2010-2011 Survey Results:

The Unique Challenges Facing the IT Professional in K-12 Education

April 2011

A research survey and report conducted by:

In partnership with:

ADVANCING K-12 TECHNOLOGY LEADERSHIP

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Dear IT Professional,

As we compiled the data for the fourth year of this benchmarking survey, *The Unique Challenges Facing the IT Professional in K-12 Education*, I kept hoping for good news and positive trends. In years past, we continued to see the same negative results - too much stuff, not enough staff; lack of funds; more expectations.

This year, I was pleasantly surprised to see exactly what I wanted for you - a sign of hope. We actually see trends that are slightly positive!

However, we also still see some that fall flat. You are still forced to face the huge challenge of managing and supporting an increasing amount of technology assets with an overworked and understaffed department. When compared to your counterparts in the corporate world, the numbers are simply shocking.

Don't be too discouraged by the flat trends even if they aren't completely hopeful on the surface. The upside of a flat trend is that it's something predictable - meaning you can plan around it. It should be empowering to know that you can, at least, take action even when things aren't optimal.

SchoolDude.com and CoSN collected this data to assist you with your daily fight for technology in our schools. We wanted you to have quantitative data to justify the issues you know to exist. I hope it helps.

Sincerely,

Darlene Nyce
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Key Findings

K-12 Information Technology departments continue to face severe, if not overwhelming, challenges. Among the key findings of this fourth annual survey:

Information Technology Staffing

- Mean ratio of students to technicians is 1,905:1.
- Mean ratio of students to total technical support staff is 532:1.
- Mean ratio of students to total IT staff is 428:1.
- Sixty-two percent of respondents reported that the size of their IT staff remained the same as last year. Twenty-five percent reported a decrease in staffing, while 13 percent had an increase.
- Media coordinators continue to be the most staffed IT position, but staffing levels declined 29 percent compared to 2009. On average, schools have 4.0 FTE media coordinators; technology assistants and technicians are the next most staffed IT positions.
- Help desk manager continues to be the position most likely to have no FTE assigned, with 60 percent reporting no FTE for the position. This rate has remained steady over the past three years.
- Seventy-eight percent of respondents indicated the need for more instructional technology staff and 74 percent needed more technicians. While the need remains large, the percentage in both cases dropped more than 10 percent from 2009.
- As in prior years, more than 70 percent indicated they have inadequate staffing to integrate technology into the classroom and implement new technologies into their schools.
- Use of Educational Service Agencies was queried in this year's survey: 46 percent of respondents reported not having access to a shared service provider, while 41 percent indicated they send out work to one shared provider; of the latter, two-thirds sent out work related to their Internet Service Provider (ISP).
- There was a large increase in the percentage of school systems that outsourced IT staffing: 76 percent compared to 44 percent the prior year. This increase reversed a downward trend, but the majority of those outsourcing staffing only did so with a small percentage (1 to 10 percent).
- Nearly two-thirds (65 percent) reported that the greater part of their department's workload (more than 50 percent) is spent reacting to technical problems, as opposed to working proactively. This is a slight increase over last year, and continues an upward trend.
- Respondents reported that student management systems, classroom technology, and printers needed the most technical support.

Information Technology Assets

- The mean number of students per computer is three. Considering only student and lab computers, the mean number rises to four.
- The mean number of computers per technician is 818, a 14 percent reduction and the first reduction since the survey's inception.
- The mean number of servers per technician is 11. This is a 27 percent reduction from the prior year.
- Seventy-two percent indicated the number of computers increased compared to last year (a decline from 81 percent in 2009), but only 1 percent said staffing increased proportionately. Of those reporting an increase in computers, 68 percent said IT staffing remained the same.
- Aging of the installed computer base continues as a problem.
- Twenty-four percent said that more than one-half of their computers are five or more years old, up 33 percent over 2009. Eighty-five percent thought that it takes more time to support these computers. Over half (57 percent) reported having a formal refresh strategy to replace older computers.
- Eighty-seven percent reported an increase in non-computer IT assets (e.g., interactive white boards, document cameras, storage devices); 47 percent reported significant increases in these assets. Both figures are comparable to last year's.
- Two-thirds conduct an annual inventory of IT assets for internal use.

Software and Systems

- Eighty-eight percent of school systems indicated they were very familiar or somewhat familiar with Software as a Service (SaaS) as a delivery model. Fifty percent were using at least one SaaS-based application.
- Seventy-eight percent of school systems have secure remote access or virtual private networks, with 46 percent fully implemented. Both these levels represent increases over 2009: 8 percent and 31 percent, respectively.
- Ninety-five percent have or are currently developing enterprise level antivirus solutions.
- Web content management systems continue to increase significantly. Eighty-eight percent of schools have fully implemented systems, an increase of over 35 percent from 2009.
- Faculty intranet deployment continues to grow. Sixty-three percent now have a faculty intranet, with 44 percent fully implemented. Both figures represent double-digit increases: 13 percent and 26 percent, respectively.
- Eighty-three percent have a student/parent/teacher portal, up 11 percent over 2009.
- Fifty percent have video conferencing.
- Forty percent are offering online classes.
- Twenty percent are offering e-textbooks, although only a quarter of them have fully implemented systems.
- Sixty-nine percent of schools have a functioning software-based Help Desk, an increase of 13 percent over 2009.
- Fifty-five percent of schools have a functioning software-based IT Asset Management System, a 15 percent increase over 2009.

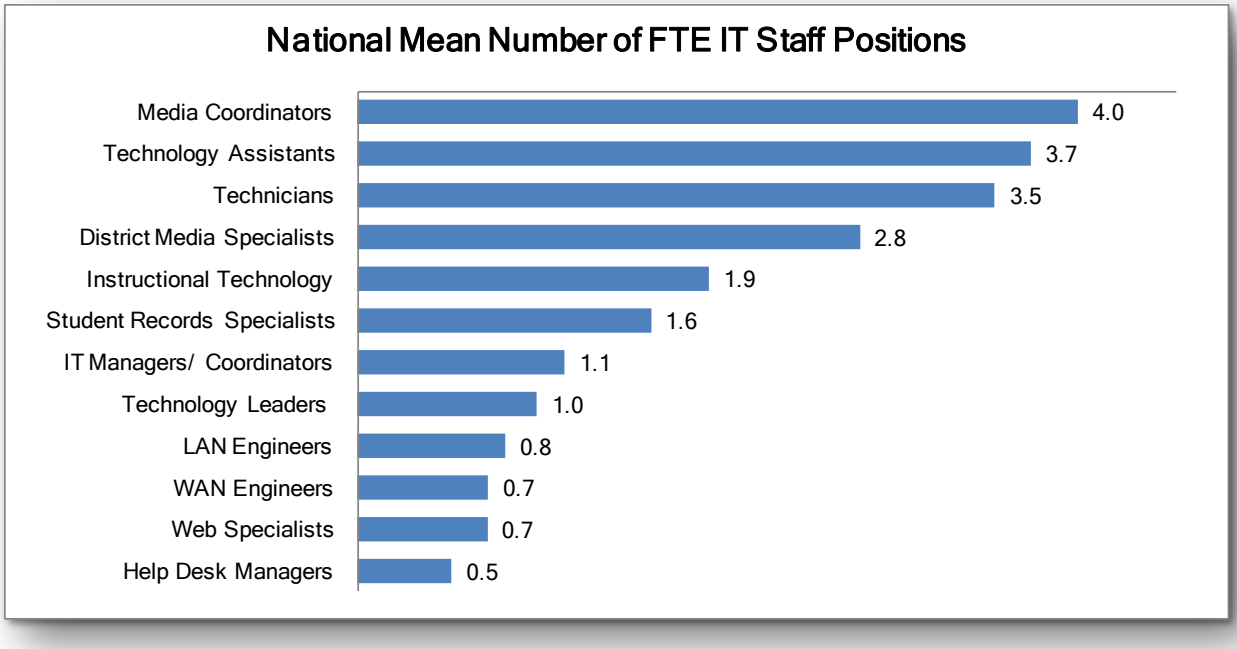
Information Technology Issues

- Not surprisingly, IT funding was identified as the most important issue to resolve for strategic success in 2010. This has been the case in every survey conducted to date.
- More than three-quarters (77 percent) of survey participants indicated that the IT budget was less than they needed to meet the expectations of the school board and district leaders.
- Seventy-one percent thought that their IT budget was less than needed to support existing computer assets.
- Seventy-nine percent thought that there were not enough financial resources allocated to invest in new computer assets to meet state requirements.
- For the first time, respondents were asked how they planned to overcome budgeting and funding issues. The most common approach (61 percent) was to cut back on technology purchasing. Network or server consolidation (56 percent) and e-Rate funds (53 percent) were the next most common responses.

Information Technology Staffing

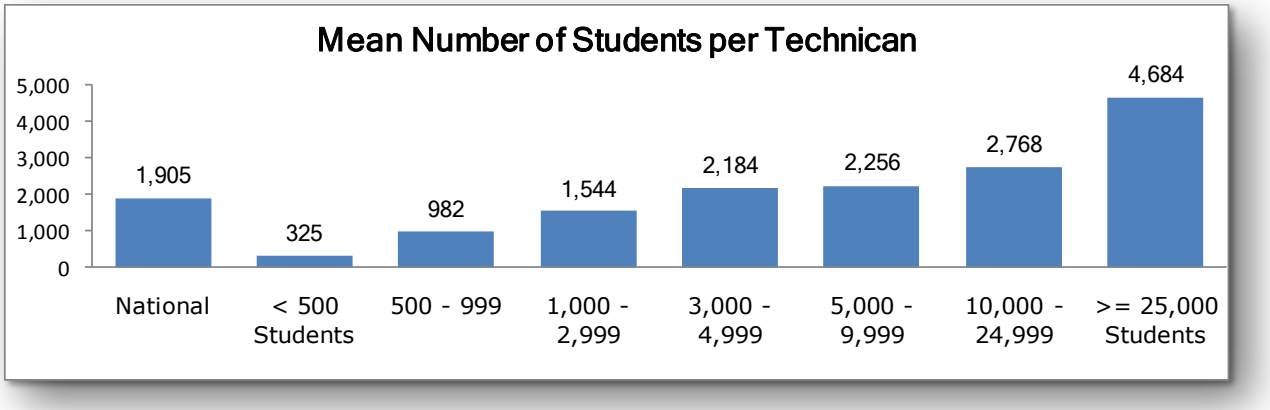
The role of media continues at the top of the IT staffing hierarchy for K-12, for the second year in a row topping technology positions. The continuing rise of social media is likely supporting this trend, which is further reinforced by the emergence of district media specialists as a strongly staffed position.

Media coordinators are the highest FTE IT position in K-12, with a national average of 4.0 coordinator positions per school. While this is down from 2009 (5.6), it continues strong enough to keep the media coordinator position at the number one rank over technicians and technology assistants. The latter continue in positions two and three, followed by district media specialists in rank four.

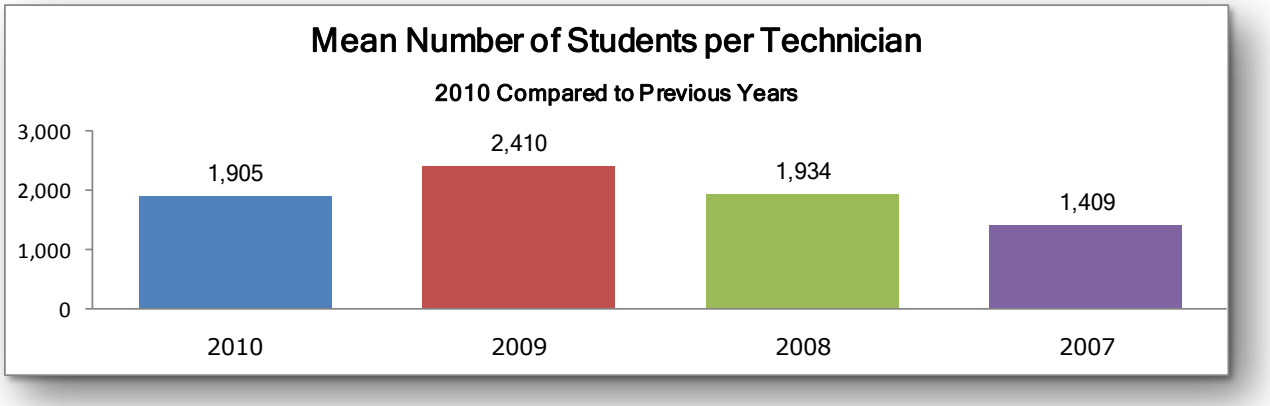


Help desk manager remains the “neglected” position in many schools, for the third consecutive year topping the list of positions with no FTE and again being the only position with greater than half the schools reporting no FTE for it.

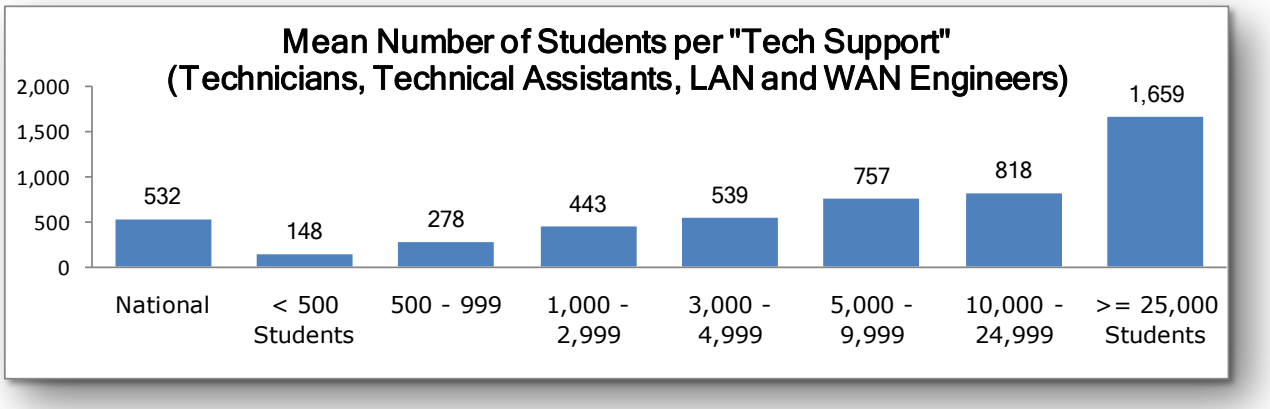
End user support continues as one of IT’s most basic and time-consuming functions. Overall, support staff ratios remain disturbingly high, particularly in larger school districts.

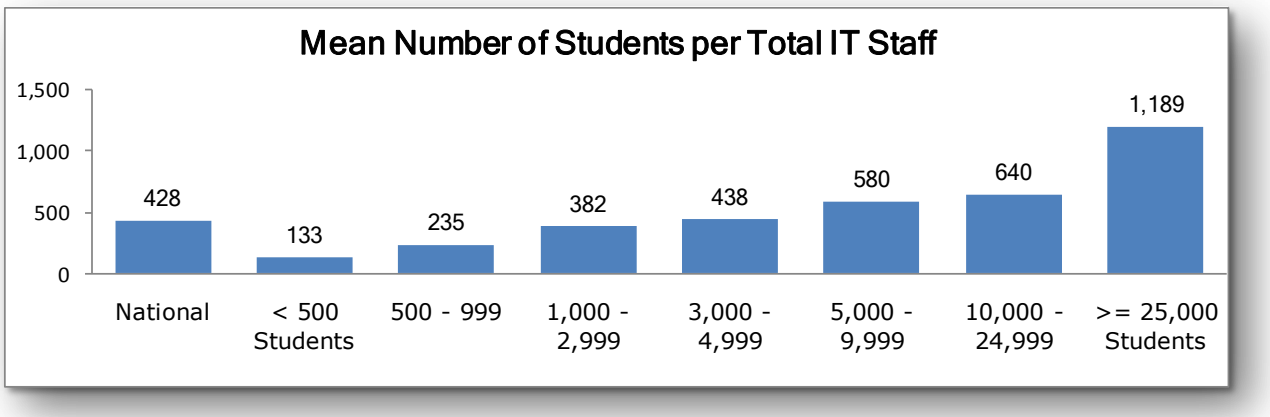


The mean number of students per technician is 1,905:1. This represents a 20 percent reduction from last year, but remains more than 35 percent higher than 2007 levels. Typically this ratio is lower for small schools and increases disproportionately for larger schools and districts; this ratio held true without exception this year.



The ratio falls for students to technical support (including technicians, technical assistants, and LAN and WAN engineers) to 532:1, a 60 percent reduction over 2009 levels. When total IT staff is considered, the ratio continues a slight but steady decline: in 2010, 428:1; in 2009, 483:1; in 2008, 491:1.





As in past surveys, respondents were asked what other staff positions they had in their IT department. The list of responses includes the following job titles:

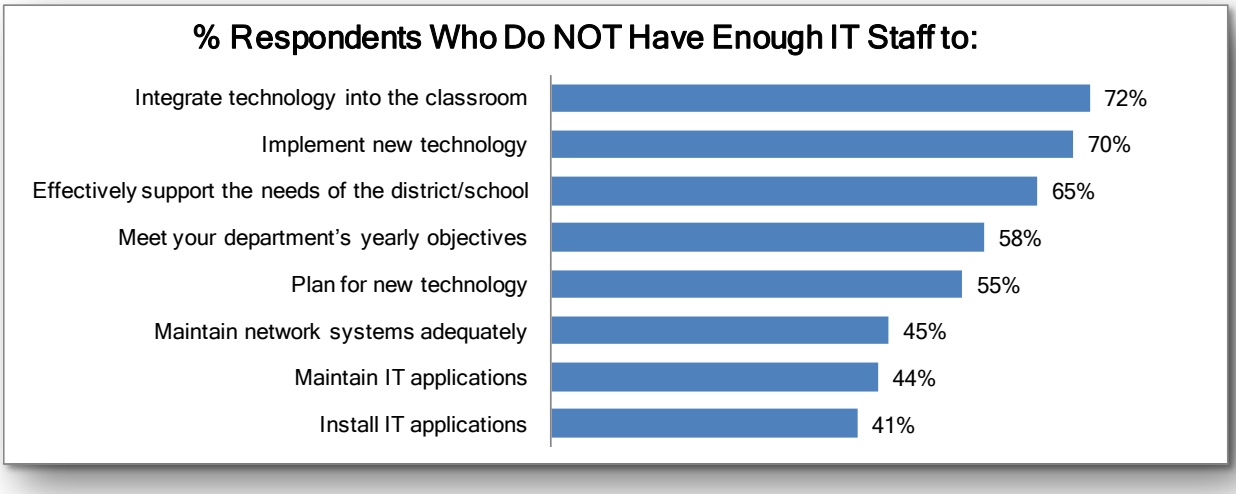
- Administrative assistant
- AV technician
- BOCES support
- Clerk
- Communications technician
- Coordinator of educational TV
- Copy center coordinator
- Database administrator
- Database systems analyst
- Data warehouse administrator
- Financial information support specialist
- Installer
- Inventory technician
- IT guru
- Librarian
- MAC specialist
- MIS support staff
- Network administrator
- Network technician
- Office manager
- Programmer
- Secretary
- SIS analyst
- Software application specialist
- Telecommunications specialist
- Testing coordinator
- Webmaster
- Web services manager

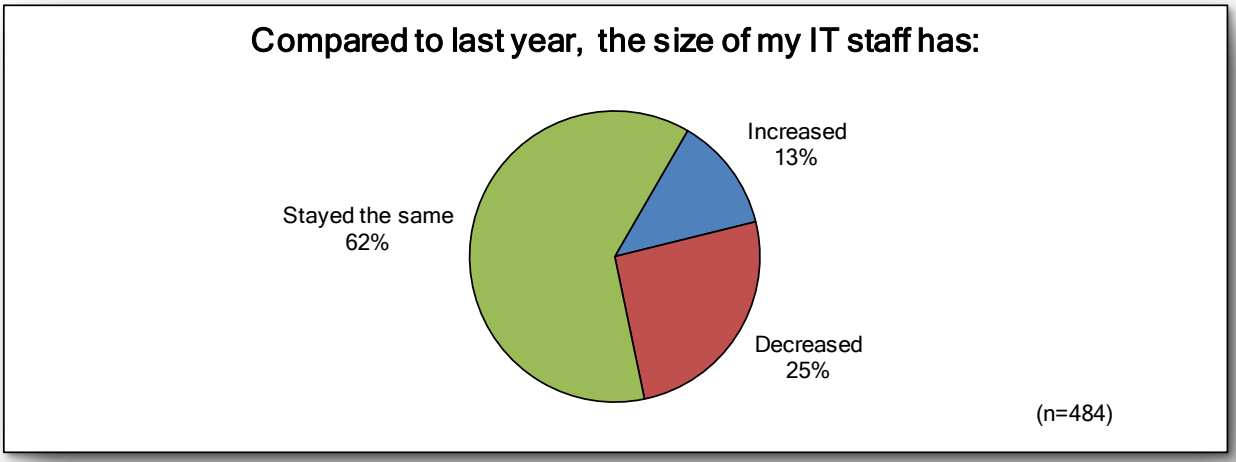
Staffing Level Concerns

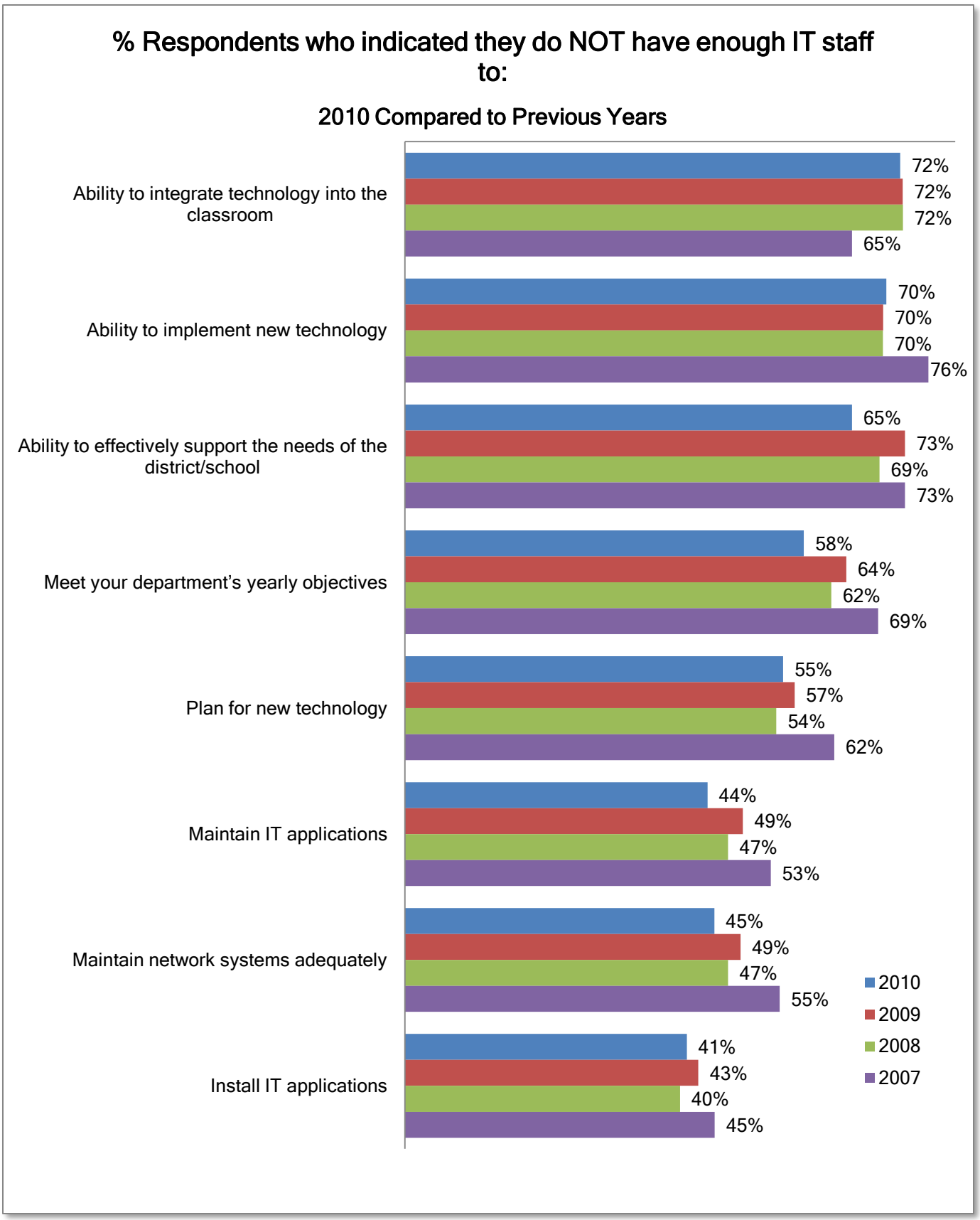
Though slightly down from 2009, the percentage of those believing they don't have enough staffing to effectively support the needs of the school or district remained at a high level: 65 percent.

The issue of having adequate staffing to integrate technology into the classroom remains a disturbing one. Seventy-two percent of respondents do not believe they have adequate staffing to do this, which is the same percentage as the last two years.

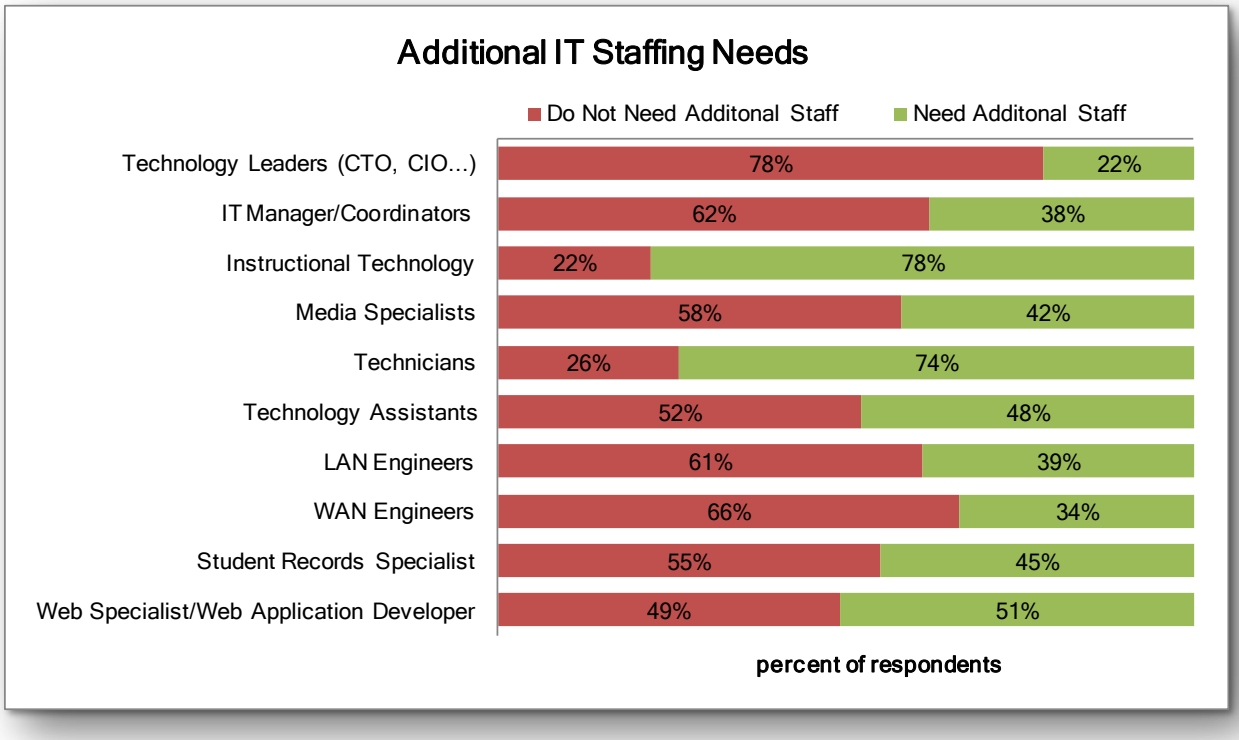
Actual staff size remained the same or became smaller for 87 percent of respondents.





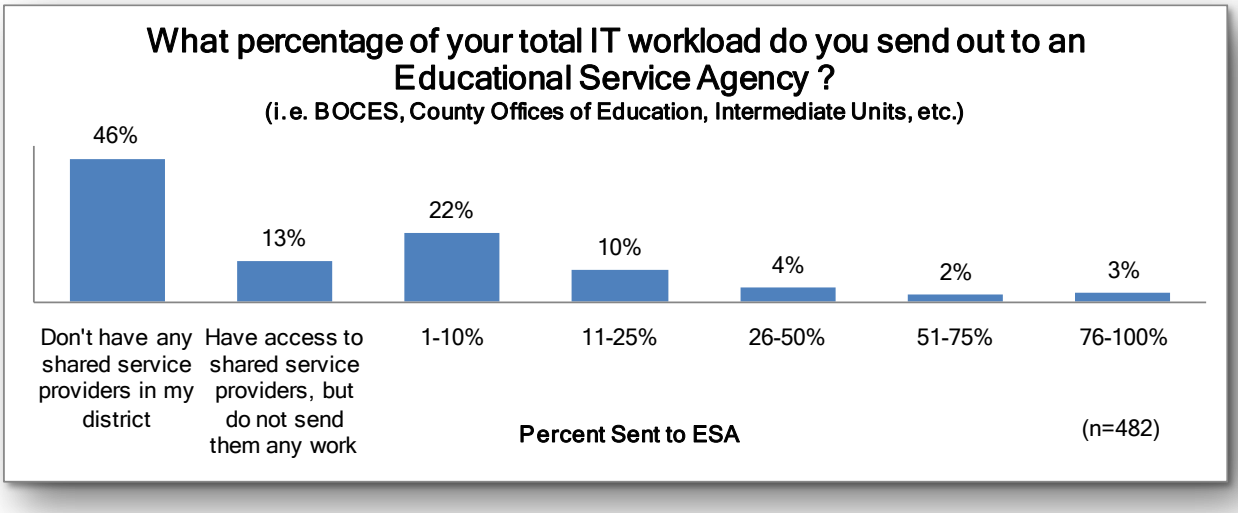

% Respondents who indicated they do NOT have enough IT staff to:
2010 Compared to Previous Years
Ability to integrate technology into the classroom
72%
72%
72%
65%
Ability to implement new technology
70%
70%
70%
76%
Ability to effectively support the needs of the district/school
65%
73%
69%
73%
Meet your department's yearly objectives
58%
64%
62%
69%
Plan for new technology
55%
57%
54%
62%
Maintain IT applications
44%
49%
47%
53%
Maintain network systems adequately
45%
49%
47%
55%
Install IT applications
41%
43%
40%
45%
2010
2009
2008
2007

The survey again drilled down to find out exactly where respondents believed IT staffing needed expansion.

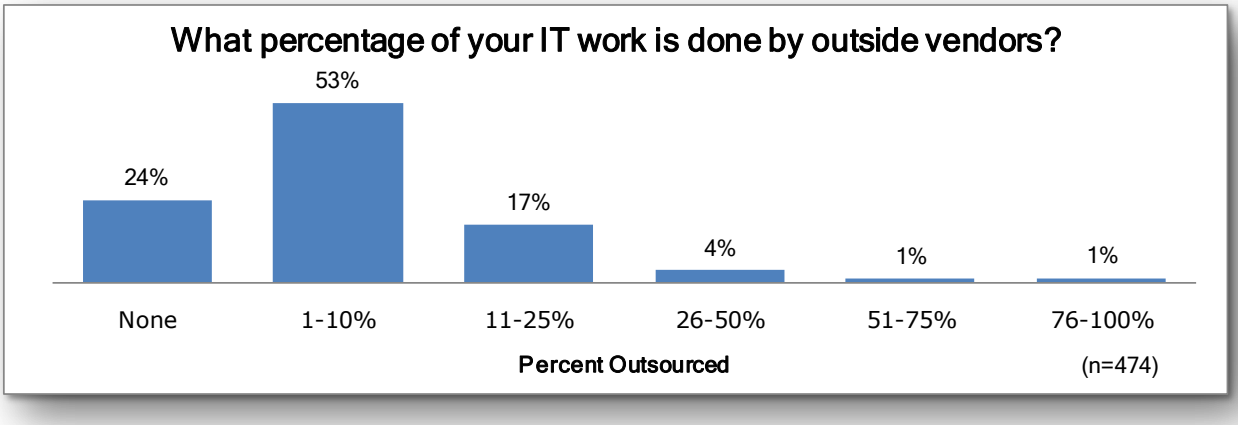


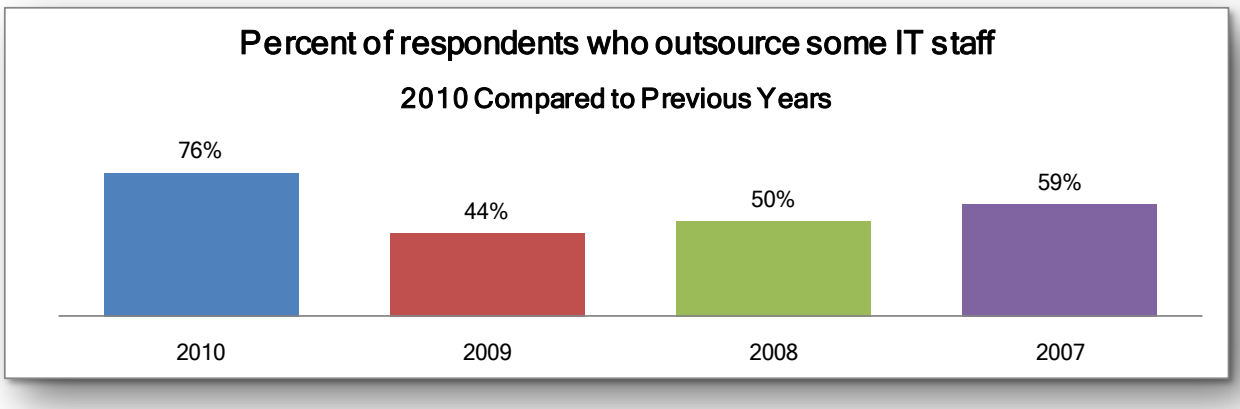
The strongest areas of need continue to be in the technical areas of IT staffing: instructional technologists, technicians, Web specialists, and technology assistants. Instructional technologists and technicians were clearly the positions in the greatest need, with respondents indicating 78 percent and 74 percent, respectively.

More than half of respondents (54 percent) indicated access to Educational Service Agencies (ESA) in their district. Those using ESA tended to do so sparingly, with less than 10 percent using them for a high percentage (i.e., greater than 50 percent) of their IT workload. The majority of work sent to ESA related directly to ISP service.

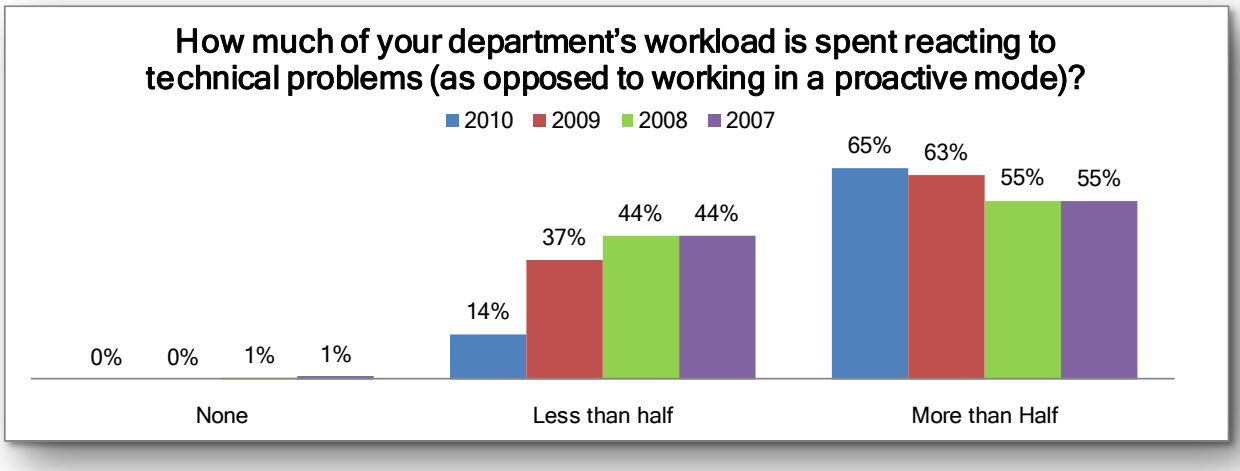


For the first time, the lack of FTE staff is clearly being addressed through the use of outside vendors and consultants. Seventy-six percent of respondents indicated they were now using outside help for IT staffing (compared with only 44 percent in 2009). This reverses a two-year pattern where use of outside resources was falling appreciably. Only 24 percent of respondents indicated no use of outside vendors to help address staffing issues, compared to 56 percent in 2009. The percentage of IT work done by outside vendors remained relatively small, with over 90 percent of those using these resources doing so for 25 percent or less of their IT work.





The feeling of being "overwhelmed by demand" continues to grow among professionals in K-12 environments. In 2010, for the second year in a row, the percentage of those who thought that the majority of departmental workloads were reactive to technical problems rather than working in a proactive mode reached a new high: 65 percent believed that more than half of their workload was "reactive."

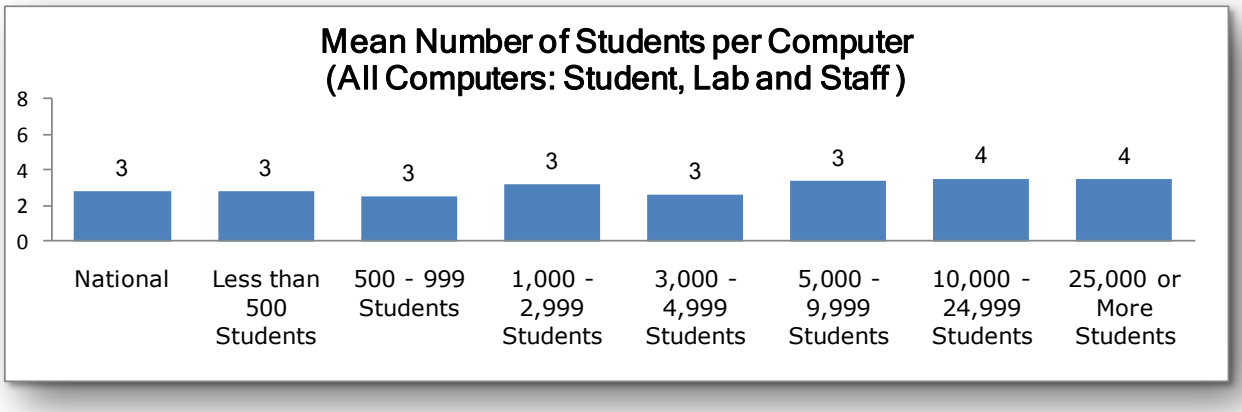


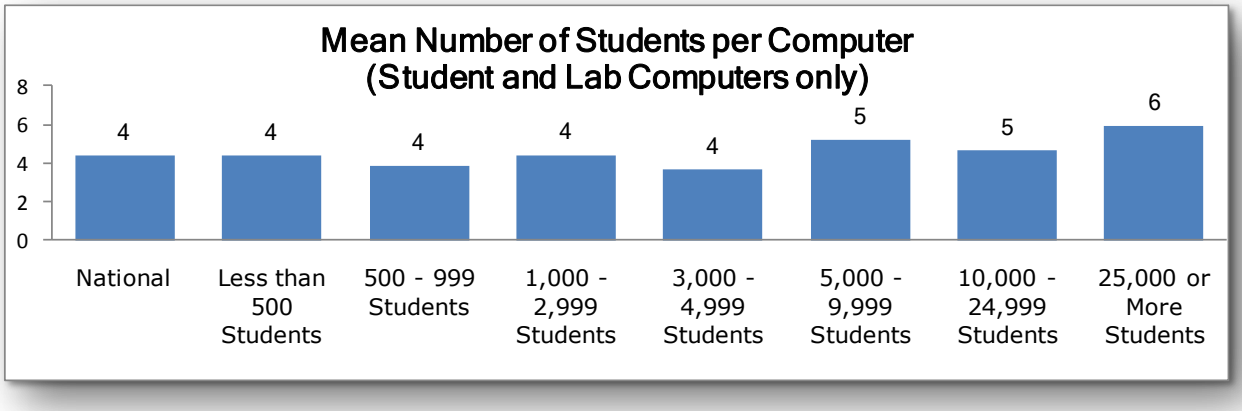
We must note again: being reactive as a default position makes it difficult to effectively plan, test, or implement new information technology assets. As the rate of technological innovation accelerates, the reactive mode becomes increasingly inefficient, compromising budgets already falling short of proper support levels.

Information Technology Assets

While staffing continues to suffer, the proliferation of computers and peripherals continues in the schools. The gap between IT staffing and IT assets widens.

In 2010, schools did not move significantly closer to the goal of 1:1 computing. This year's survey found the mean number of students per computer to be three, essentially the same as the year prior. If only student and lab computers are considered, the ratio rises to 4:1. School size has relatively little effect on these ratios.



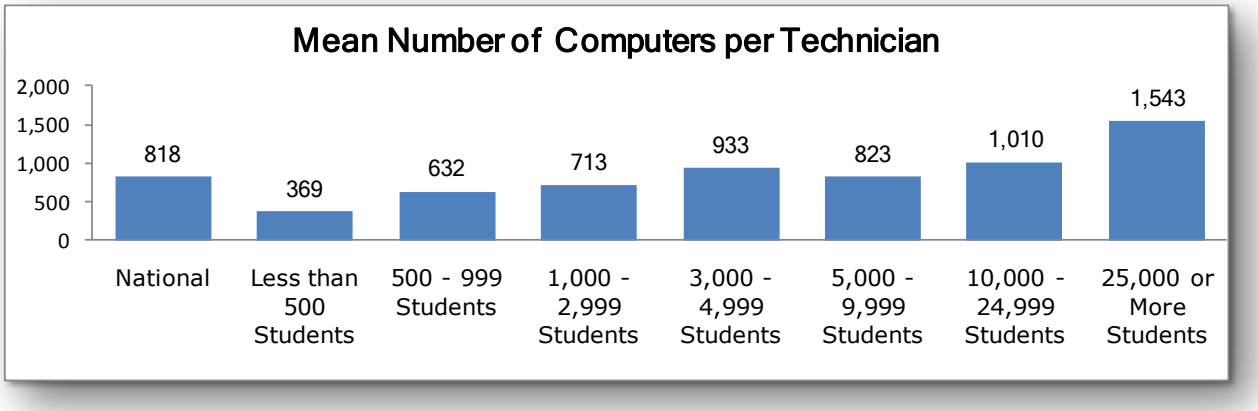


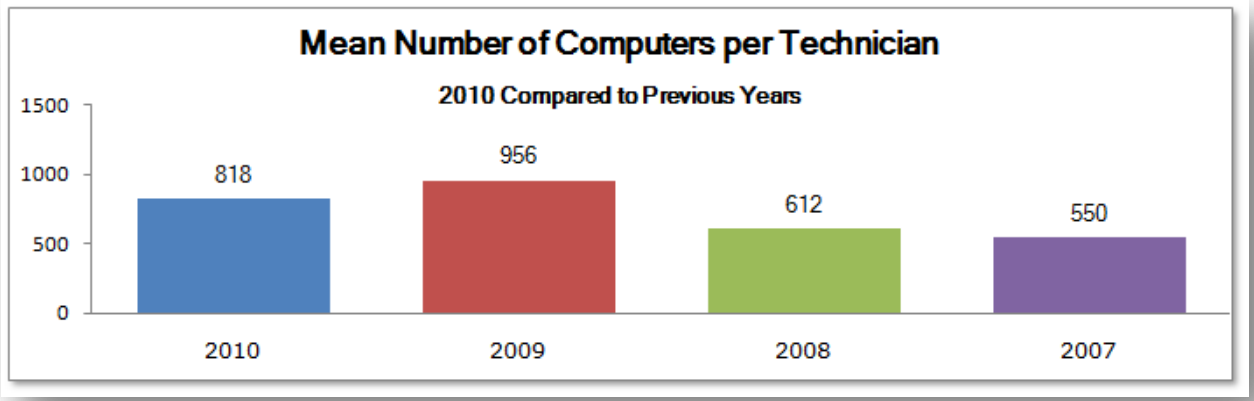
As the number of computers steadily increases, so does the burden on technical support staff.

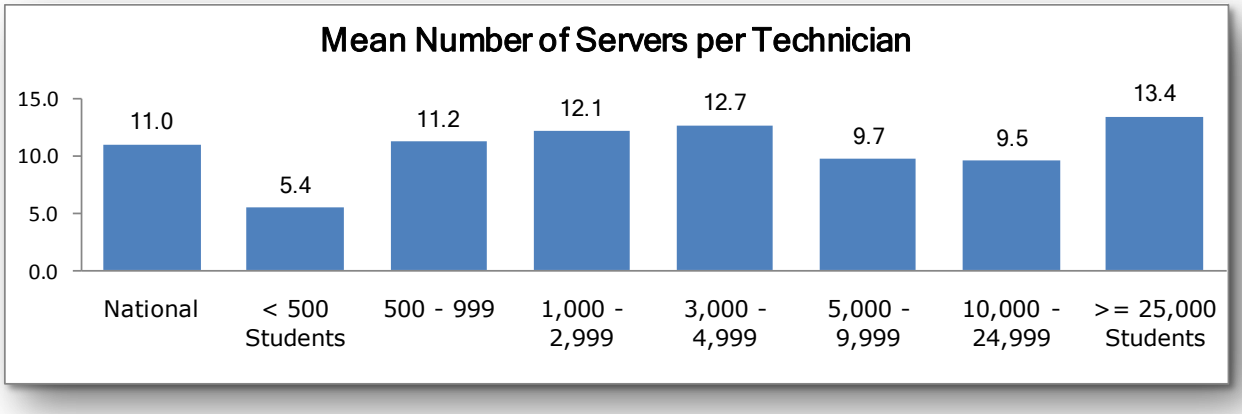
The ratio of computers to technicians declined slightly to 818:1.

The ratio is much higher for larger districts, rising to 1,643:1 in the largest districts while only 369:1 in the smallest.

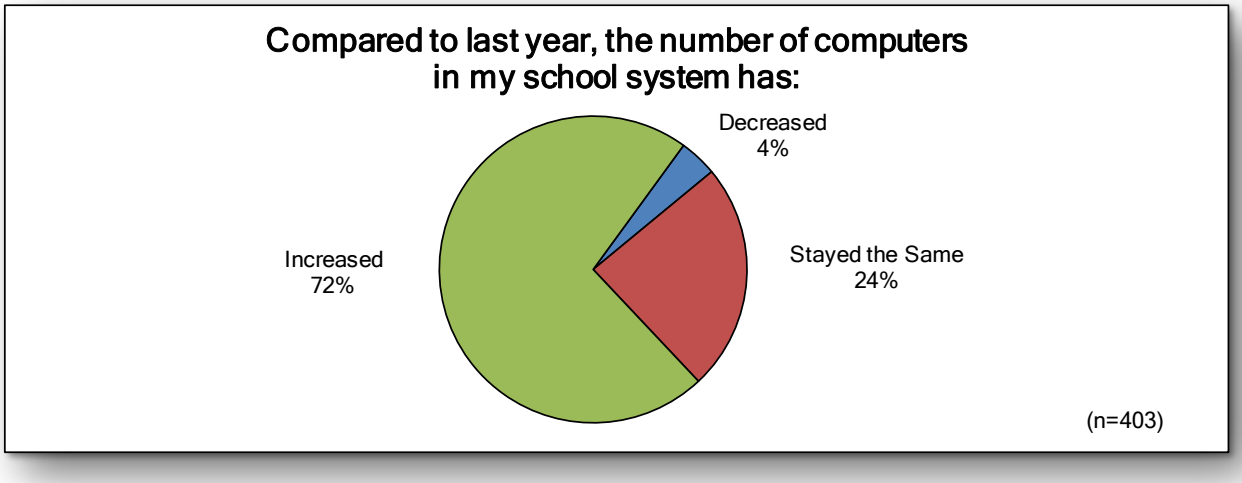
On average, there were 11 servers per technician, down from 15 per technician in last year's survey.

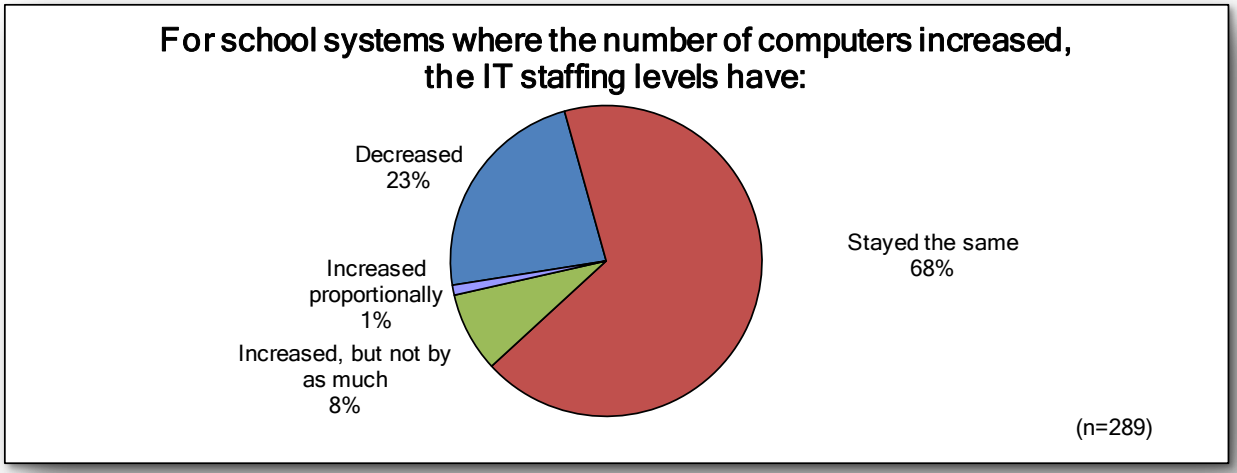




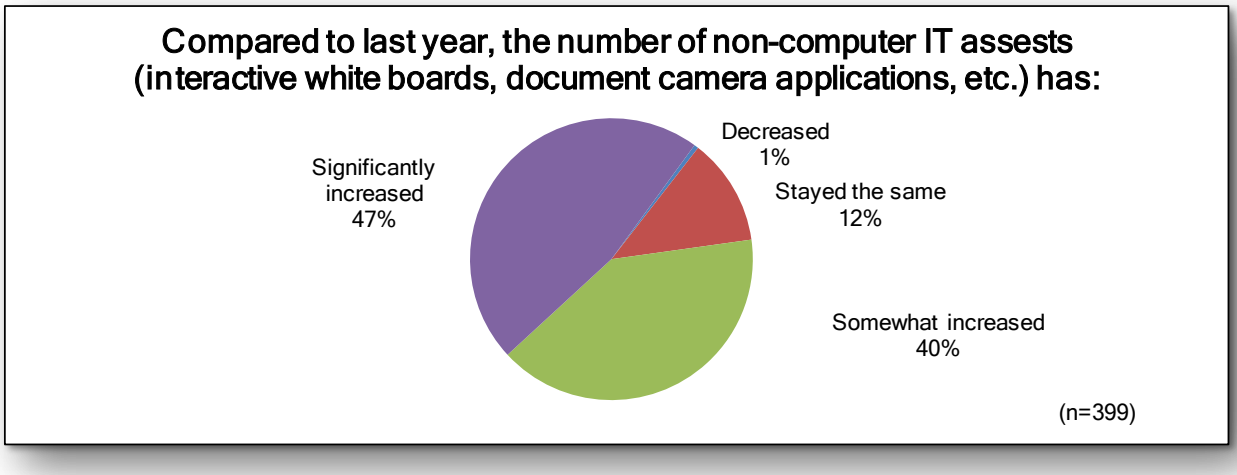


Echoing last year's survey, respondents continued to be clear in their identification of the gap between asset growth and staff support. Seventy-two percent said the number of computers in their schools or districts increased last year, but only 1 percent indicated that IT staffing increased proportionately. Of those reporting an increase, 68 percent said their staffing levels remained the same.

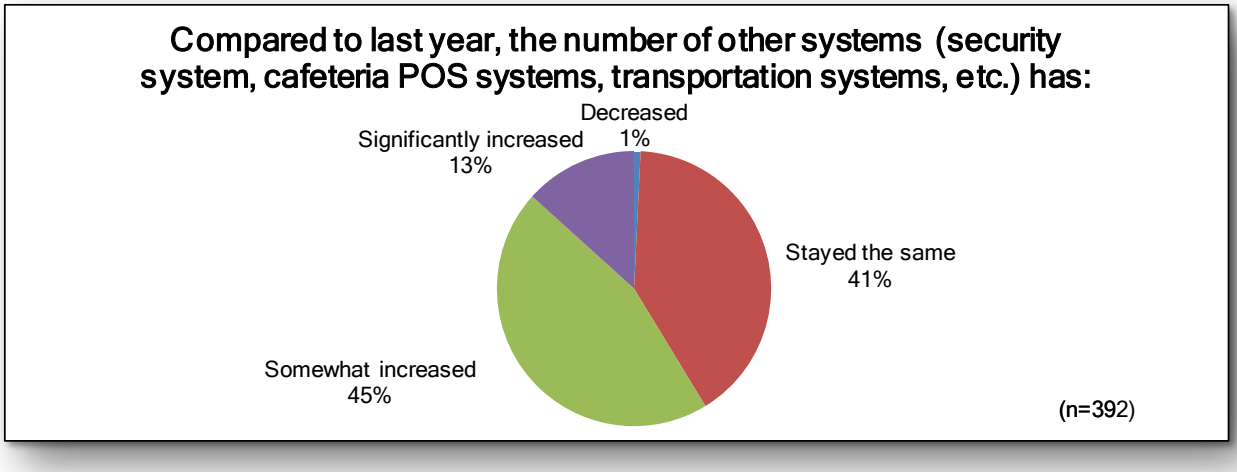




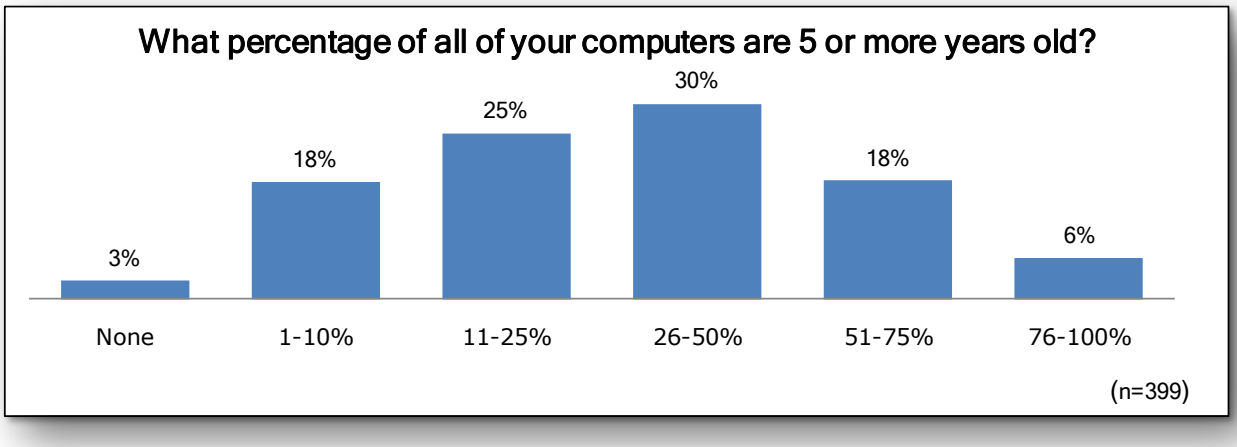
Adding to the stress of IT assets needing staff support is the ongoing proliferation of non-computer IT assets (e.g., interactive white boards, document camera applications, storage devices) in the schools. Forty-seven percent of respondents indicated a significant increase in these assets, commensurate with last year's survey.

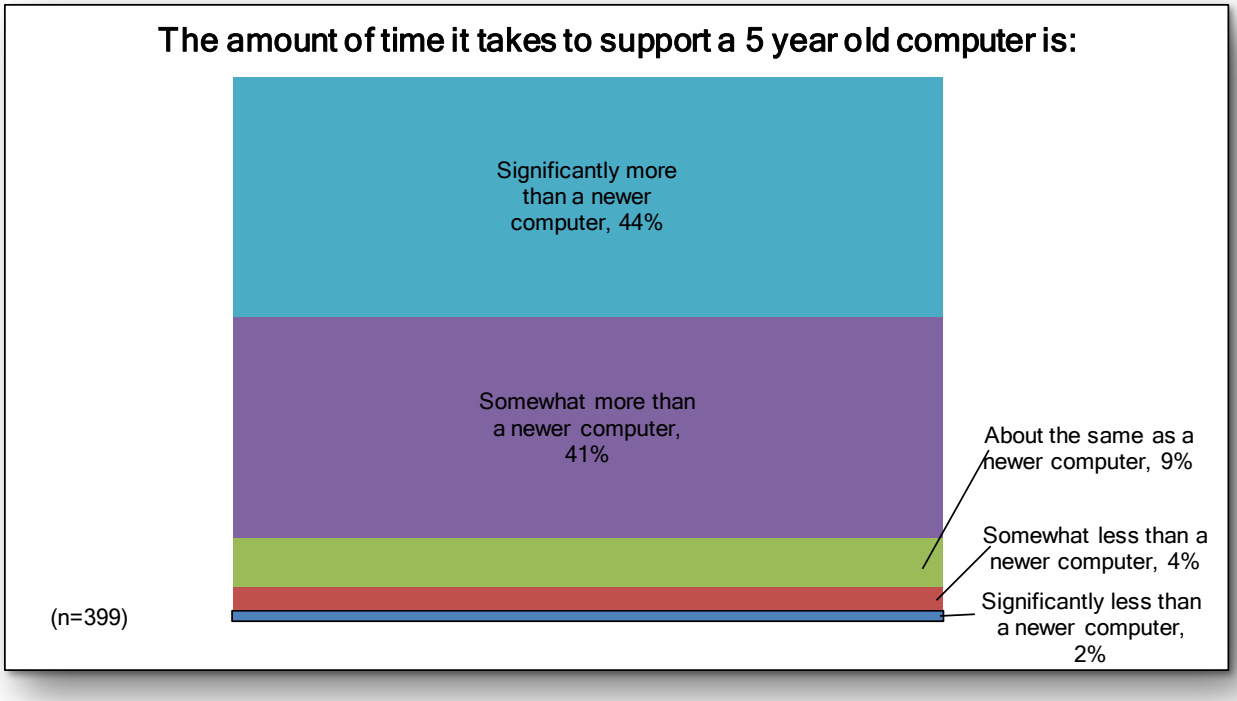


For the first time, the survey queried the growth of other systems such as security systems, cafeteria POS systems, and transportation systems. Respondents indicated these systems increased or significantly increased by 58 percent.

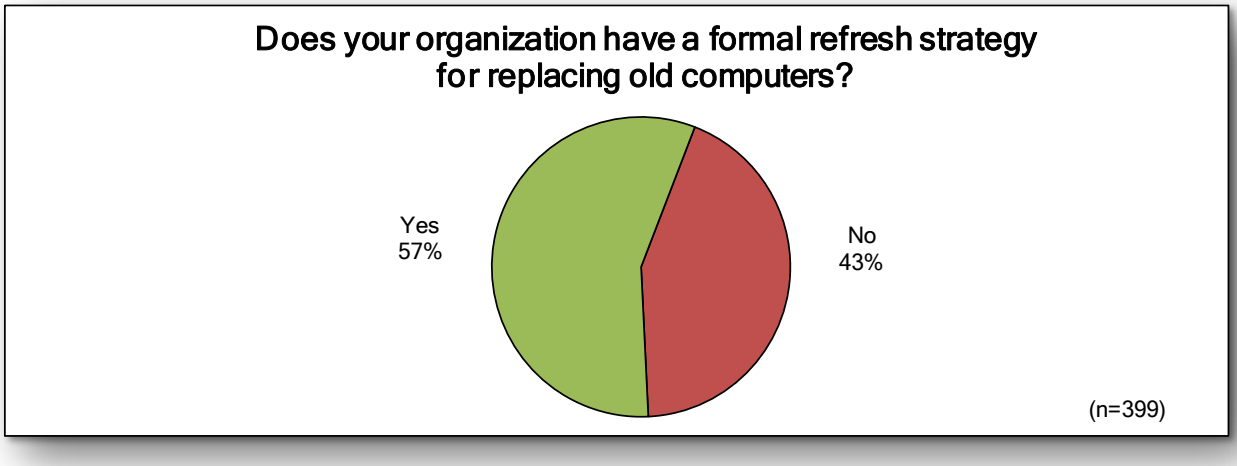


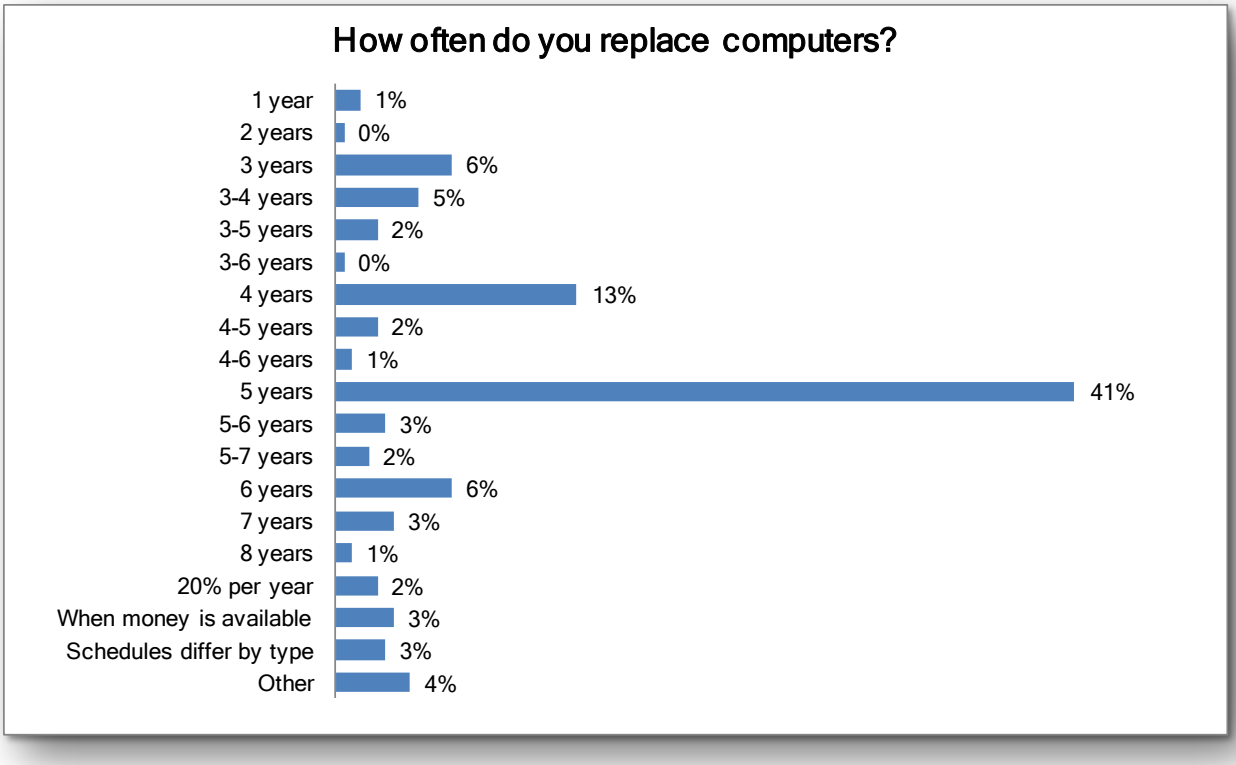
The survey again probed the age of installed computers and subsequent ramifications. Fifty-four percent of respondents said that up to a quarter of their computers were five or more years old, an increase of nearly 30 percent over last year's figure. Twenty-four percent indicated that more than half were in this category. Most believed this maturation of the installed base was having a draining effect on operations. Eighty-five percent believed that it took more time to support the older computers; of these, 44 percent indicated it took significantly more time.



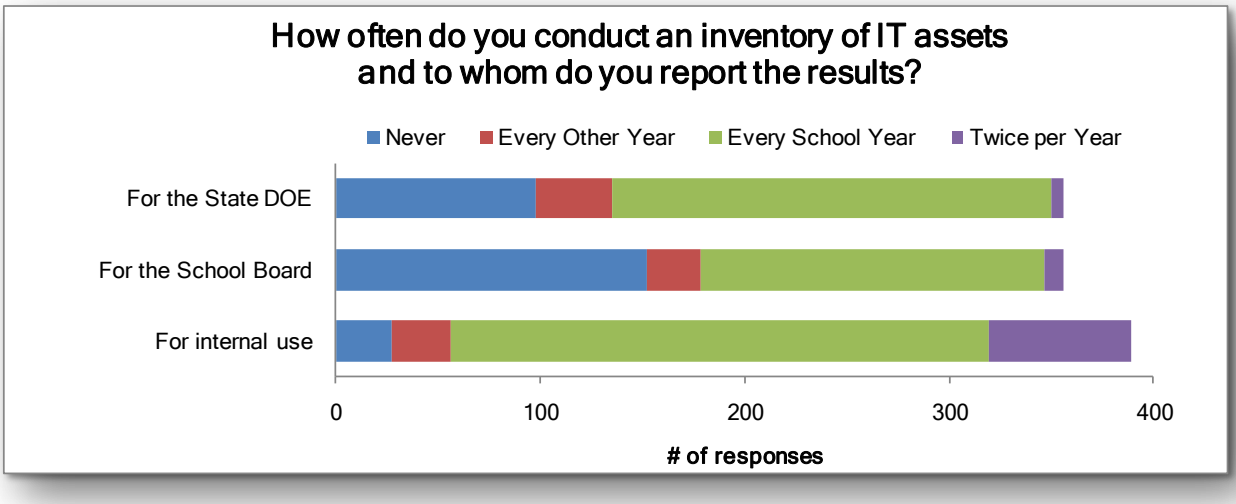


Fifty-seven percent of respondents indicated their school now had a formal strategy for replacing older computers. Some respondents included a caveat that this was followed only if the budget allowed or stated that in reality replacement occurred later than the policy specified. Others indicated that they have a different replacement cycle for different types of computers: desktops versus laptops or administrative versus instructional; some reported that their computers are refreshed through a lease program.





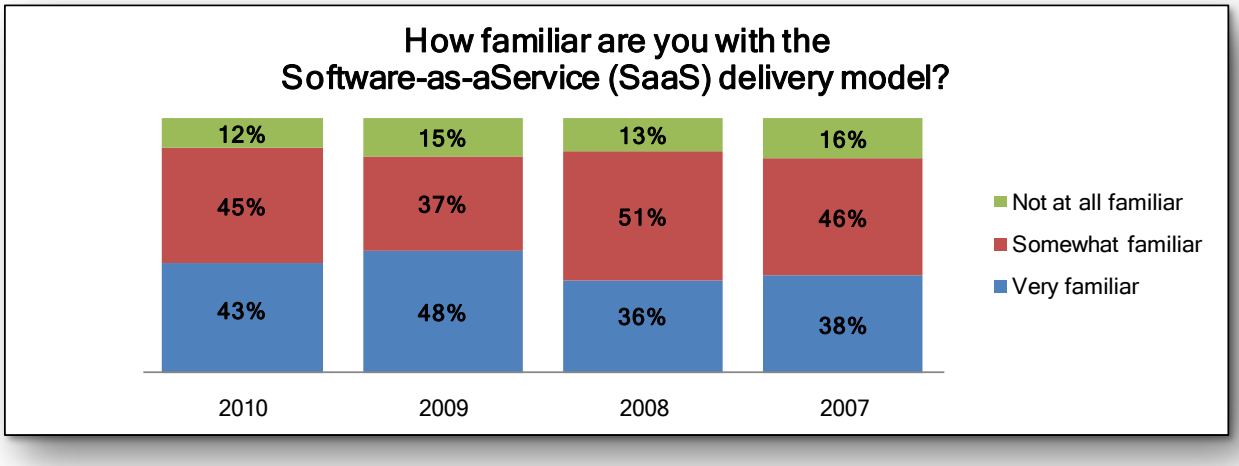
Of those conducting an inventory of IT assets, the greatest percentage do so for internal use, then for the State Department of Education, and finally for the school board. Most often the inventory is conducted on an annual basis.



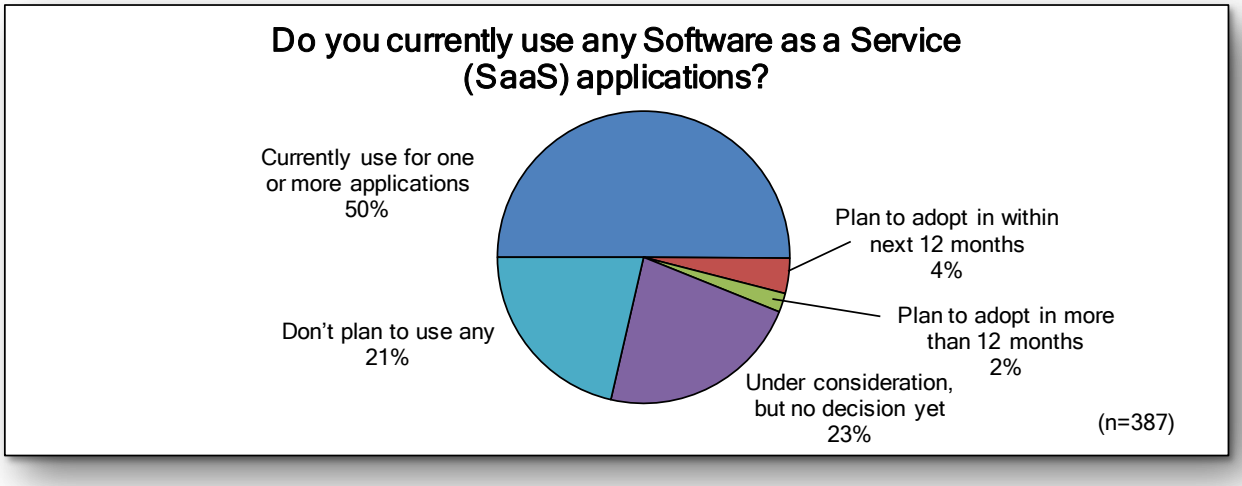
Software and Systems

Again in 2010, software and systems was the area showing the most optimistic numbers of the survey. Projects and project implementations continued to gain momentum across a spectrum of important applications, and understanding of technology appears to be growing, as can be seen in the maturation of Software as a Service for application delivery in the schools.

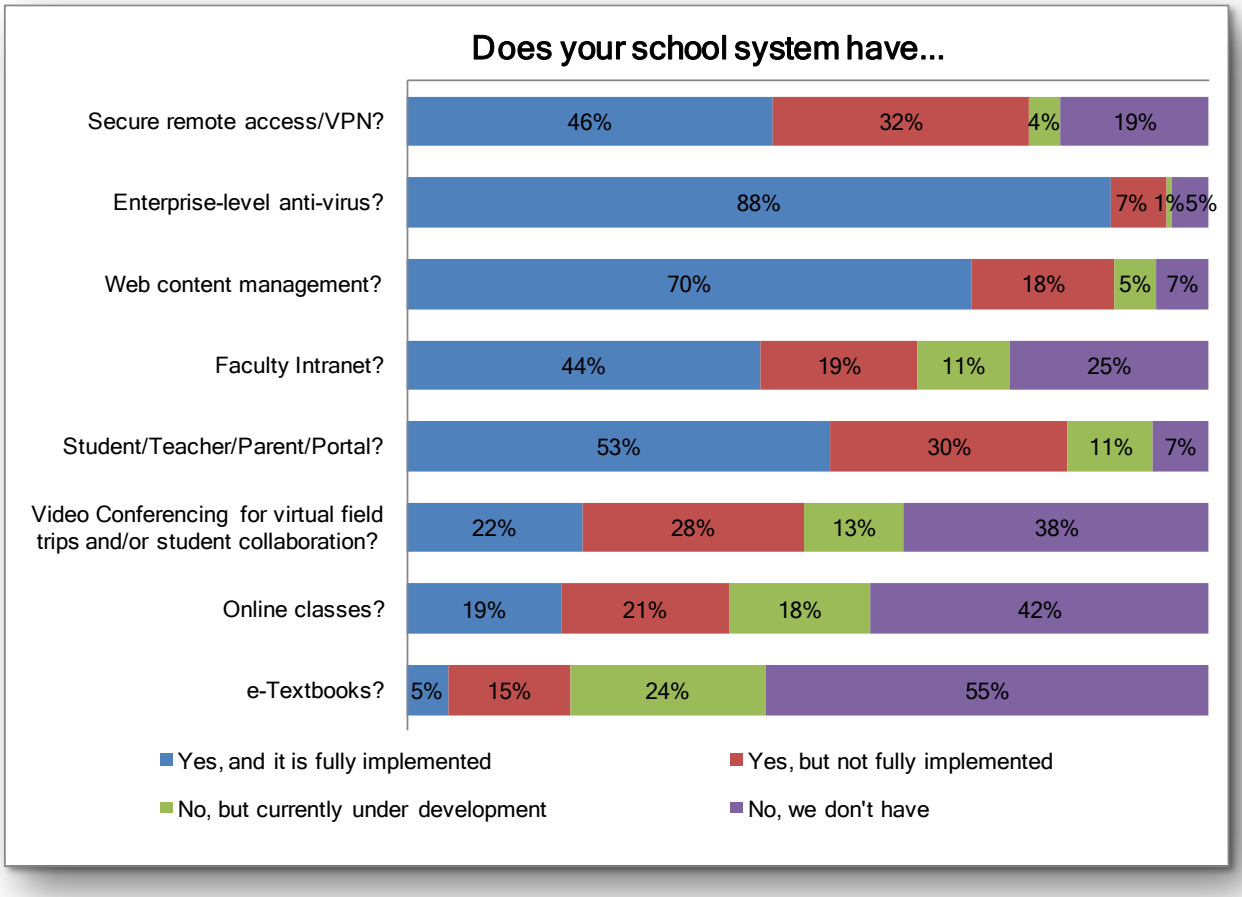
Software as a Service (SaaS) is a computer application delivered as a service rather than being physically installed on school servers or individual desktops. As users access the software via computer Web browser or mobile device, SaaS frees IT staff from installation, upgrade, and software maintenance, which speaks directly to the staff shortage issue. Other significant advantages to the technology include time (lower demands on staff, faster implementation cycles), risk (reduction of implementation complexity), scalability, and low total cost of ownership.



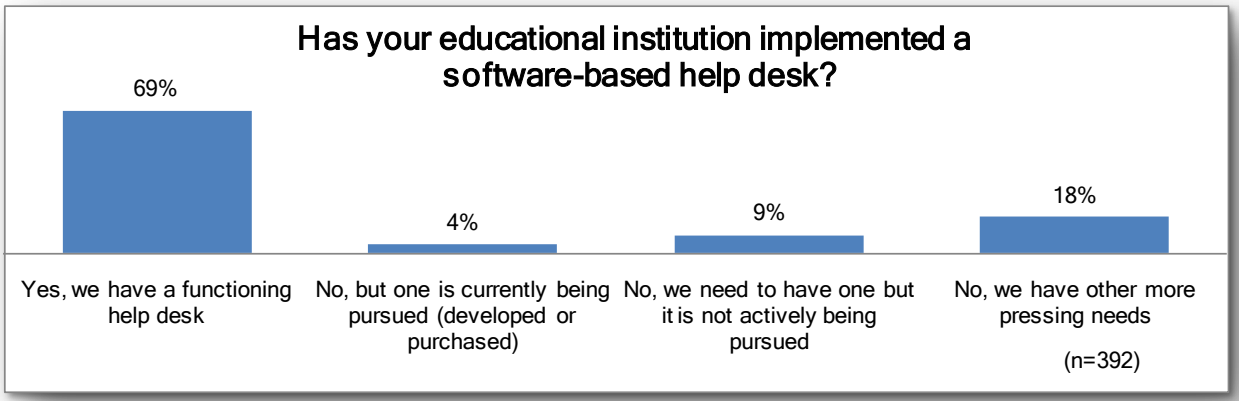
Overall, familiarity with SaaS continues to grow, with only 12 percent of respondents not at all familiar with the technology, the lowest percentage since the survey began. Fifty percent of the schools currently use at lease one SaaS-based application.

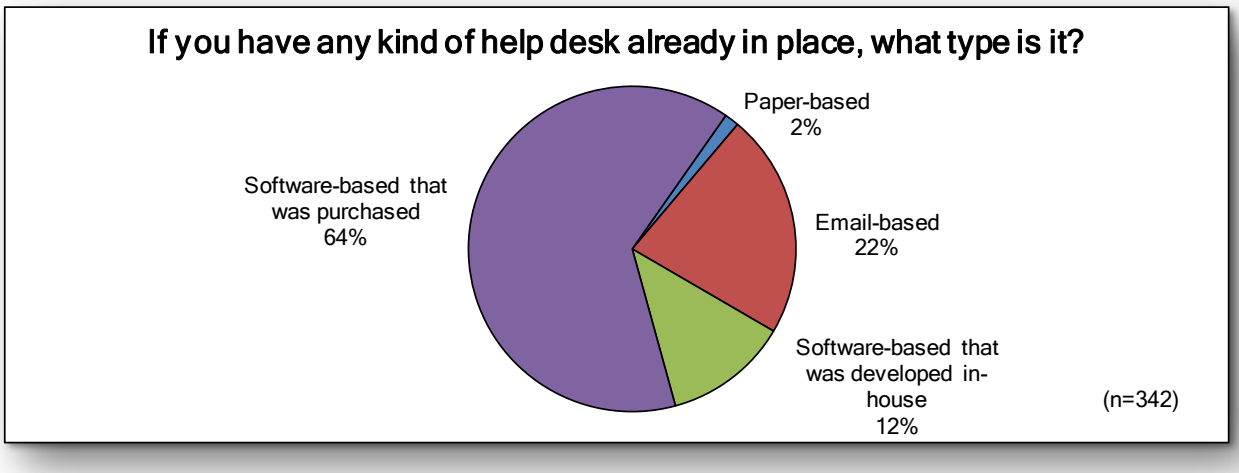


Schools were queried about a host of implementation projects, including secure remote access/VPN, enterprise level antivirus, Web content management, faculty intranet, student/teacher/parent portals, video conferencing, online classes, and e-textbooks. The more mature implementations—secure remote access/VPN, enterprise level antivirus, Web content management, faculty intranet, and student/teacher/parent portals—showed higher levels of implementation and full implementation.



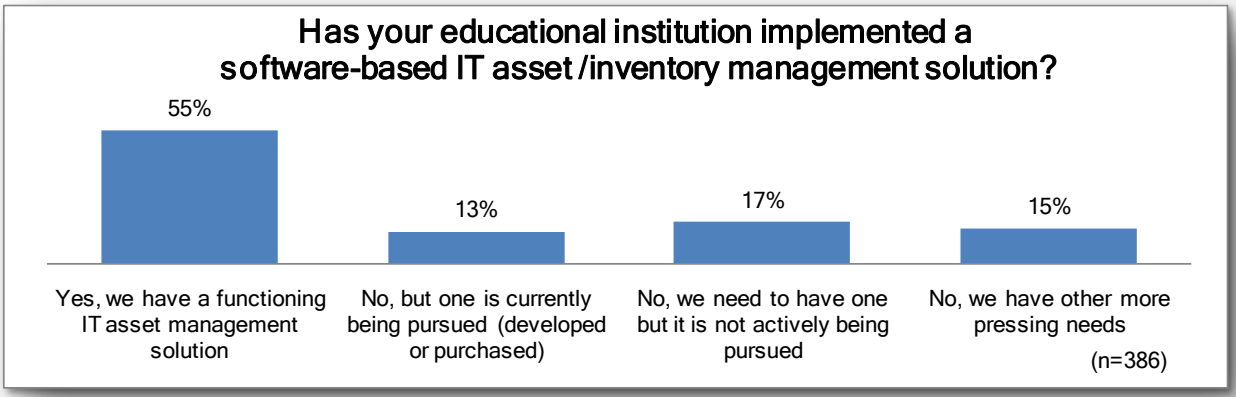
Implementation of functioning software-based Help Desks continues to grow steadily, as it has each year of the survey. In 2010, 69 percent of schools had implemented a software-based Help Desk solution, a 13 percent increase from 2009. A significant majority of schools continue to purchase their software-based solutions from outside vendors at over 5:1 from in-house developed software.

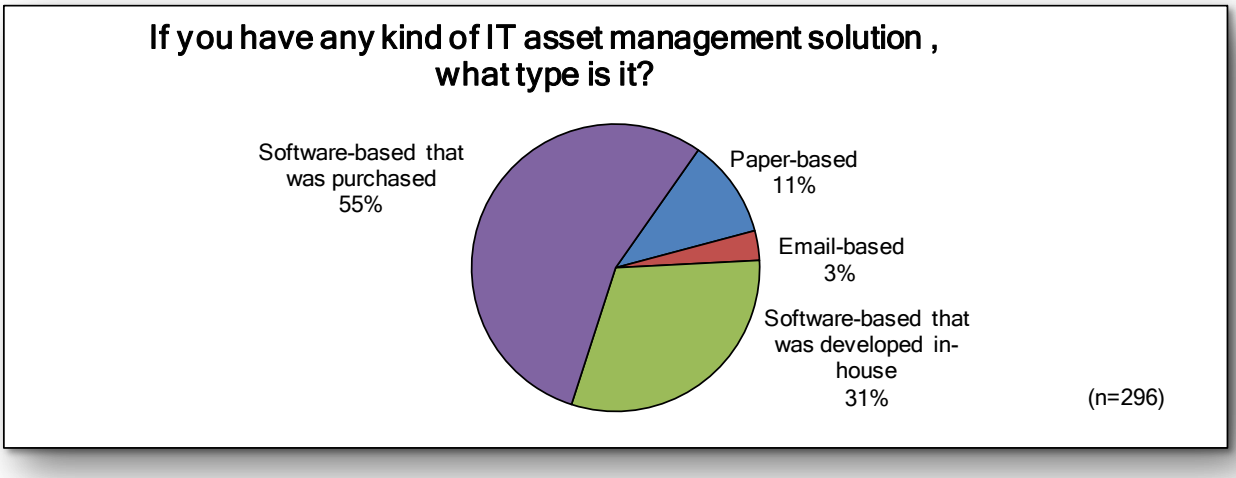




As managing IT assets has evolved beyond the simple task of tracking hardware and software to supporting the operational and academic goals of the schools, IT asset management systems are becoming more common. Their usage has increased every year of the survey.

Fifty-five percent of respondents indicated their school or district had a functioning software-based IT asset management system, an increase of 15 percent from 2009. Fifty-five percent of systems were purchased SaaS-based, and a much greater percentage of in-house software-based systems were used for asset management (31 percent) than for help desks (12 percent).

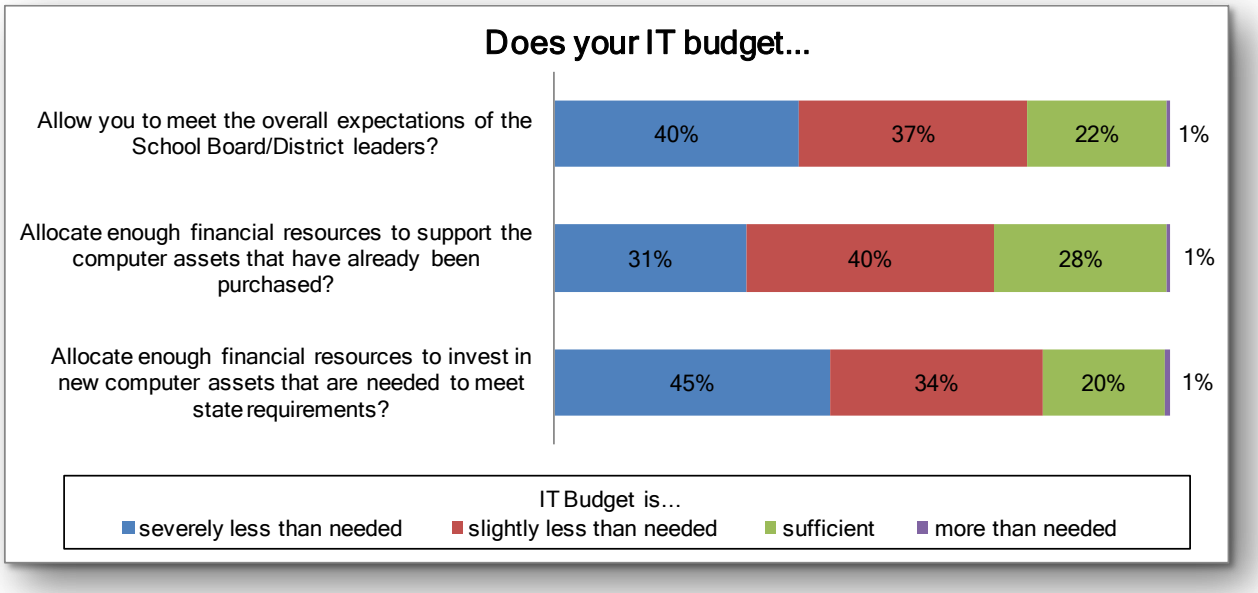


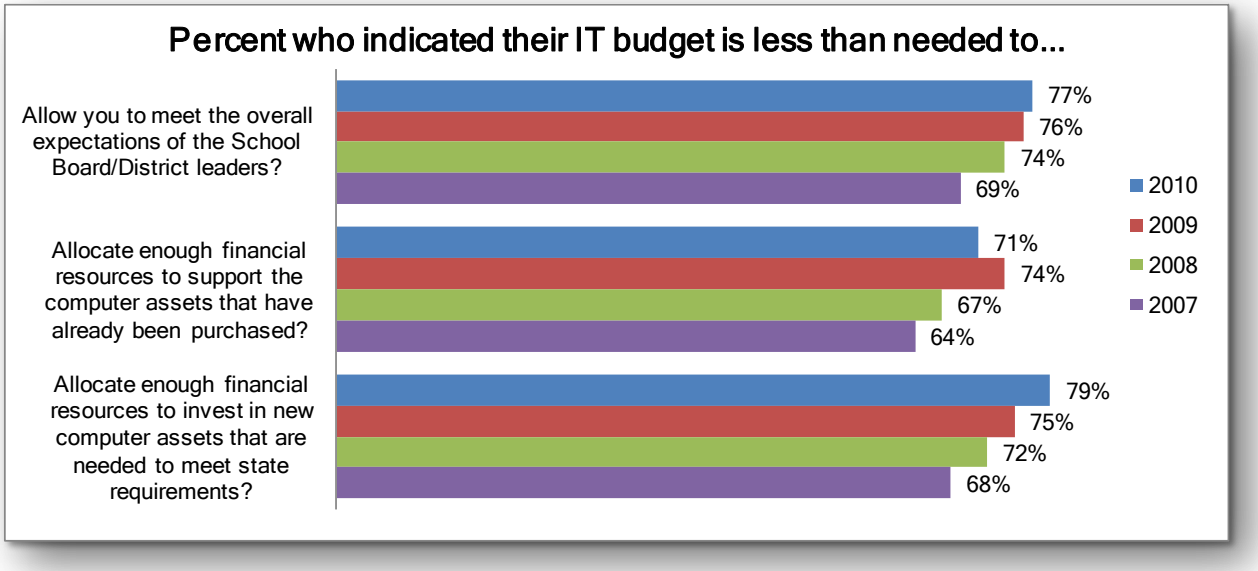


IT Issues

As in prior surveys, IT funding was identified as the most important issue to resolve for strategic success in IT applications in the schools. IT funding was also seen as the number one issue that may become more significant in the coming year. IT issues as a whole were largely perceived through the prism of inadequate funding.

Seventy-seven percent of respondents believed that the IT budget was less than they needed to meet the overall expectations of school board and district leaders, a percentage point more than in last year's survey. Seventy-one percent reported that their IT budget was less than what was needed to support existing computer assets, slightly less than the year prior. The greatest percentage, 80 percent, thought that budgets were inadequate for investing in new computer assets to meet state requirements.



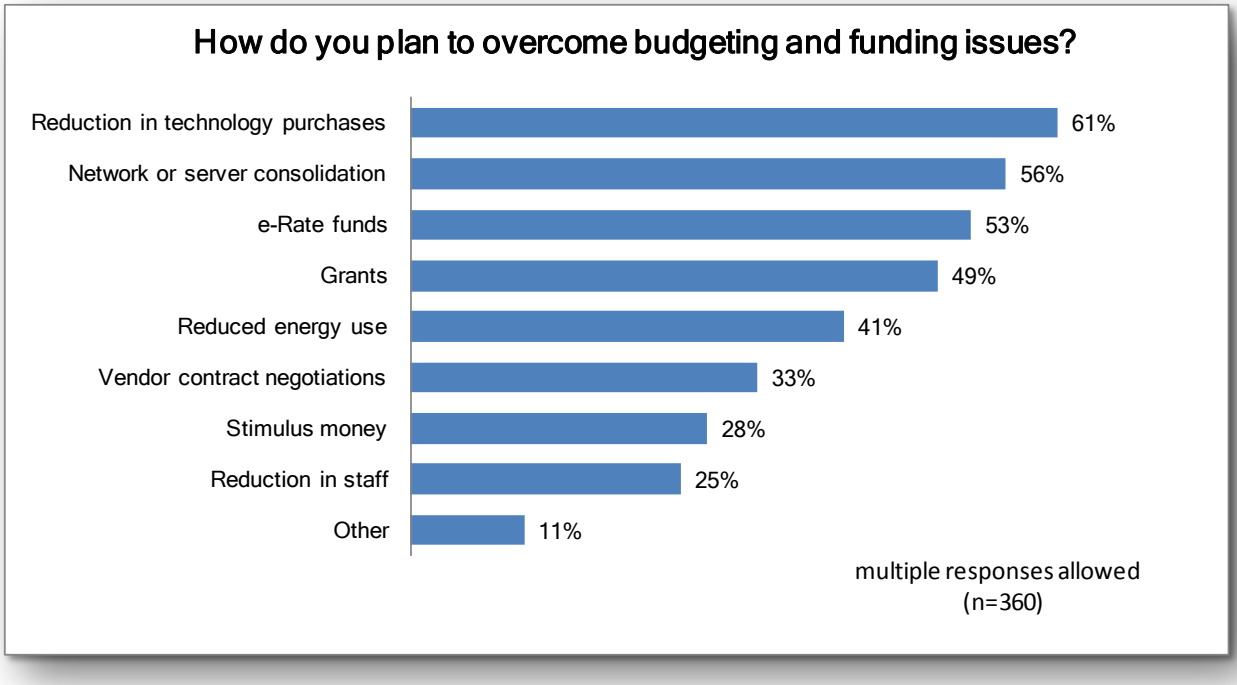


	Number 1 Concern	Number 2 Concern	Number 3 Concern
Which issues are most important for your School/ District to resolve for strategic success?	Funding IT	Faculty Development, Support and Training	Staffing/ Training
Which issues have the potential to become more significant in the coming year?	Funding IT	Infrastructure	Faculty Development, Support and Training
Which issues are you spending most of your time addressing?	Infrastructure	Faculty Development, Support and Training	Security
On which IT issues is your school spending the most financial resources?	Infrastructure	Administrative/ ERP/ Info Systems	Web Systems and Services

Infrastructure was identified as the number one issue taking time and money from IT resources. For the first time, respondents were asked how they planned to overcome budgeting and funding issues. The top answer (61 percent) was to reduce technology purchases, followed by network/server consolidation (56 percent) and e-Rate funds (53 percent).

Other ways cited included:

- Attracting stakeholders/donors
- Bonds
- Cannibalizing older machines for repair parts
- Consolidation/reorganization
- Federal stimulus money
- Fundraising
- Furloughs
- Grants
- Parcel tax
- Reduced energy usage
- Reduction in services
- Server virtualization
- Staff reductions
- Vendor contract negotiations
- Vendor vouchers
- Virtual desktop rollout


How do you plan to overcome budgeting and funding issues?
Reduction in technology purchases
61%
Network or server consolidation
56%
e-Rate funds
53%
Grants
49%
Reduced energy use
41%
Vendor contract negotiations
33%
Stimulus money
28%
Reduction in staff
25%
Other
11%
multiple responses allowed
(n=360)

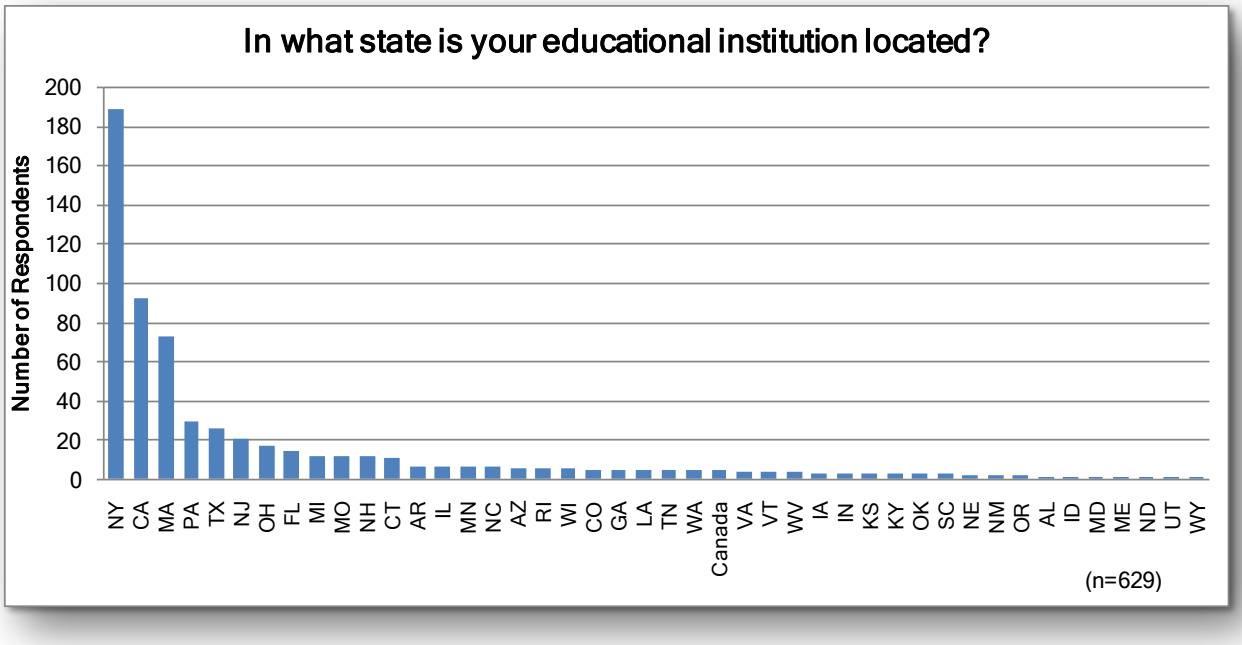
Survey Methodology and Demographics

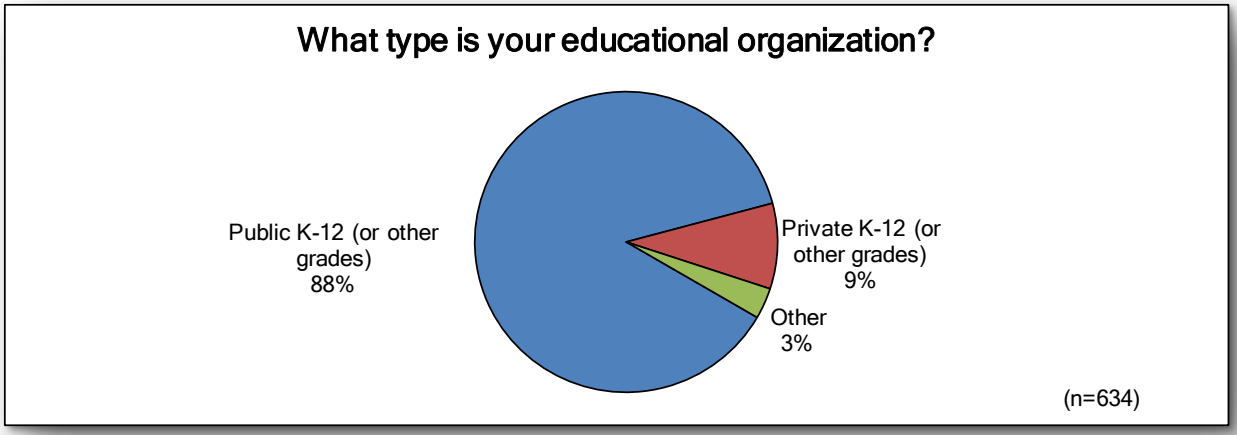
From January through mid-February 2011, SchoolDude.com conducted its fourth annual survey of IT professionals in K-12 education. The online questionnaire was targeted at top district-level IT leaders for public schools and the highest IT leader at private schools; 38 percent of respondents identified themselves as such. There were 635 respondents, nearly twice as many as the year prior and a large enough pool to provide reliable comparison.

Respondents came from 42 states. There were not enough respondents from private schools to allow for segmentation. Please note that statistical calculations were derived by eliminating responses that were significantly different from the distribution (i.e., outliers), left blank, or, when appropriate, equaled zero.

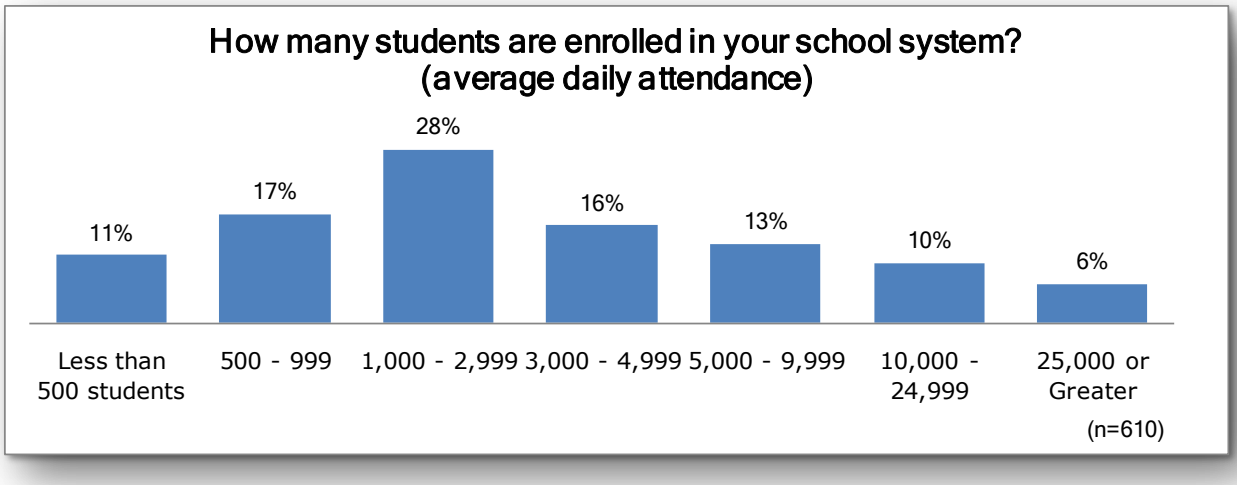
The overall response rate was high, but there were a number of respondents who did not complete the survey or elected to skip some questions. In particular, quantitative questions were sometimes left unanswered, probably due to the respondent's inability to answer certain questions because of his or her position. Questions typically had around 350 responses, which is a strong sample size for analysis.

Per standard practice, statistical calculations were derived by eliminating responses that were: significantly different from the distribution (outliers), left blank and, when appropriate, equaled zero.

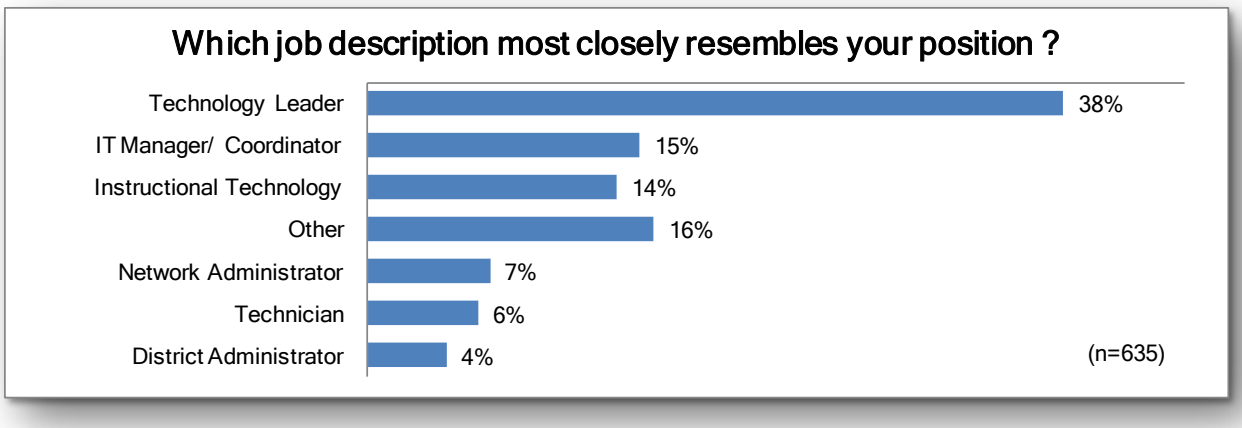




As noted above, the overwhelming preponderance of respondents (88 percent) were from public K-12 schools, eliminating the possibility of public/private segmentation in our analysis.



This year's survey has a greater distribution among smaller schools than last year's survey. Fifty-six percent of schools had fewer than 3,000 students, compared with 40 percent of that size in last year's survey.



Thirty-eight percent of respondents identified their position as technology leader. Other positions with significant respondent identification were IT manager/coordinator (15 percent) and instructional technologist (14 percent).

Conclusions

A Chinese proverb counsels “Be not afraid of going slowly, be afraid only of standing still.” IT professionals in K-12 education should take some comfort in that ancient wisdom as they consider this survey.

Since these annual surveys began in the 2007-2008 school year, the main challenges have remained principally unchanged— growing IT assets and static IT staff support; and less than adequate IT funding to meet rising expectations. But within the confines of those challenges, movement— progress— can be seen, in the prominence technology has claimed within the strategic thinking of school administrators and decisionmakers, in the commitment to technology evidenced by IT asset growth, and in the greater interest in and understanding of new technologies as a means to address the problems at hand.

So while the broad numbers we see may be understandable cause for frustration, the subtle gains within the larger parameters are just as much cause for optimism: they show a commitment to moving forward, to “not standing still.”

Jean Piaget, the Swiss developmental psychologist and philosopher renowned for his epistemological studies with children, put it well: “The principal goal of education is to create men and women who are capable of doing new things, not simply repeating what other generations have done.” Our commitment to integrating technology into K-12 education is one measure towards this goal, just as these surveys are a measure of how resolute that commitment must be to move forward, even if little by little.

About SchoolDude.com

SchoolDude is the #1 provider of on-demand software for facility, IT and business operations—designed exclusively for education! We help 5,000 educational institutions (school districts, colleges and universities, and private schools) save money, manage support services, and make a difference.

In 2010, over 500 educational institutions selected SchoolDude to more effectively streamline work orders, IT incidents, preventive maintenance, event scheduling, utility analysis and more.

While we have long been known for our facility operations solutions, what is not as well known is that SchoolDude is one of the top vendors serving the senior-level IT decision maker. To help solve the challenge of *"too much stuff…and not enough staff*," we launched our IT suite of products—ITAMDirect (hardware and software inventory management), ITDirect (incident and help desk management) and ITWireless (wireless incident management). Beginning in 2005, these IT products provided breakthrough pricing and performance unique to the education industry.

SchoolDude's accomplishments serving the CIO/CTO/IT Director include:

- The rapid adoption of our three IT management solutions by more than 1,800 IT departments
- Achieving market-leader status, becoming the #1 education-specific company serving educational institutions with the software as a service (SaaS), on-demand model
- Our launch of ITAMDirect, providing a breakthrough in price/performance for managing hardware and software assets. With just a simple installation of an agent on a MAC or PC, instant and rich information on hardware and software assets is available More than 450 educational organizations have adopted this new breakthrough approach
- Our comprehensive, integrated suite of products that serves multiple departments—leveraging IT costs and training across the entire educational institution

Being recognized by *Inc., Deloitte,* and the *Triangle Business Journal* as one of the fastest growing private companies. We are also a three-time recipient of the *Best Places to Work Award* as well as the 2009 Stevie Award winner for Front-Line Customer Service Team of the Year.

Learn how SchoolDude's IT operations management solutions:

- Save up to 30 minutes on every incident
- Streamline software license compliance, management and reporting by 30%
- Reduce the need for field audits of IT assets by 50% or more

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About CoSN

Founded in 1992, the Consortium of School Networking (CoSN) is the premier professional association for school district technology leaders. CoSN is committed to providing the leadership, community and advocacy tools essential for the success of these leaders.

Mission: Empowering K-12 school district technology leaders to use technology strategically to improve teaching and learning.

CoSN Core Beliefs:

- The primary challenge we face in using technology effectively is human.
- Technology is a critical tool to personalize learning and overcome barriers of time and space for each learner.
- Equitable and ubiquitous access to technology is a necessity.
- The effective use of technology for the systemic transformation of learning cannot occur without strong organization, leadership and vision.
- Technological fluency allows our children to be prepared for the world of today and tomorrow.
- Technology enables innovation in our educational systems, resulting in greater efficiencies and productivity.
- To maximize the benefits of technology solutions, the district technology leader should be part of the executive leadership team (CTO, CIO, etc.) of the education organization.
- Global connections are vital to transforming the education process and improving learning.

CoSN Leadership Initiatives:

- Budgeting with Total Cost of Ownership
- Calculating the Value of Investment
- Cyber Security for the Digital District
- Data-driven Decision Making
- Emerging Technologies
- Empowering the 21st Century Superintendent
- Framework of Essential Skills of the K-12 CTO/Preparation for CTO Certification
- Leadership for Mobile Learning
- Green Computing for K-12 Schools
- IT Crisis Preparedness
- Mastering the Moment: A Guide to Technology Leadership in the Economic Crisis
- Open Technologies in K-12
- Small School District Leadership
- Participatory Learning: Web 2.0 in Schools- Policy and Leadership
- Connected Online Communities of Practice

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