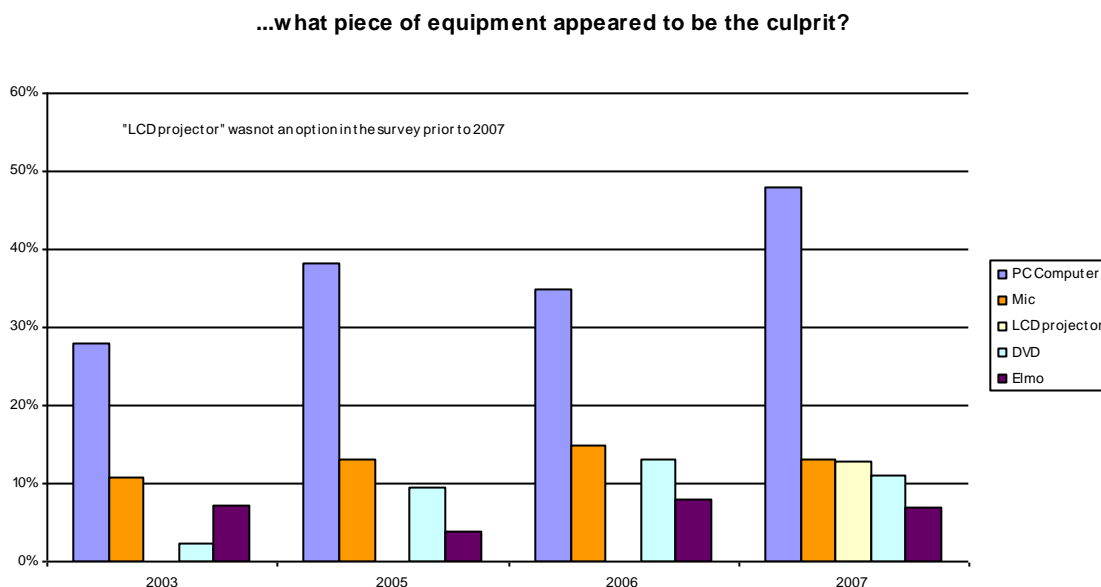
The trend is in the right direction. Those that said they never had a problem increased. Those that have a problem once a month decreased. The largest group of instructors reports a serious problem with the equipment only once a semester. Problems could range from a complete system malfunction, to a heating and cooling problem, to a problem with the campus network. Nevertheless, CITES ClassTech continues to make improvements to its systems to lessen the number of technical breakdowns. New projectors were installed in many existing ITS classrooms during 2006-2007 and these upgrades have been ongoing. Preventative maintenance is done at the end of each semester which also reduces problems. However, some equipment is approaching or has surpassed its projected lifespan, which can lead to breakdowns. It should be noted that

problems can occur not only as a result of malfunctioning equipment but because of improper operation by previous users. A significant proportion of reported problems have been identified as user error and the equipment found to be in working order.

When problems do arise, users can contact CITES ClassTech and a staff person will arrive in the room within ten to fifteen minutes on average. Many problems can be remedied immediately during the class session, if the instructor allows.

It is difficult for classroom users, without the requisite technical knowledge, to diagnose what pieces of equipment are the culprits when problems arise, but we ask them for their opinions in the survey anyway. Figure 4 outlines which of the items users feel cause most of the problems.

Figure 4



In Figure 4, the PC computer is listed as the most frequent culprit of problems in the classroom, though it is also certainly the most frequently used and requires the greatest amount of support. It should be noted that all of the PCs were replaced during the Dec. 2004-January, 2005 semester break.

85 respondents chose "other" and these were re-coded as either one of the existing categories or a new category was created. Listed below are a few examples of some of the "other" responses:

"The culprit was probably a careless user, not the computer."

"Room light control."

"Power supply to cabinet."

"One of the screens in XXX gets stuck in the "up" position on occasion."

Specific A/V Equipment Usage

Comments Concerning Projectors

The projectors are the most critical piece of the ITS package. Without the projector, nothing but the classroom microphone is of any use. There were no survey questions that dealt directly with the projector. However, respondents chose to single it out in many of their open-ended responses.

13% of the open-ended responses were from instructors who indicated that the projector was believed to be the culprit when the ITS was not working properly.

Some of the comments were:

“Projector and computer not “talking” to each other.”

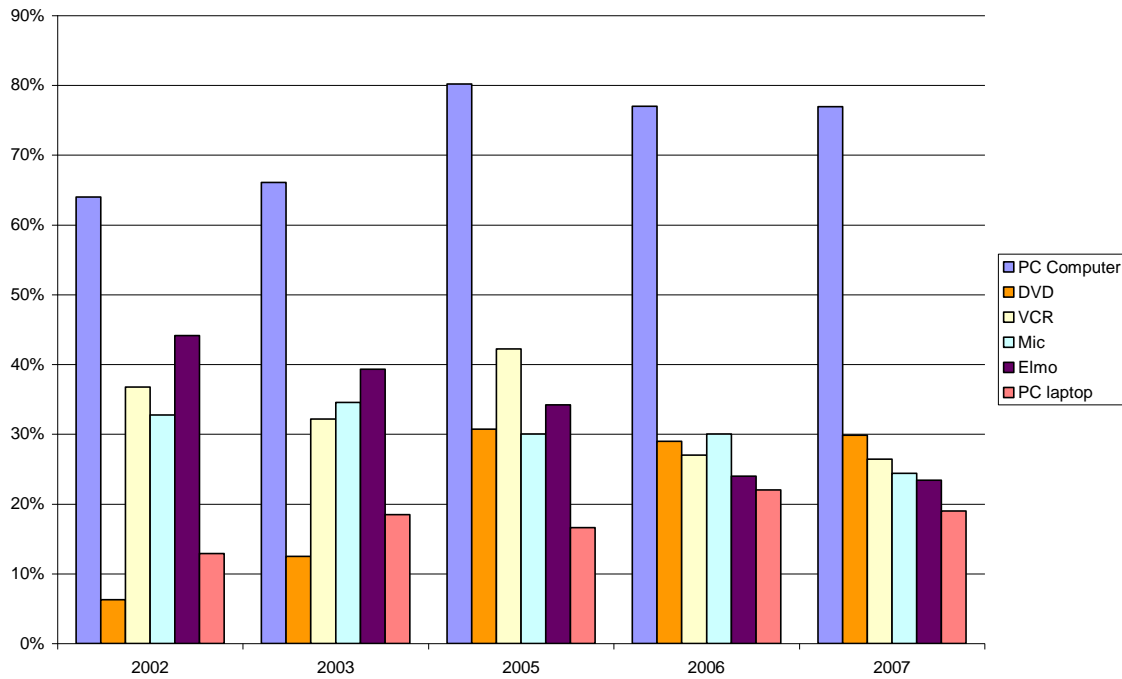
“Burned out bulb for projector.”

Typical ITS Equipment Use

In Figure 5, the data shows what equipment was used on an average day. It should be noted that respondents could check more than one item, so the total percentage adds up to more than 100%. From left to right on the bottom axis, items are listed from most popular to least popular.

Figure 5

On a typical class day, what ITS item or items do you use? Please check all that apply.

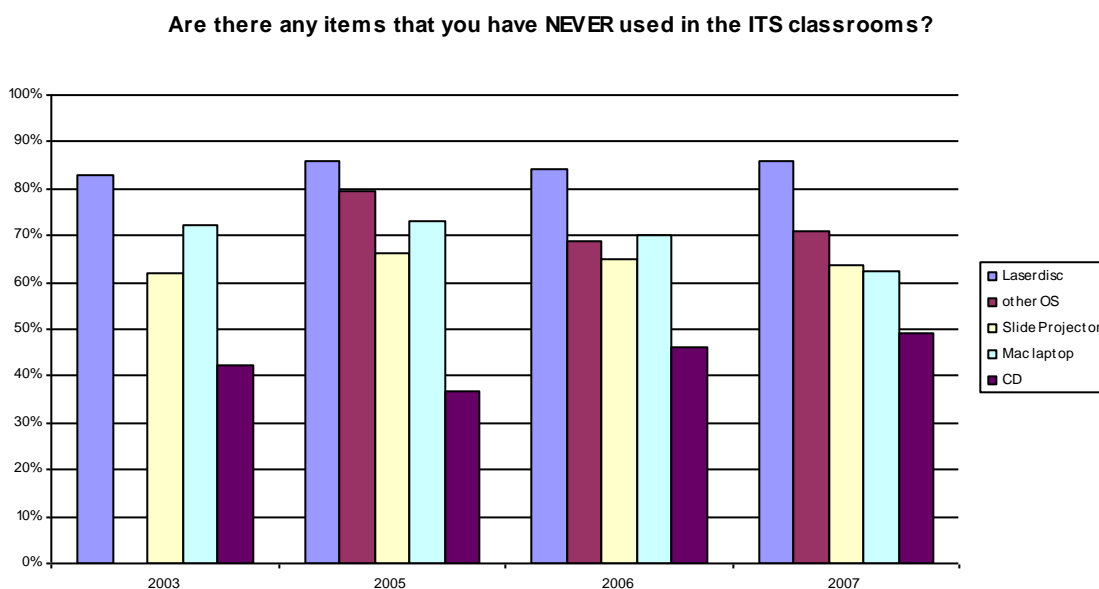


In Figure 8 above, on a typical class day nearly 80% of all instructors make use of the PC computer. The PC computer continues to be the most commonly used piece of equipment. The biggest complaint is that not all rooms have a resident PC. For the most part all the devices are used with much the same frequency as in previous years. Use of the visual presenter or “Elmo” is steadily declining and DVD usage has stayed around 30% since it jumped significantly two years ago.

Seldom Used ITS Equipment

Figure 6 highlights the equipment that is rarely used in the ITS classrooms. Note that the laserdisc players are only housed in two classrooms currently. Stand-alone DVD players and VCR/DVD combo units are becoming a standard feature in new classrooms.

Figure 6

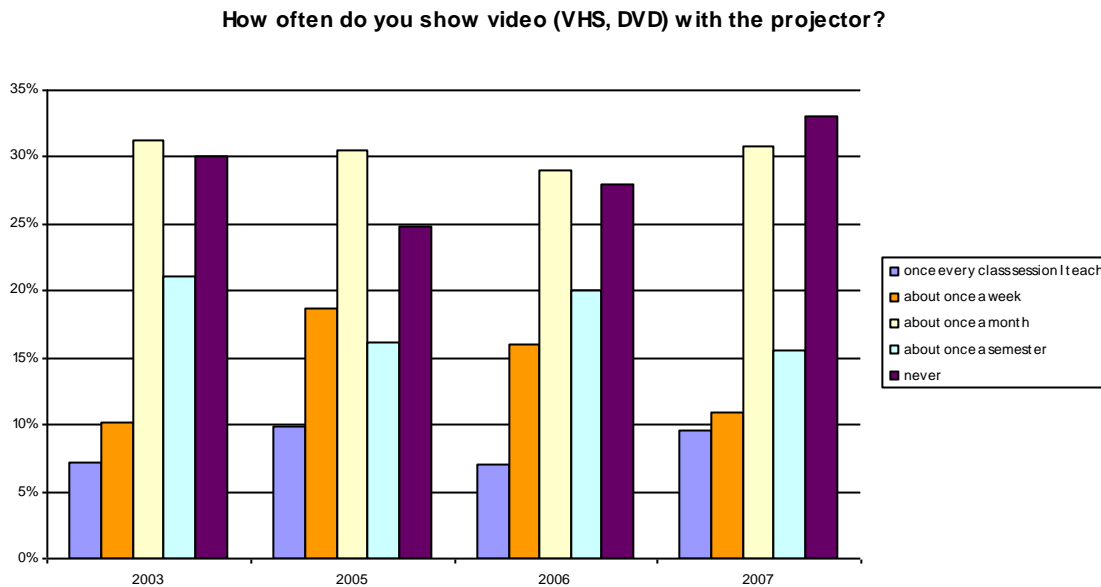


The number of document camera or “Elmo” users continues to decline, while the number of those who refrain from using the slide projector remains above 80%. The PC jumped from not used by 10% to not used by 46%-- a curious finding. This could be attributed to the increase in the number of Partial ITS classrooms on campus, although the corresponding increase in the number of survey respondents who taught in those rooms was not as large.

Use of Video

A growing number of users are relying on DVD media. However, there have been occasional problems when playing DVDs in the Windows computers. The problems have been experienced beyond just the classroom and are an industry-wide concern. Even stand-alone DVD players will encounter a playback problem on occasion, due to media that is not clean, not formatted properly or other problems.

Figure 7



This was a year where there was some decline in the use of video, although this does not take into account the use of streaming video or other forms of digital video over the network.

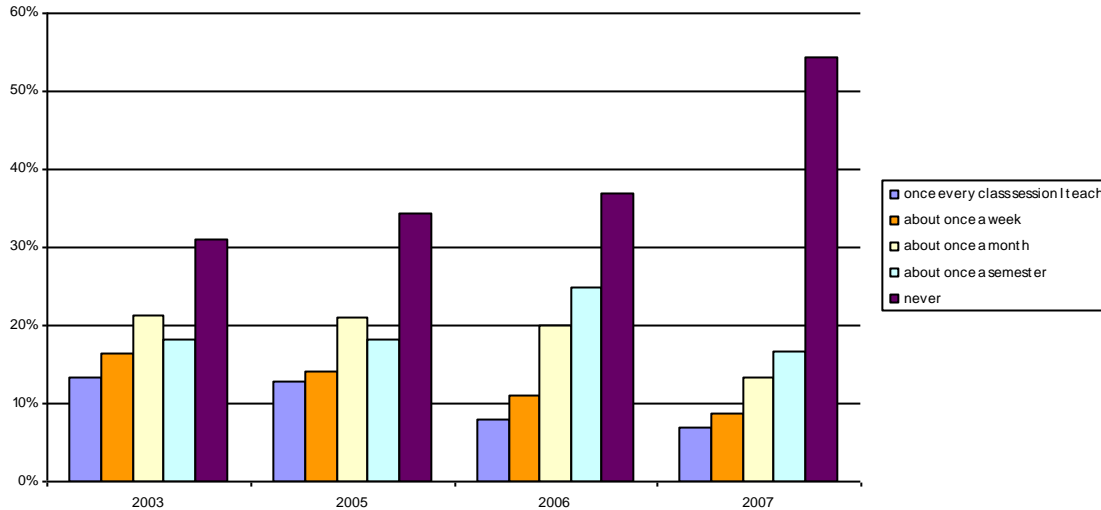
More instructors are embedding video in their PowerPoint presentations, using small clips that they have recorded themselves or brought from the textbook, Google Video, or some other location. Also, the popularity of online video sites like Google Video has increased dramatically and there is some evidence that it is being used in instruction, though it was not inquired about in this year's survey.

Use of Document Camera

The document camera is a device that allows for the presentation of opaque and transparent objects, such as transparencies, textbooks, newspapers, specialized objects such as bone fragments, insects, splints, etc. The device is often thought of as allowing for an easy transition from traditional forms of media presentation like the transparency projector to a more high-tech system like ITS. Figure 11 shows that there is a steady decline in its use. This was confirmed by other questions concerning equipment as well.

Figure 8

How often do you use the document viewer or overhead camera (a.k.a. "Elmo")?



Some instructors are still expecting a higher level of quality than what a document camera can produce, and have commented that it is not a useful device until the resolution is improved. Although higher resolution document cameras exist, they are found in the medical/hospital environment and they are prohibitively expensive.

About the document camera, one respondent noted:

"Elmo allows me to show real artifacts to all my students."

"[I show] enlarged photographs from books using the Elmo unit."

"Elmo is often hard to focus and very awkward to use with paperback books that measure 8.5 x 11 inches and are ~1 inch thick."

Comments Concerning Audio

There is no question that audio is an important component of the audiovisual system, especially in larger lecture halls. Without a projector, good instructors can still stand in front of a class and talk about their topic extemporaneously. Without a working microphone, teaching is most likely at a stand still.

Obstacles to good audio most commonly are a dead battery when it comes to wireless microphones. The CITES ClassTech staff checks the wireless microphones and re-stocks batteries in the classrooms at least once a week. Wireless microphones are also very sensitive pieces of equipment that do not stand up well to daily abuse. During preventative maintenance appointments, CITES ClassTech staff find many microphones with frayed wires, cracked cases, and other damage that causes intermittent problems with the equipment. The training staff works with faculty to improve the handling of these devices.

It is clear from the survey responses and anecdotally from our interactions that instructors want wireless microphones in more classrooms. Users have commented in the past that the wired microphones are cumbersome.

Emerging Technologies

In this year's survey, two new questions were asked concerning emerging or non-standard technologies. The responses are shown in Figure 9 and 10.

In Figure 9, content capture is the leading technology currently used, followed by "other." A closer look at "other" showed that respondents entered "none of the above," which had not been an option. "None of the above" will be included in next year's survey.

Figure 9

Which of the following technologies are you currently using in your teaching activities? (n=85)

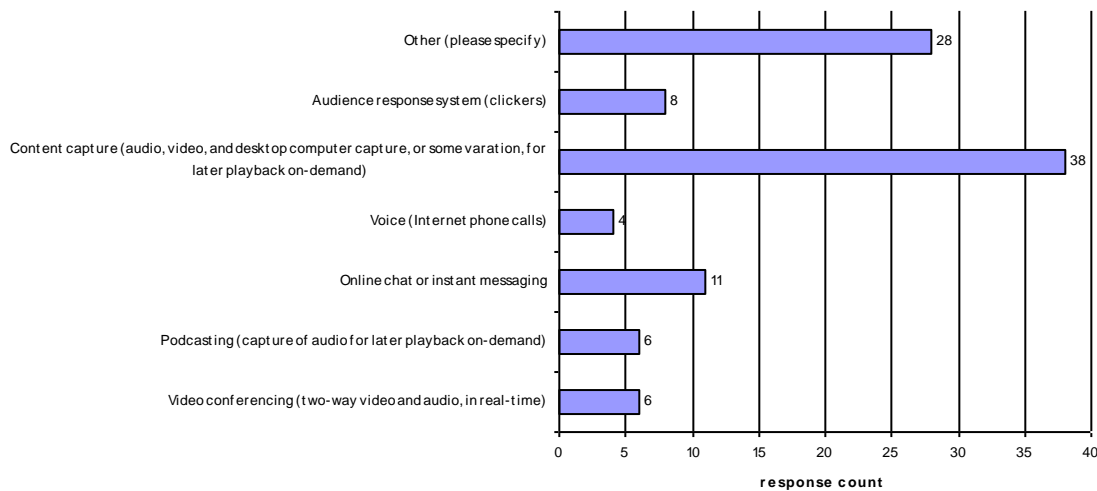
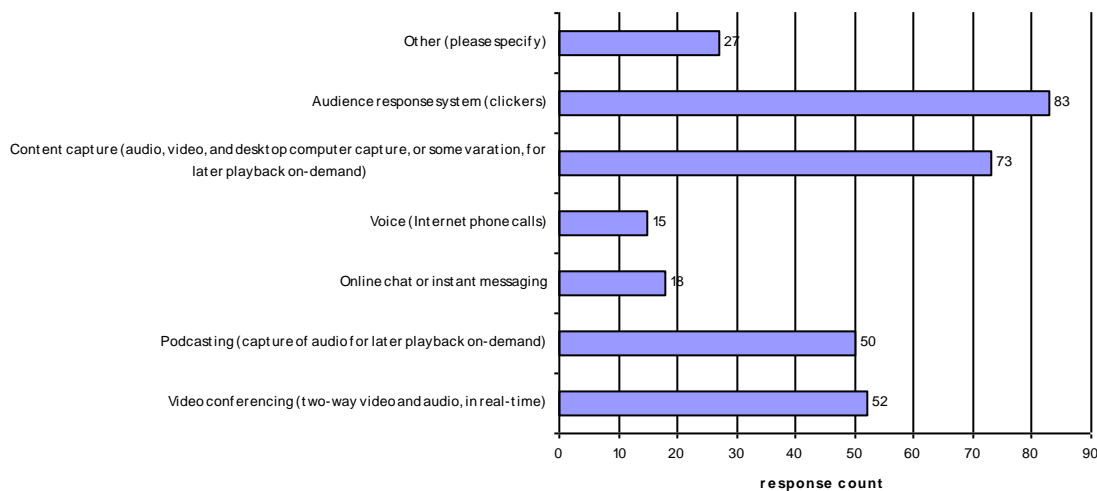


Figure 10

Which of the following technologies would have significant impact on your future classroom teaching? (n=170)



In Figure 10, note that the audience response systems garner the most interest. At this time there is no clear method for how instructors find out about this technology in order to take advantage of it, and in many regards this is true of most of the emerging technologies. CITES ClassTech, CITES EdTech and other related groups offer some guidance on the use of these technologies.

Some of the technologies mentioned in the open-ended “other” field for future use were:

- “Second Life”
- Tablet PC with wireless connection to projectors

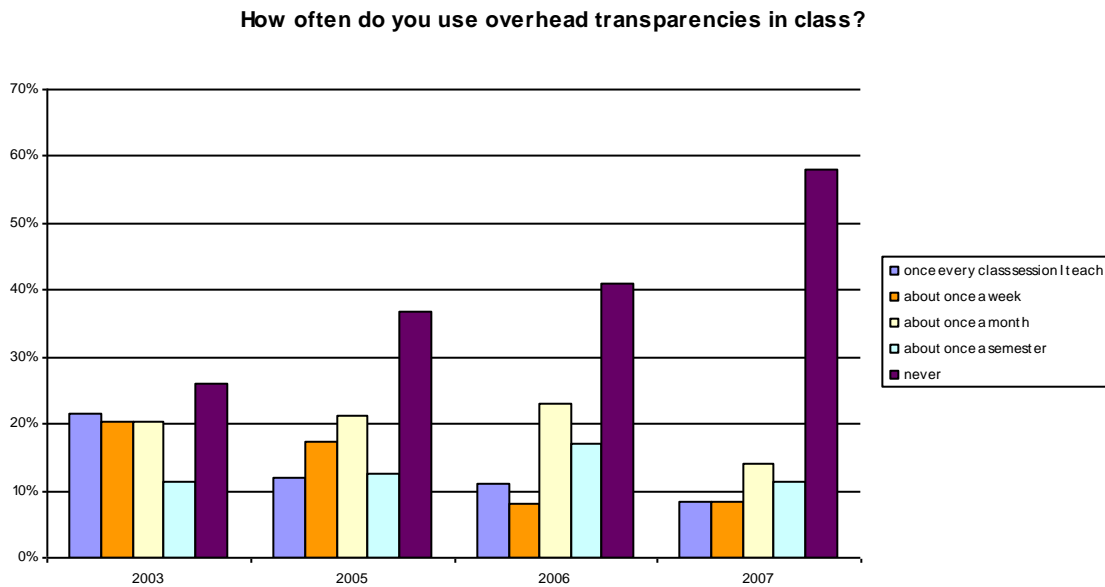
To truly understand the nature of how instructors are using these technologies and how they anticipate using them in the future, we need to move beyond surveys and conduct one-on-one interviews and focus groups.

“Low-Tech” Equipment

Overhead Transparency Use

Even though ITS classrooms have an abundance of high-tech presentation equipment from which to choose, many instructors still prefer to make use of the transparency projector at some point during the class sessions. There is at least one transparency projector in each of the more than 400 general assignment classrooms. These projectors are maintained by a staff of eight part-time student employees and one full-time supervisor. Figure 12 below shows the frequency of use of this device.

Figure 11

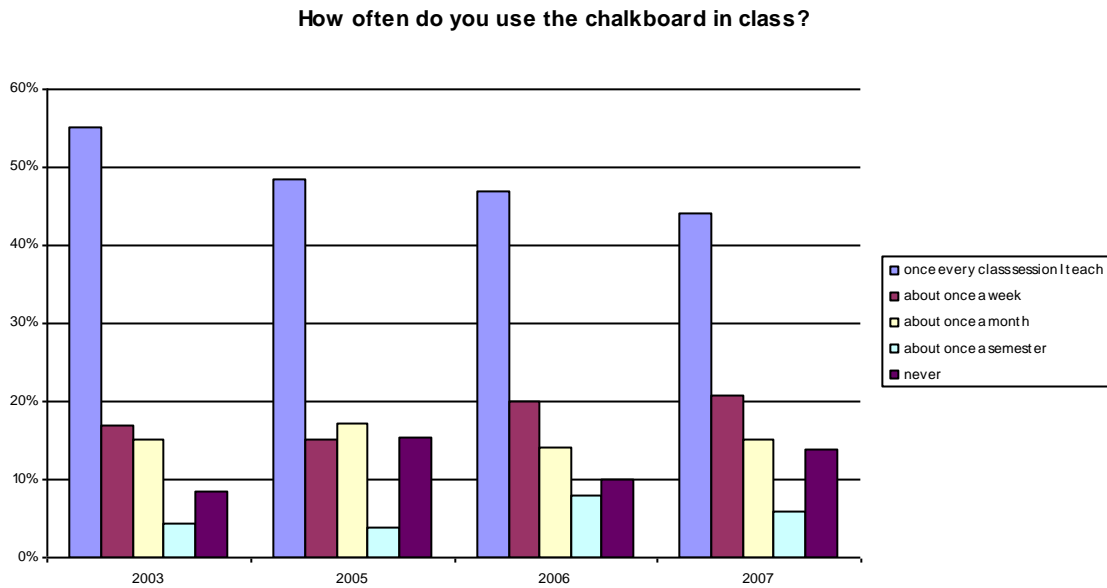


Usage of these devices continue to drop. Nevertheless, 16% still say they use it at least once a week or more. Many instructors use the transparency projector much of the time along with the other presentation tools and will probably continue to do so in the foreseeable future. The multimedia users are the ones who want two projection screens.

Chalkboard Use

Like the transparency projector, the chalkboard is in every general assignment classroom. Many instructors feel this is a critical part of the teaching process, a part not allowed by static, prepared PowerPoint presentations. Most of the instructors assigned to ITS classrooms make use of the chalkboard along with the other forms of instructional media. Figure 13 below shows how frequently instructors indicated using chalkboards.

Figure 12



Used even more often than the transparency projectors, the chalkboards are used by 65% of instructors at least once a week or more. Those that use it every session are declining.

Going back and forth between electronic media and the chalkboard is a desire of many instructors and presents some real challenges for classroom design. Not only do the projection screens often obscure the chalkboards in many classrooms, but they require oppositional lighting scenes. Typically what is good for one is not good for the other and a compromise is required.

In the Siebel Center, a fairly new building that came online in 2003, whiteboards are used rather than traditional chalkboards. The Department of Computer Science, the primary user of the classrooms in this building, provides the markers for use in these rooms.

Computers

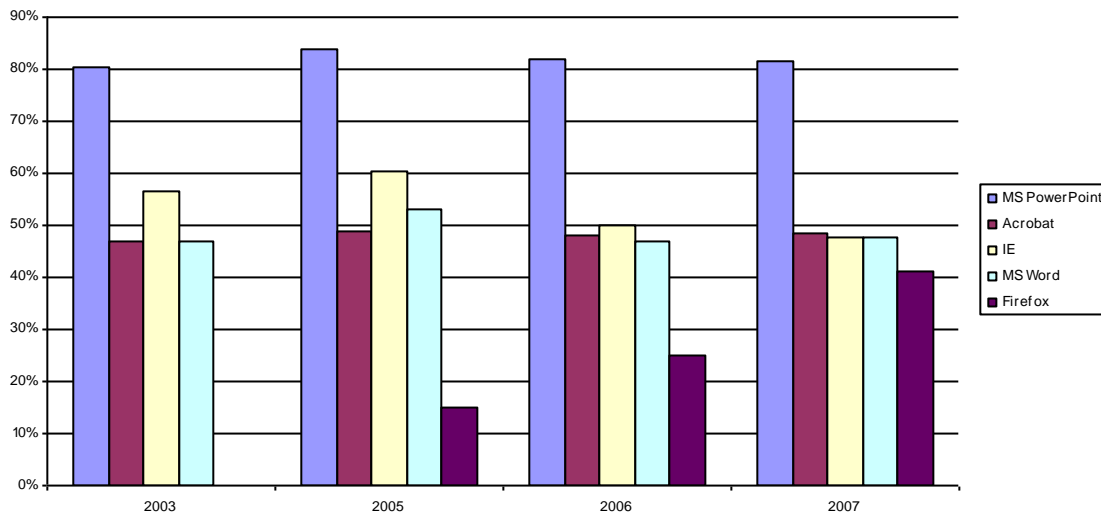
Computers are one of the most expensive commodities in the ITS classrooms, not just for hardware but for support, though they are a powerful teaching tool. They demand a good deal of expertise to support, which is why they are served by a group of CITES ClassTech staff members separate from the instructional media technicians. These team members install a basic software package along with special software requests, set permissions, as well as handle issues related to security, hardware, and networking.

Software Tools

CITES ClassTech provides a number of software packages on the ITS computers by default, though instructors can request additional software when necessary. Figure 14 shows only the top seven most popular software applications. The total number of applications installed on the computers is more than twice that number.

Figure 13

What software tools do you use to deliver instructional content to your class?



Not surprisingly, PowerPoint is still the leading software tool in the classrooms. Most noticeable in Figure 15 is the decrease in Internet Explorer usage, continuing to decline while the browser Firefox has jumped from 15% to 25% to 41%. 34% of respondents said they use Illinois Compass in class.

A greater number of programs are installed by default on the computers every year, which has not necessarily resulted in reduced install requests from users. New applications are continually promoted and requested. The base installation of software on the resident PC is over 20 gigabytes.

Comments Concerning Resident Computers

There are a number of comments concerning the resident PC computer in the classrooms. Below are just few samples:

“This particular classroom does not have a computer in it, so I had to check out a laptop each week to use. This was a hassle.”

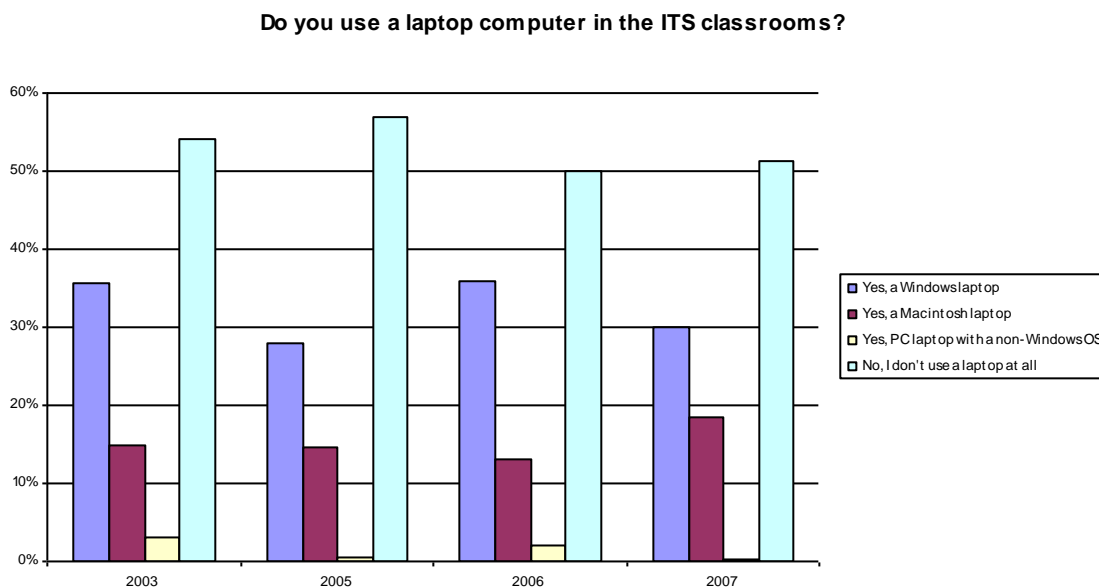
“Occasionally the computer did not detect my flash drive, which meant that I couldn't access my lectures. I started uploading them to Netfiles and then it wasn't a problem. Also, I use phonetic symbols in my presentations, and the computer doesn't recognize the font and mangles them.”

Many instructors believe they need access to the back of computers or find the USB port placement confusing. USB extension cables have been on ITS computers since 2003. Even with the installation of new computers with front-side USB ports, extensions have been installed to improve the ease with which USB devices can be connected.

Laptop Computer Use

Some instructors like the security of knowing their instructional content is with them on their own machine and that it can be manipulated at any time. Also, there may be some issues when accessing password-protected resources from the classroom computers, a roadblock that can be avoided with the use of personal laptop. Figure 15 presents to what degree instructors make use of laptop computers in the classrooms.

Figure 14



There was a 5% increase in Macintosh laptop usage, which was not surprising. What was surprising was the decline in Windows laptop usage, even with the increase in the number of Partial ITS classrooms where there are no resident PCs.

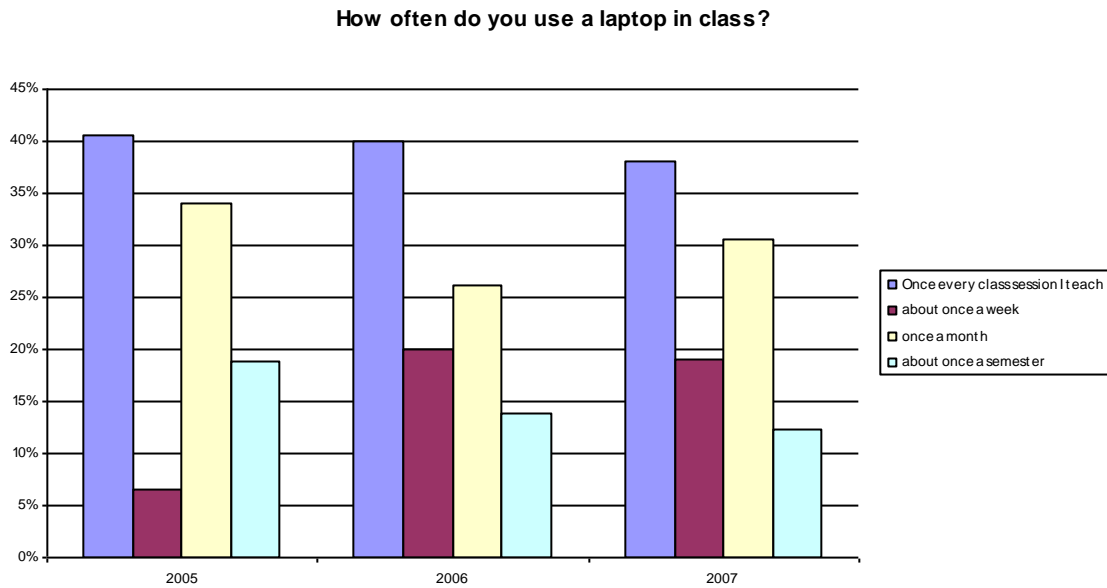
Comments Concerning Laptops

"I found it a bit difficult to interface my laptop [with the ITS]."

"XXX isn't a fully integrated room, meaning that I had to use my laptop. It also made student presentation more difficult than if there was a standard PC already located in the room."

"I can play DVDs, I can use my laptop to show presentations I have saved on my computer."

Figure 15



The respondents answering this question had previously answered “Yes” to the question asking if they indeed used a laptop at all in ITS classrooms. The slight decline is not significant based on the number of respondents and could simply be due to chance variations in the data.

Networking Laptops

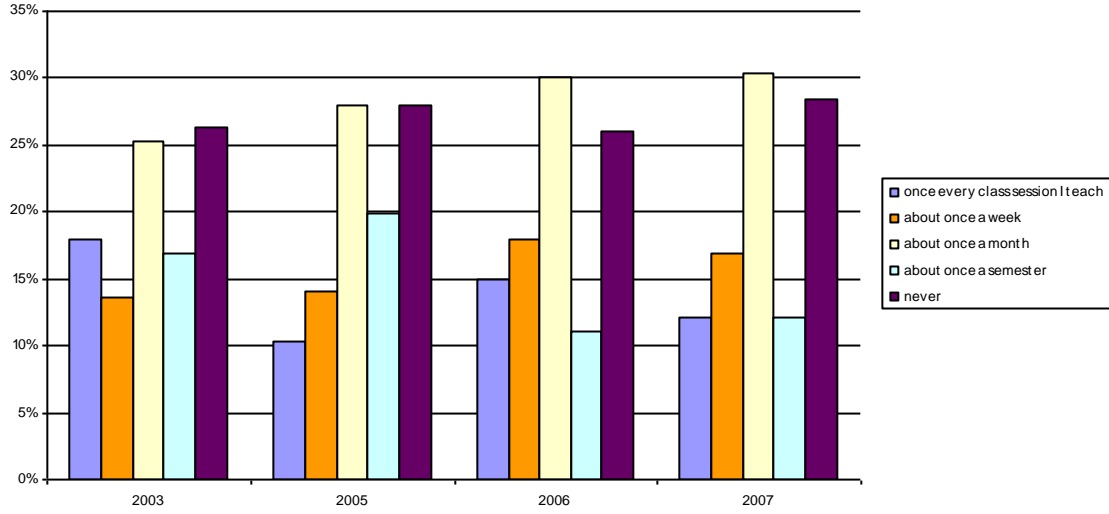
More classrooms are on the ClassTech network and a form on the ClassTech website which requires a user’s machine address allows our staff to register that user, who can then move from ITS classroom to classroom without having to enter a different static IP each time. As the network upgrade continues, it allows greater flexibility in how connectivity is handled, therefore making it an easier process for instructors. The network upgrade will also increase the reliability and speed of the network overall. The addition of wireless in many buildings also improves instructor access. Figure 17 displays how frequently instructors make use of the network when using their laptop. It should be noted that respondents could be indicating a connection to the ClassTech-provided jack, a department-provided jack, or a wireless connection.

Wireless coverage is expanding. www.cites.uiuc.edu/wireless

Nearly all the network jacks in the ITS and Partial ITS classrooms are on the ClassTech Virtual LAN.

Figure 16

If you use a laptop computer, how often do you connect to the network?



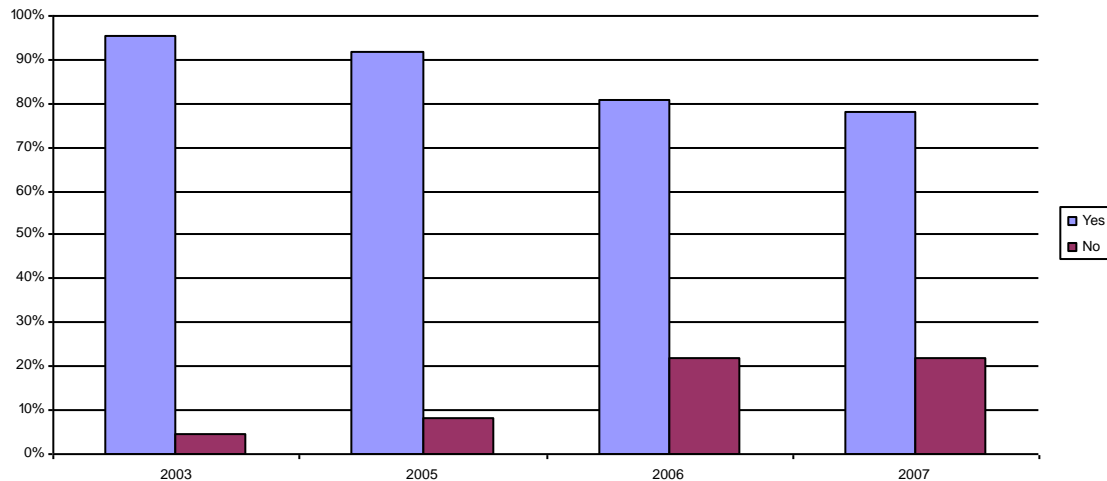
Customer Service, Training, and Support

Training by CITES ClassTech Staff

The ClassTech policy of requiring training for all ITS classroom users was terminated. Nevertheless, training sessions are still offered and encouraged. Many instructors continue to register for these hands-on, one-on-one meetings that usually take place in the classroom to which the instructor is assigned. Workshops are also offered just prior to the start of semesters. Figure 18 shows how many instructors indicated that they had received ClassTech training.

Figure 17

Have you ever been trained to use the ITS classroom by a CITES ClassTech staff member?



There is a downward trend in those who seek training. There are still instructors who are unaware that training and support are even offered, obtaining security codes from colleagues and departmental support staff rather than registering through the ClassTech website. With the removal of teaching assistants from participating in this survey, a group that often receives access codes from their instructors, this statistic seems even more remarkable.

CITES ClassTech makes every attempt to contact the faculty and staff who are assigned to use the ITS classrooms weeks before the start of every semester. E-mail is sent out to all instructors, either targeted or through massmail and eWeek announcements. Yet, due in some part to how courses are scheduled in classrooms, it is difficult for ClassTech to identify who the instructors are.

Quality of Training

Figure 18



94% felt the training was either “Excellent” or “Good,” close to last year’s survey results, with a slight increase in “Excellent” ratings. This was good to see, although these numbers are still not at the levels they were at in 2003. The graduate student coordinators, who had taken over much of the responsibility of instructor training, were replaced with full-time staff to handle the training and support duties in the fall of 2005. One goal is to increase the quality of training and to improve the handling of support. The reliance on a full-time professional staff might be one reason for the increase “quality” ratings.

In Figure 20, it can be seen that the number of respondents who use the online documentation has been relatively constant. The following are titles from the list of documentation:

- Using the ITS System
- Accessing Your Files Using the Resident PC
- ITS Computing Guidelines
- Touch Panel Controlled Classroom
- Push-Button Controlled Classroom
- Medialink Controlled Classroom
- Medialink with Combo VCR/DVD Players
- ITS Classrooms in the Foreign Language Building

ClassTech also supplies links to other support groups and classroom information in other colleges and departments that instructors might find helpful.

Figure 19

How often do you use the ClassTech-provided online documentation and "help" files?

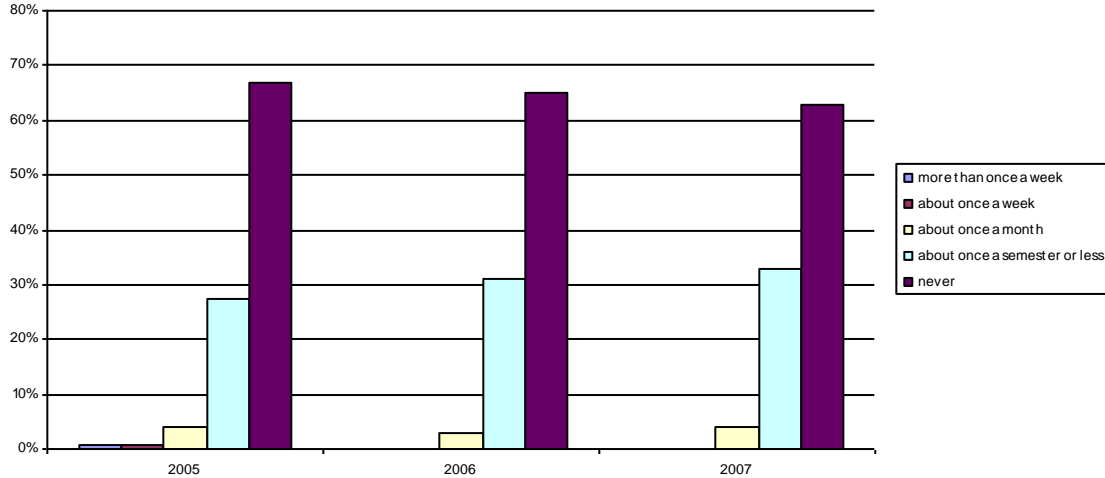
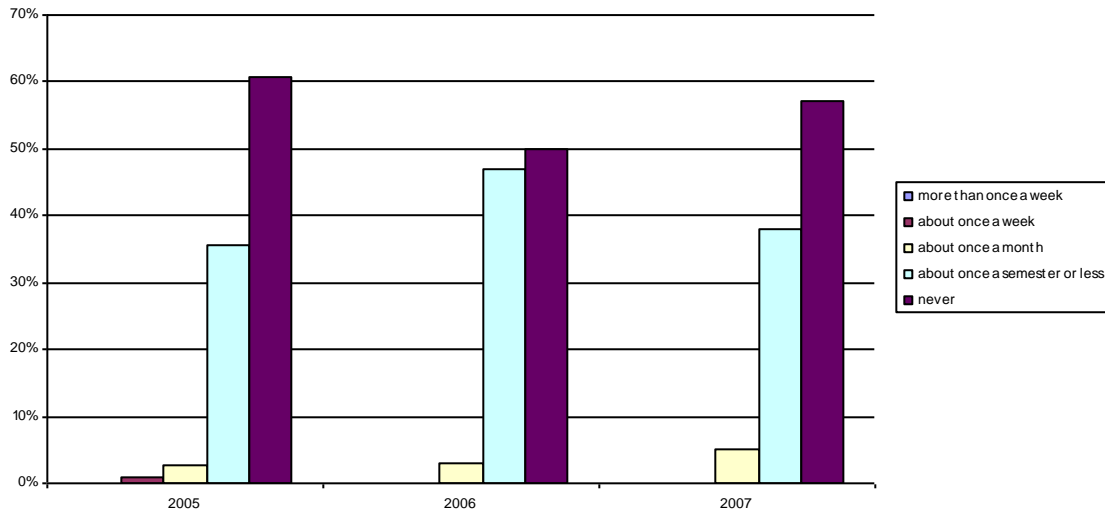


Figure 20

How often do you use the ClassTech-provided online images of ITS classrooms?

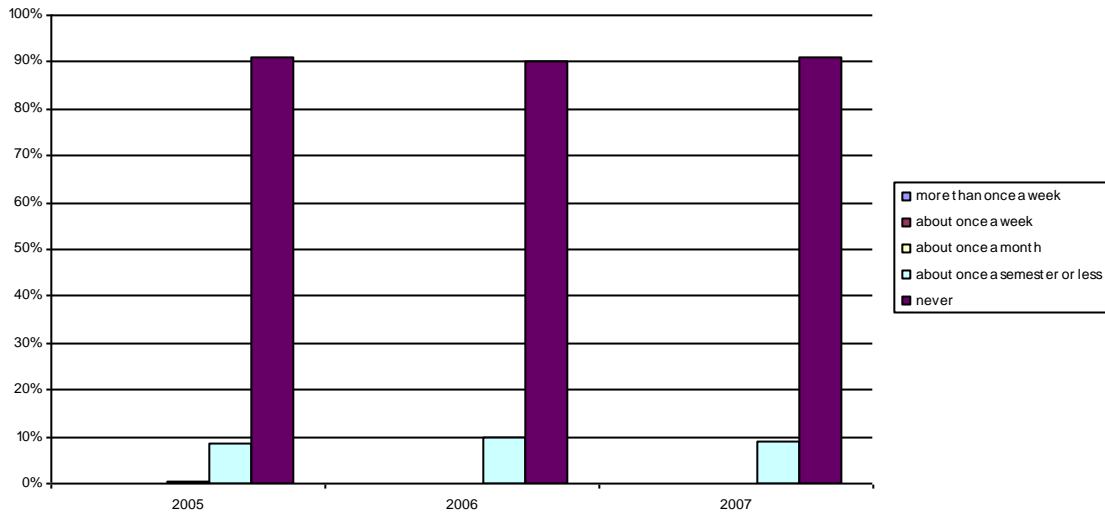


As noted in Figure 21, online images are the most frequently used asset on the CITES ClassTech website. This is true not only for the classroom users but the ClassTech staff as well. They often rely on the images as they correspond with users via the phone and e-mail, in real-time or asynchronously. At least half the respondents indicated that they are accessing these images.

Over 2,500 images are posted on the website.

Figure 21

How often do you use the ClassTech-provided online training videos?

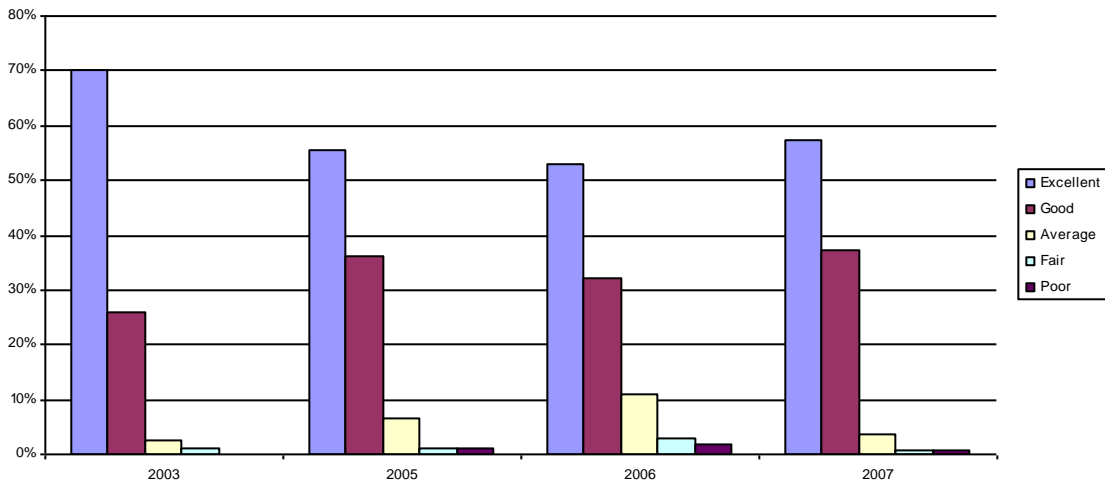


The online videos were produced using Serious Magic’s Visual Communication authoring tool in 2005. We will soon begin the process of updating these. Video segments average 3-5 minutes in length and cover general ITS classroom use as well as specific tasks such as connecting a laptop. We will be shortening the videos and making them more specific.

Quality of Customer Service

Figure 22

How would you rate the overall quality of customer service of CITES Classroom Technologies?



This year there is a 5% increase in “Excellent” ratings, 95% indicating “Good” or “Excellent,” which is up from 85% in 2006. The quality of customer service ratings should

continue to improve with additional training and experience of our undergraduate student staff, the group that often provides initial phone support to instructors. This is still a relatively new implementation and many of the student staff members are new to their roles.

Comments Concerning CITES ClassTech Staff

In the open-ended portion of the survey, there were eleven responses that were positive and expressed appreciation. The comments concerned staff knowledge, willingness to help, responsiveness and pleasant demeanor. As the number of ITS classrooms increase and the level of usage increases campus-wide, ClassTech staff work hard to maintain high standards.

Below are a few of the comments that were made in regards to ClassTech staff:

“I appreciate the surprising promptness with which some one from CITES arrives in case of problems.”

“Thanks for the great support and help. ClassTech is always helpful and works very hard at helping instructors use the smart classrooms.”

“Nice job, you people rock. The response to problems is immediate. The only issue is that is usually right in the beginning of class. Don't know how to solve that. You have my support.”

“You guys are doing a great job, but there needs to be better coordination between the department and you about teaching needs.”

“When the alarm battery died, the beeping was so loud and continual that class had to be dismissed. Response to phone calls was very poorly handled. (It is my understanding that the following class in the room lost their entire class session.) This is a design decision that is inexcusable. When a request for help was made, person answering the phone did not seem to even be able to figure out where the building was. (That was 20 minutes after the problem was reported.)”

Security Codes and User Roles

As has been mentioned previously, each classroom has a lock and an alarm system. A four-digit code is required for entry. Each classroom has its own unique code and ClassTech staff change it at the end of each semester. CITES ClassTech maintains a database for every instructor who has received a code. Information collected consists of e-mail addresses, department, course number, the days and times the course meets, and the location of the course. This information is frequently used to notify classroom users of any modifications to the equipment. It also is used for targeted e-mails and the creation of reports on the demographics of classroom usage.

Comments on Security

Security is a balance between safeguarding the equipment and allowing for ease of use. This often results in a difficult compromise. Respondents have commented, this year and in previous surveys, that the security measures can be an impediment to instruction.

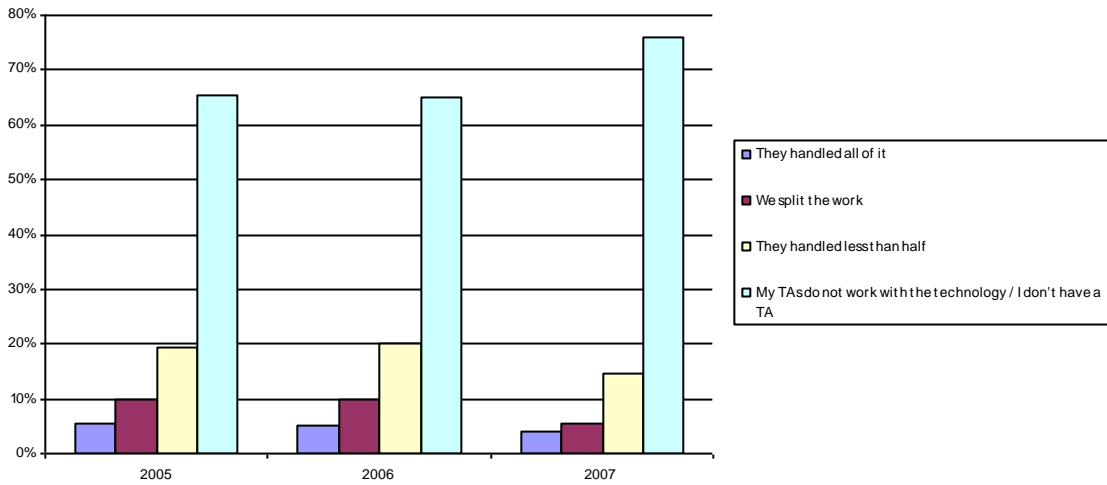
Respondents had general complaints about the padlocks. For example, they reported that the dials were too difficult to read, previous users put the locks on backwards, and the padlocks are less convenient than the electric locks and take longer to open.

Role of Classroom Users

In the figure below, it should be noted that the decline could be explained by the decrease in the number of TAs overall. It could also be attributed to the increasing number of Partial ITS classrooms and ITS classrooms that are going into smaller classrooms. Smaller classrooms mean smaller class sizes and no teaching assistants.

Figure 23

What amount of responsibility do your teaching assistants take for instructional technology in class?



22 respondents were not traditional instructors, but they consisted of support personnel, administrative staff, and others. The ITS classrooms are often used for training sessions and meetings, research symposia, and conferences. They are often used by Registered Student Organizations in the evenings and on weekends. The Office of Facilities Management and Scheduling reports that the use of the ITS classrooms for non-course activities numbers in the thousands of hours per year.

Language Video Cabinet Survey

The Language Video Cabinet (LVC) contains a large television monitor, a VCR/DVD combo unit, a cassette deck, and a document camera. The VCR/DVD combos were an upgrade completed in the summer of 2006. They can be found in 37 classrooms across campus-- in the Foreign Language Building, Davenport Hall, Gregory Hall, Lincoln Hall, and the Armory. In the Foreign Language Building the LVCs were upgraded with a region-free DVD player and a multi-format VCR to allow for the playback of media from overseas.

28 professors and graduate student instructors responded to the survey. The College of Liberal Arts and Sciences (LAS) was the most represented, with 21 of the 28 respondents reporting an affiliation. Other programs represented are Human Resource Education and the College of Communications.

It is clear from the responses that for this group the presentation technology is critical for instruction as well. Over 80% of the instructors selected "very important" or "important" when answering the question, "How important is the Language Video Cabinet to your teaching?"

Table 9

How important is the Language Video Cabinet to your teaching?	Response %	Response Count
very important	63.0%	17
important	18.5%	5
somewhat important	14.8%	4
unimportant	3.7%	1
I don't use the Language Video Cabinet equipment	0.0%	0
I am not an instructor	0.0%	0

The new addition of the DVD player to these systems made a significant impact. It quickly became the most used piece of equipment in the cabinet, as noted in the table below. Instructors use DVD movie clips to demonstrate foreign language pronunciation, introduce diverse cultures and geographies, play music, and to enhance instruction overall. 50% of the instructors show a DVD at least once a month and 7 of the respondents show one more often.

Table 10

On a typical class day, what Language Video Cabinet item or items do you use? Please check all that apply.	Response %	Response Count
VCR	64.0%	16
DVD Player	92.0%	23
Document Camera (a.k.a. "Elmo")	24.0%	6
Slide Projector (available in some rooms)	12.0%	3
Audio cassette deck	8.0%	2

The document cameras housed in the LVCs are an older version of what is typically found in the ITS classrooms. Consequently they are not as reliable and are generally starting to show their age. The fact that fourteen or more than half of the instructors indicate that they do not use the equipment may be due to their decreased functionality. An upgrade to the document cameras might significantly increase their use.

Table 11

How often do you use the document camera (a.k.a. "Elmo")?	Response %	Response Count
once every class session I teach	3.9%	1
about once a week	7.7%	2
about once a month	15.4%	4
about once a semester	19.2%	5
never	53.9%	14

As noted in the table below, the transparency projectors are still used in some capacity by a majority of the respondents. ClassTech provides a transparency projector in every general assignment classroom on campus. They remain a viable teaching tool.

Table 12

How often do you use overhead transparencies in class?	Response %	Response Count
once every class session I teach	28.0%	7
about once a week	20.0%	5
about once a month	8.0%	2
about once a semester	4.0%	1
never	40.0%	10

Among many ITS users, the chalkboard is still a necessary tool for teaching. Among LVC users, the necessity appears to be absolute. Only two of the respondents, as noted in Table X, report that they do not use the chalkboard every class.

Table 13

How often do you use the chalkboard in class?	Response %	Response Count
once every class session I teach	88.0%	22
about once a week	4.0%	1
about once a month	0.0%	0
about once a semester	4.0%	1
never	4.0%	1

Below are a just of a few of the responses gleaned from the open-ended questions on the survey. In summary, the presentation technology is critical to the kind of instruction that takes place in these classrooms, which is most often language instruction. Although these classrooms are relatively small—most are in the 30-40 seat range—many of the instructors feel the television monitor is too small for displaying content. Also, the way the monitor and cabinet are oriented makes it even more difficult to see and makes the classroom less useful for other purposes (e.g. covers up the chalkboard, faces a different

direction than the chalkboard). In general, instructors in LVC classrooms would like to see technology that more closely resembles what can be found in ITS classrooms.

Question: What are some of the benefits to your teaching that the presentation technology in the classrooms allows?

"I teach Listening and Oral Communication, so using technology is essential. I MUST give them authentic listenings (VHS, DVD, CDs, audio tapes) every class, so without the cabinet it would be impossible to teach my class."

"The LVC cabinets are completely out of day and sorely insufficient to instruction needs. All FLB classrooms need computer, internet, DVD, and VHS. These are the resources I need on a day to day basis and my instruction was severely impaired by being placed in a classroom with only LVC."

"Flexibility in media use indispensable, if anything the equipment should be enhanced by an LCD projector."

Question: What challenges do you encounter when using a Language Video Cabinet classroom?

"The equipment is older and sometimes doesn't work which makes it unreliable when I'm prepping for a class. I always have to have a backup plan, which is frustrating."

"It was ridiculously difficult to open, the latch always got stuck. It was also at a very awkward angle to plug anything in, we either had to open the cabinet up just for the plug, or find a student small enough to crawl back behind the cabinet. Very inconvenient."

"In XXX, as in many of the conference rooms in FLB, the cabinet blocks the view of the blackboard for some students, and inhibits student movement in the room."

Question: Is there anything else we should know about your use of the Language Video Cabinet facilities, services, etc.?

"For my classroom needs, a room with a computer and internet access is becoming essential. There are not enough of these classrooms (computer enhanced), so a video cabinet is the next best thing, although I have to modify my instruction. If I could ask you to improve two things about the video cabinets, it would be to add a cd player and a computer with internet. Also, a projector that laptops could hook-up to would be EXCELLENT."

"For a university who encourages the use of technology in the classroom, our classrooms are ill-equipped. There are too few rooms with a wide range of technological support."

"Thank you for providing the cabinets. They are very helpful for language instruction."

Graduate Student Instructor Survey

Unfortunately only three of invited graduate student instructors participated in the survey this year. However, this may be due more to difficulty in locating and identifying graduate

instructors assigned to ITS classrooms than an indication of their lack of interest in participating in the survey. It is common for graduate instructors, on occasion the primary or sole instructor for a course, to not be mentioned in the course listing. Even the room reservation software does not list them by name. This makes it difficult to contact them not only for survey invitations but even to inform them about the existence of the audiovisual technology, the availability of training and support, and similar services that are available to all instructors.

What we do know from the three who did respond is they share many of the concerns that faculty shared. They also teach in similar ways. Two of the three use a Windows laptop in their classroom instruction at least every week, even though all three taught in ITS classrooms with a resident PC. They are heavy users of video, making use of QuickTime, Flash, Windows Media Player, as well as DVDs. And two of the three have been trained by ClassTech staff and use the online documentation and images.

Appendix

Appendix A

List of ITS Classrooms Available during Survey

Altgeld 245	English 259	Mumford 103
Altgeld 314	Everitt 151	Mumford 313
Animal Science Lab 150	Everitt 165	Natural History 228
Architecture 120	Everitt 241	Natural History 229
Architecture 301	Everitt 245	Noyes 100
Architecture 302	Everitt 260	Noyes 161
Armory 101	Everitt 269	Noyes 162
Armory 133	Foellinger Auditorium	Noyes 217
Armory 134	Foreign Language G-18	Nuclear Engineering 203
Armory 136	Foreign Language G-20	Psychology 23
Armory 137	Foreign Language G-24	Psychology 29
Armory 145	Foreign Language G-30	Psychology 31
Armory 147	Foreign Language G-32	Roger Adams Lab 116
Armory 148	Foreign Language G-36	Siebel Center 1103
Armory 386	Foreign Language G-46	Siebel Center 1105
Armory 428	Foreign Language G-48	Siebel Center 1109
Armory 429	Freer 130	Siebel Center 1111
Armory 430	Gregory 100	Siebel Center 1131
Armory 431	Gregory 112	Siebel Center 1214
Bevier 180	Gregory 213	Siebel Center 1302
Bevier 242	Gregory 223	Siebel Center 1304
Burrill 124	Gregory 319	Siebel Center 1404
Burrill 140	Henry Administration 138	Speech & Hearing 110
Ceramics 218	Henry Administration 156	Speech & Hearing 112
ChemAnnex 112	Huff 112	Talbot 103
Davenport 113	Huff 209	Temple Hoyne Buell 134
Davenport 329	Krannert Art Museum 62	Transportation 101
David Kinley Hall 114	Law Auditorium	Transportation 103
David Kinley Hall 119	Law Room D	Transportation 112
David Kinley Hall 123	Library 66	Transportation 114
David Kinley Hall 215	Lincoln 106	Transportation 203
David Kinley Hall 219	Lincoln 192	Transportation 204
Digital Computing Lab 1310	Lincoln Theater (Room 100)	Turner W109
Digital Computing Lab 1320	Loomis 141	Turner W115
Education 002	Loomis 144	Wohlers 024
Education 033	Loomis 151	Wohlers 130
Education 037	Materials Science & Engineering 100	Wohlers 141
Education 162	Materials Science & Engineering 119	Wohlers 166
Education 323	Materials Science & Engineering 305	Wohlers 226
Education 385	Mechanical Engineering 135	Wohlers 245
Education 389	Mechanical Engineering 153	
Engineering Hall 106B1	Mechanical Engineering 218	
Engineering Hall 106B3	Mechanical Engineering 243	
Engineering Hall 106B6	Mechanical Engineering 253	
Engineering Hall 106B8	Mechanical Engineering 335	
English 108		
English 160		

Appendix B

2007 Instructor Survey

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1. During the current spring 2007 semester, which ITS classroom did you use? (If you used more than one classroom, choose one and refer to it when answering the following questions. There is space at the end of the survey for making more general comments or for addressing issues with other ITS classrooms. If your room is not listed below, it is not an ITS classroom.)

Importance

2. How important is the Integrated Teaching System equipment to your teaching?

- very important
- important
- somewhat important
- unimportant
- I don't use the ITS equipment
- I am not an instructor

3. How often do you open the ITS cabinet and use one or more pieces of equipment?

- once every class session I teach
- about once a week
- about once a month
- about once a semester
- never

4. What are some of the BENEFITS that the presentation technology in the classrooms allows?

5. What are some of the CHALLENGES when using an ITS classroom?

6. How did you learn that the classroom you were assigned/reserved was an ITS classroom?

- Massmail message from CITES Classroom Technologies
- Campus scheduling office (Office of Facilities Management and Scheduling)
- Departmental secretary
- Discovered it when I entered the room for the first time
- Other (please specify)

7. On a typical class day, what ITS item or items do you use? Please check all that apply (some of these may not be available in your particular classroom).

- PC Computer in the cabinet
- PC laptop
- Mac laptop
- Other OS laptop
- VCR
- Document Camera (a.k.a. "Elmo")
- Slide Projector
- Microphone
- Laserdisc
- DVD player
- CD player

8. Are there any items that you have NEVER used in the ITS classrooms?

- PC Computer in the cabinet
- PC laptop
- Mac laptop

Other OS laptop
VCR
Document Camera (a.k.a. "Elmo")
Slide Projector
Microphone
Laserdisc
DVD player
CD player

9. Do you use a laptop computer in the ITS classrooms?

Yes, a Windows laptop
Yes, a Mac laptop
Yes, a PC laptop with a non-Windows, non-Mac OS
No, I don't use a laptop at all

10. How often do you use a laptop in class?

once every class session I teach
about once a week
about once a month
about once a semester

11. If you use a laptop computer, how often do you connect to the network?

once every class session I teach
about once a week
about once a month
about once a semester
never

12. How often do you show video (VHS, DVD) with the projector?

once every class session I teach
about once a week
about once a month
about once a semester
never

13. How often do you use the document camera (a.k.a. "Elmo")?

once every class session I teach
about once a week
about once a month
about once a semester
never

14. How often do you use overhead transparencies in class?

once every class session I teach
about once a week
about once a month
about once a semester
never

15. How often do you use the chalkboard or whiteboard in class?

once every class session I teach
about once a week
about once a month
about once a semester
never

16. What software tools do you use to deliver instructional content to your class? Please check all that apply.

- Acrobat
- AutoCAD
- Blackboard
- CAChe
- Exceed
- FirstClass
- Firefox
- Illinois Compass (WebCT Vista)
- Internet Explorer
- Mallard
- Mathematica
- Matlab
- MS Excel
- MS Windows Media Player
- MS PowerPoint
- MS Word
- MiniTab
- Quicktime
- PowerDVD Player
- Pro/Engineer
- Pspice
- RealPlayer
- SAS
- Shockwave/Flash
- SPSS
- VLC Media Player
- WebCT Campus Edition
- Other (please specify)

17. What amount of responsibility do your teaching assistants take for the instructional technology in class?

- They handle all of it
- We split it equally
- They handle less than half
- My teaching assistants do not work with the technology
- I don't have a teaching assistant for this class

18. Have you ever been trained to use an ITS classroom by a CITES Classroom Technologies staff member?

- Yes
- No

19. How would you rate the quality of the training you received?

- Excellent
- Good
- Average
- Fair
- Poor

20. How often do you use the ClassTech-provided online images of ITS classrooms?

- more than once a week
- about once a week
- about once a month

about once a semester or less
never

21. How often do you use the ClassTech-provided online documentation and "help" files?

more than once a week
about once a week
about once a month
about once a semester or less
never

22. How often do you use the ClassTech-provided online training videos?

more than once a week
about once a week
about once a month
about once a semester or less
never

23. How often do you encounter problems with the ITS equipment that requires you to modify your classroom lecture/presentation?

once every class session I teach
about once a week
about once a month
about once a semester
never

24. What piece(s) of equipment appeared to be the culprit?

PC Computer in the cabinet
PC laptop
Mac laptop
Other OS laptop
VCR
Document Camera (a.k.a. "Elmo")
Slide Projector
Microphone
Laserdisc
DVD player
CD player
Alarm pad and Padlock
Other (please specify)

25. How would you rate the overall quality of customer service of CITES Classroom Technologies?

Excellent
Good
Average
Fair
Poor

26. Which of the following technologies are you currently using in your teaching activities?

Video conferencing (two-way video and audio, in real-time)
Podcasting (capture of audio for later playback on-demand)
Online chat or instant messaging
Voice (Internet phone calls)
Content capture (audio, video, and desktop computer capture, or some variation, for later playback on-demand)
Audience response system (clickers)
Other (please specify)

27. Which of the following technologies would have a significant positive impact on your future classroom teaching?

- Video conferencing (two-way video and audio, in real-time)
- Podcasting (capture of audio for later playback on on-demand)
- Online chat or instant messaging
- Voice (Internet phone calls)
- Content capture (audio, video, and desktop computer capture, or some variation, for later playback on demand)
- Audience response system (clickers)
- Other (please specify)

28. Is there anything else we should know about your use of the ITS facilities, training programs, services, etc.?

29. To what department are you primarily affiliated?

30. To what college are you primarily affiliated?

31. In what capacity do you use the ITS classrooms?

- As an instructor
- As a non-course related user
- As support staff
- Other (please specify)

32. If necessary, tell us more about your specific role involving the use of the ITS classrooms.

Appendix C

Open-Ended Responses

Benefits

Categories and number of coded responses per category for the question, What are some of the BENEFITS that the presentation technology in the classrooms allows?

Can use multimedia easily during lecture; convenience; reliable; multiple technologies; easy of switching	83
Can use Powerpoint during lectures	70
Allows for web access during class	58
Allows for highly visual presentation of material	45
Can show course-related motion pictures, videos, clips, animations	32
Because of technology, can make greater use of class time	20
It is essential to instruction	18
Provide sound and visual effects to course materials	17
Allows students to do multimedia presentation	14
Answered, but not worth coding	11
No longer need to carry my own equipment	10
Can integrate lecture with Illinois Compass or course website	9
Provides sound/voice reinforcement	9
Addresses the multiple learning styles of students	7
can display the textbook or other printed materials	6
More dynamic; interactive	5
Allows the use of my tablet PC	4
Time required to prepare for class is reduced	4
Meets students' demands	4
Visiting lecturers	3
Allows for distance education	2
Comments concerning support	1
Reliable	1
Consistency between locations	1

Challenges

Categories and number of coded responses per category for the question, What are some of the CHALLENGES when using an ITS classroom?

Not reliable; or having to rely on it	40
Comments concerning resident computers	26
Problems with access, padlock complaints	24
Remembering how to use; training issues	21
Process too complex, time consuming, locating equipment, usability issues	20
Other instructors	14
Problems with lighting, projection screens, temperature, etc.	11
Having to bring a laptop	10
Quality of document camera	10

Need more campus Macintosh support; PC support for Mac users	9
Cannot use ITS and chalkboard at the same time	8
Control problems; seamless integration of tech is absent	8
"pedagogical issues"	8
Cabinetry	7
Microphone problems	7
Standardization; classroom-to-classroom problems	6
Need wireless remote	6
Comments concerning projectors	5
Laptop connection or interface problems	5
Need to show different images on two screens	5
Batteries, replacing	5
System does not have equipment/features I desire	4
DVD control/ no remote	4
Answered, but not worth coding	4
Need better documentation in the classrooms	3
VCR problems	3
Not enough ITS classrooms	3
Time for set-up, testing	3
one-off problem	2
Cleanliness; lack of cable management	2
Comments concerning support	1
Improve communication about services, or whether it is an ITS classroom	1
Missing document camera; some materials too big to display	1
Lack of VCR (Siebel)	1
DVD audio, video	1

Anything Else We Should Know?

Categories and number of coded responses per category for the question, "Is there anything else we should know about your use of the ITS facilities, training programs, services, etc.?"

Answered, but not worth coding	15
Appreciation	11
Having to bring a laptop	8
Problems with lighting, projection screens, temperature, etc.	7
Not enough ITS classrooms	7
Remembering how to use; training issues	6
Laptop connection or interface problems	5
Comments concerning resident computers	4
Need more campus Macintosh support; PC support for Mac users	4
System does not have equipment/features I desire	3
DVD control/ no remote	3
Improve communication about services, or whether it is an ITS classroom	3
Cabinetry	3
Other instructors	3
Quality of document camera	3

Batteries, replacing	3
Cannot use ITS and chalkboard at the same time	2
Problems with access, padlock complaints	2
Control problems; seamless integration of tech is absent	2
Microphone problems	2
Reliable	1
one-off problem	1
Missing document camera; some materials too big to display	1