ASCD Study Guide for Technology Fix

Introduction

1. What is the average amount of time per week that your students (or students in your school) spend on a computer? Are the author's observations about students having about one hour of computer time each week similar to or different from your observations?
2. If you could redirect the dollars that your school has spent on technology during the past five years to different projects, what would you do with the money? If it were up to you to increase or reduce your school's expenditures on technology, what would you recommend? Why?
3. The author describes promises about the benefits of technology. Have any of these promises been realized in your school? If so, which? Are there others? Why do you think your school has been able to realize some of technology's promises? If your school or district has not realized technology's promises, why do you think this is the case?

Chapter 1—St. Mary's Elementary School

1. Principal Lori Applegate cites three apprehensions she had about technology: student isolation, teacher worry about lack of expertise, and money. Has your school principal faced these concerns? How has he addressed them?
2. Keyboarding is an important component of St. Mary's computer curriculum. Do you agree that this is an appropriate emphasis? Why or why not?
3. Technology Coordinator Pam McDonald describes problems caused by lack of articulation between her typing program and that of the high school St. Mary's feeds. Have you seen articulation problems involving computer skills instruction? Were they addressed and resolved? How?
4. The author places St. Mary's in his top category of computer-using schools. However, he observes, "In classroom after classroom … all but two [computers] were turned off." Is this what you would expect at a successful computer-using school? Why or why not?

Chapter 2—Harriett Tubman Elementary School

1. Harriett Tubman's district has a strong site-based management tradition. Do you think site-based management supports or inhibits the effective use of technology? Is your district highly centralized or more site-based? How has that affected the way technology is acquired and used?
2. Principal Peter Malone says that because of high student turnover, he lacks hard data on the success of his school's computer-based reading program. What else might he do to document the program's value? Have you ever found yourself in a similar situation, needing hard performance data to support a purchase decision? What did you do?
3. A Harriet Tubman teacher says, "I like data analysis, and the [computer] program gives me lots of data to work with." Do you think this attitude toward data is typical or atypical? What benefits and problems might be associated with increasing the volume of performance data available to teachers?
4. Malone says, "The [computer] program's virtue is that it does what it does best and allows the teacher to focus her teaching based on the computer's information. Teachers still teach; the computer helps." What is your reaction to this statement?

Chapter 3—Longworth High School

1. Students in Longworth's Oracle programming class say that they take the class "to make money. Lots of it." Some critics say classes like these turn public schools into training centers for the technology industry. Do you agree with this criticism? Why or why not?
2. Six computers sit unused in the back of a social studies class while students discuss articles clipped from newspapers and find locations on a wall map. Is this a missed opportunity to use technology or an appropriate use of instructional materials?
3. "Take away technology and there is no reason for our kids to be here," says Principal Robert Sims. Does this speak to the success of the school? What might happen at Longworth if funding for computer replacements were cut off?
4. The humanities supervisor praises software that accompanies the school's grammar and composition program, but when she locates the software package, it is unopened and unused. What are your thoughts on this?

Chapter 4—Washington-Connors Elementary School

1. "Nothing replaces a good teacher who cares about kids," says Principal Jack Hayward. Have you seen situations in which technology was expected to replace a teacher? What were the outcomes?
2. Cheryl Putnam is enthusiastic about her reading motivation program. Have you used a similar program? Do you share her enthusiasm? Why or why not?
3. Carol Ludgate describes a program for which the school purchased 50 licenses. Only a few are being used. Have you seen situations where schools overbought software or online services? What were the circumstances, the causes, and the results?
4. The computer lab at Washington-Connors Elementary School is used only 25–50 percent of the time. Why do you think this is?
5. Superintendent Larry Sowder says, "I'm data-rich, but information poor." He also says that the state data collection system produces tons of data, but not in a format that helps the classroom teacher shape instruction. Are circumstances similar in your district? Does data from the state help teachers organize instruction for the good of individual students? If so, how; if not, why not?

Chapter 5—Mitchell Elementary School

1. The author describes an energetic, dedicated administration and faculty at Mitchell. Teachers wear shirts that read, "Make Every Minute Count" and "We Aim for Achieving Status." How does this school environment support technology use?
2. After the book was completed, the author learned that Chad, the technology coordinator, has moved to another school. Speculate on how Mitchell's computer labs and the reading and science programs might be functioning now. What in your experience supports your speculation?
3. The author ends this chapter by citing factors he feels are essential to the successful use of computer software. Do these factors exist in your school?

Chapter 6—St. John's High School

1. Technology Coordinator Sister Maggie Larkin says she took her position at St. John's because, "I'd been in education a long time, and I got bored." Have you seen technology adopted because it was new and different—an antidote to boredom—rather than a proven tool for instruction? If so, describe the circumstances.
2. Teacher Tim Higgins uses technology to critique student writing. What benefits and drawbacks might Tim's approach have?
3. The author describes the challenge of using Internet-connected laptops in a school designed for textbook instruction. What challenges has your school faced in adapting classroom space for computers?
4. Principal Jim Sneider sees computers as a "catalyst for change." The author thinks Jim is the catalyst and that he could have effected change with chalk as his medium. What are the implications of this view? Is it an oversimplification?

Chapter 7—Longfellow Elementary School

1. Technology Coordinator Chet Williams describes writing as "a dynamic process of discovering what you think." He says that computers support that dynamism. Has this been your experience as you have taught or observed writing instruction?
2. Linda Scott says, "Special education is a perfect place for technology." Do you agree? If so, is that because of the characteristics of the learner, the characteristics of the technology, or the potential availability of teachers or aides to give support to special education students? If you disagree with Linda, explain why.
3. Ken Albers says that his state's assessment program has had no effect on how he teaches. The author speculates that this is because Longfellow is in a high-income community where students' risk of failing is low. Do you agree with this speculation? Why or why not?
4. The author says that he sometimes observed tension between the technology coordinator and classroom teachers. He saw this more often where the principal's support of technology was equivocal. Have you ever observed such tension? What are its implications for technology use?

Chapter 8—Ludlow Springs School District

1. Monica Baker, the elementary school technology coordinator, says the district plans to require teachers to pass an online assessment of their technology skills. Would you support such a test in your district or school? Why or why not?
2. Monica is not a member of the committee that will evaluate and select a new mathematics textbook series. What do you infer from this?
3. Claire Davies, the middle school technology coordinator, is responsible for measuring the effect of the 20 wireless computers her school has purchased. Claire does not know where to start. What advice would you give her?
4. A middle school social studies teacher uses a computer to project vocabulary words on screen. Across the hall, a language arts teacher projects a page showing several bibliographical formats for a research paper. Are these appropriate uses of technology? Why or why not?
5. In the chapter's final paragraph, the author speculates about the computer's current ability to transform schools. Do you agree with his assessment? Why or why not?

Chapter 9—Western Hills School District

1. Western Hills has a national reputation as a technology leader, yet no elementary or middle school in the 32,000-student district has a full-time technology coordinator. Do you see this as a contradiction? Why or why not?
2. Principal Regina Greene speculates that technology has an indirect effect on test performance at Sagebrush Middle School. She believes technology engages students, and that without this engagement, test performance would decline. What do you think about Regina's opinion?
3. A teacher at Sagebrush Middle School uses a special sound system to aid a student with a hearing impairment—and wants to continue using it after the student moves on because she had found that it also benefits students without disabilities. Have you found similar instances where a technology designed for students with disabilities also serves the larger student population?
4. Pete Adams says, "Right now students don't read. Textbooks are dumbed down and we develop lessons that make reading unnecessary." From your experience, is there validity to this observation? Do computers contribute to students not reading? Can computers help to change this?
5. The author is cautiously optimistic that Pete's vision for the new Sunset Hills High School will be realized. Do you share that optimism? Do you agree with the planning team's approach to technology use?

Chapter 10—Springdale High School

1. Technology Coordinator Maggie Lewis comments that the state, district, and school all put the cart before the horse, flooding the district with computers even though "[they] didn't have teachers who were ready to use them." Was the introduction of technology within your district similar or dissimilar?
2. Maggie worries that, contrary to expectations, new teachers are not strong technology advocates. She believes they have a "direct-instruction orientation" because that is how they were taught in schools of education. Is this your experience? Do you share her concern?
3. Only 8 of 30 students completed online courses at Springdale. Have you taken an online course? Have students in your school taken them? How would you compare their experiences with those of Springdale students?

Chapter 11—Harrison Elementary School

1. The author describes a 4th grade social studies class taught by an experienced, enthusiastic, well-liked teacher using state-of-the-art equipment. But students were stymied by the technology, and the primary focus was on mechanics, not content. What could the teacher do to shape a more successful class?
2. The author wonders if students take more to computer games than to computers. Do you share his view on this? Why or why not?
3. Principal Marshall Williams says, "I don't know if technology will help raise test scores.… That's not really why we've made the investment." Do you think that this is a widespread viewpoint? Do you think school districts will continue to invest in computers regardless of computers' affect on test performance?
4. Pam Borders says, "People don't read today.… There is too much competition for time." She uses a reading motivation program and has her class read for one hour every day. In your experience, do such programs support good reading habits and encourage sustained reading?

Chapter 12—Woodvale Middle School

1. Rosemary Lawton worries that technology focuses more on style than on substance, more on glitz than on content. In your experience, does content take second place when computers are used, or do computers support skill development that unlocks content?
2. Rosemary says further, "All [students] want to do is point and click, cut and paste. We're not teaching them to process on their own." Do you agree or disagree with this criticism?
3. Stuart Lawson recruits community members to serve as online mentors to student writers. Woodvale's technology coordinator heavily supports programs that reach into the community. What advantages do you see in such programs? As a teacher, would you want to take part in a program like Stuart's? Why or why not?
4. According to the author, conventional wisdom holds "that veteran teachers avoid technology while new teachers embrace it." But he does not see it that simply. What is your experience on this matter?

Chapter 13—City Academy

1. According to Assistant Principal Jim Douglas, City Academy has faced the challenge "to maintain the integrity of our model in an age of standards and high-stakes testing." Has your school shifted focus in this age? Have the results been positive or negative? Has technology played a role in any changes that have taken place?
2. City Academy's network was down for three weeks, making core components of its technology-based middle school reading program inaccessible. Would something like this affect your decision to use a computer-dependent program for a core curriculum subject? Why or why not?
3. The author saw a conflict in schools "between two pedagogical theories: constructivism, which shapes the technology vision, and behaviorism, which shapes the political reality. When push comes to shove, most administrators I observed accepted the political reality." If the author had visited your school, would he have observed something similar? If yes, in what way? If no, how is your school different?

Chapter 14—Emerson Elementary School

1. Brenda Weckesser, Emerson's media center director, urges students to select and play their favorite computer game. The author perceives her to be more enthusiastic about software than about books. Have you observed this among your faculty? If so, why do you think they feel this way? What are some possible benefits and consequences of this preference for software?
2. Geometric blocks sit untouched in a classroom while children use mice to manipulate geometric shapes on a computer screen. What is wrong here? Anything? Nothing?
3. The author suggests that the assumption that all students should have equal access to computers decreases the overall value of computer use in schools. He asks whether it would be better to focus computer use on students at the low end of the performance curve. What do you think of this idea? Why?

Chapter 15—Lambert Elementary School

1. Technology Coordinator Julie Lawton says, "Our technology investment isn't based on test performance. We just know kids today need technology." The author often heard opinions like this. At your school, what are the criteria for technology investment? Have the investment goals been realized?
2. The author observes several 4th grade boys using a math remediation program, and it appears that they are not thinking about the problems, but clicking the answer choices until they hit the correct one. In your experience, is this inattentiveness a common occurrence? If so, why do you think this is? If not, what circumstances could account for what the author saw in that classroom?
3. The technology coordinator tells the author, "My tech support person is absolutely wonderful. He takes time to explain to me. But I don't get much support [from the district] on the content side." In your experience, is this common? If so, what are the implications? If not, what accounts for the difference in your situation?
4. In classes that the author visited at Lambert and elsewhere, "The focus was almost exclusively on color, font selection, sound, animation, music selection, and other features. Content was not unlocked by the wise use of [productivity] programs, but imprisoned by the attention to mechanics." Do you think this is a fair generalization? Why or why not? If you agree with the author, what could schools and teachers do to improve the situation?

Chapter 16—Carter Elementary School

1. At Carter and most other schools the author visited, he learned that technology spending is heavily supported by grants. Often, hardware or software vendors take the lead in preparing the grant requests. What are the advantages and disadvantages of this way of operating?
2. The author notes that at Carter and at most of the other schools he visited, 80 percent of classroom computers sat unused at any given time. Could you make a similar comment about your school? If not, how has your school integrated computer use into instructional activities?
3. Space is a consideration in computer planning and use. How has your school dealt with computer space needs? Do you think you have found a satisfactory solution? Why or why not?

Chapter 17—Alexanderville School District

1. According to the assistant technology coordinator, the technology needs of administration take precedence over the technology needs of the classroom. Could you say the same about your school or district? Do you see this as a good thing or a bad thing? Why?
2. Does your administration's computer system meet your needs? If yes, how? If no, what would you want from your administrative system that you are not getting now?
3. Alexanderville's annual technology budget shrank from $2 million to $400,000 and then to an even lower figure the following year. Has your district's technology funding declined similarly? If so, what effect has it had on your instruction?
4. Turnover of administrative and technology staff and redirection of technology investment and priorities have created problems in the Alexanderville district. Have you seen similar things in your district? If so, how might they be avoided? If not, what might account for the different experiences of your district and Alexanderville?
5. Rebecca Willis, a special education teacher, did not receive teacher editions and accompanying software when the district adopted new reading and science programs. In your experience, is this common? If so, what are its implications for the requirement that special education students not be isolated from the general curriculum?
6. The author is concerned that "so much has been spent and so little has trickled down to serve students and teachers" in this district. In your experience, is this a common situation? If so, how might it be changed?

Chapter 18—Porter Elementary School

1. Principal Patty Harris is intelligent, experienced, energetic, and empathetic to her teachers and students, but her school's technology program is beset with problems. Her low-income, urban district faces severe fiscal problems and administrative turnover. Based on your experience and the information in this chapter, how would you advise Patty on the technology issues she faces?
2. In answer to the author's question of whether computers help increase measurable growth on proficiency tests, Roberta Koughlin answers, "Computers are a help in life. School today isn't about life, it's about proficiencies." Do you agree with Roberta? Why or why not?
3. Porter's administration and faculty seem to lack the resources they need to deal with the complexities of computer technology. Have you or your school been challenged by such complex technologies? Have the benefits justified the time and resources you have invested?

Chapter 19—Fisher High School

1. Fisher High School has between 45 and 50 teachers. Technology Coordinator Margaret Adams says about 15 teachers use their computers regularly. How does that ratio compare to your school? What do you think holds the nonusers back? If a higher percentage of teachers in your school are regular computer users, what might account for the difference?
2. The Honors English class presentations are largely cut and pasted from university Web sites. Why do you think the teacher finds this acceptable? What is your view of PowerPoint's value? How often do you see it well-used or ill-used?
3. Ron Anderson teaches math with a marker and white board. He is a competent computer user and says that he will use a math lab when he resolves some troubling software problems. The author wonders whether technology would have improved Ron's excellent class. What do you think?

Chapter 20—Lincoln Elementary School

1. Lincoln has more than 18 special staff members serving the medical, social, and educational needs of its large, low-income, immigrant population. It is a social service center for both the students and the larger inner-city community. Lincoln has only a part-time technology coordinator. Do you agree with the school's priorities? Why or why not?
2. Lincoln's teachers are required to use an integrated learning system twice each day. The district electronically monitors teacher use, but a 5th grade teacher notes that she does not fulfill that requirement regularly. What do you think of her decision to use the time for other instruction?
3. Reflecting on the social conditions under which Lincoln operates, the author comments that "computers did not—and I believe cannot—make up for underlying social inequality. Neither technology nor federal- and state-required testing programs will make up for that." How do you feel about this viewpoint? Is it too pessimistic?

Chapter 21—Computer Use in Our Schools

1. Which of the five ways that the author saw computers being used (as teaching machines, as productivity tools, as Internet portals, as test givers, as data processors) is most important to you? Which is least important? Why?
2. Do you think your school's priorities for computer use will change in the future? If so, how? Why?
3. The author sees the prospect of an overload of data flowing from computer management systems. Is his concern reasonable? Why or why not?
4. What have you found to be the benefits of PowerPoint? What have been its drawbacks?
5. How do you feel about the author's belief that computers can play a valuable role in "low-stakes" testing?
6. Superintendent Larry Sowder is not a computer user, but he has been the catalyst for a wide-ranging, computer-based instructional support system. Larry started with a problem and has determined that computers can be part of the solution. In your experience, do schools generally do what Larry did (start with a problem and find the best solution) or do they start with a solution (computers) and apply them to problems?

Chapter 22—So What Should We Do?

1. Review the author's 11 conclusions. Which do you agree with? Which do you disagree with? Why?
2. The author recommends that computer use be focused on those students who will benefit most—those at the low end of the performance curve. Do you agree with this recommendation? Why or why not? Could this recommendation be implemented?
3. "Curriculum alignment is essential, and the computer can be an essential tool in achieving it," says the author. Do you agree that aligning standards, instruction, and assessment is an important application of computer power? Have you seen computers put to this use in your school or district? If so, to what benefit?
4. The author cites a number of benefits associated with using computers for assessment. What experience have you had with computer-based assessment? Have you found it superior to conventional assessment? If yes, in which ways? If no, why not?
5. The author feels that standards for student use of technology call for too much too soon. Do you agree or disagree? Does your school or district have technology standards? How do they influence the timing and content of technology skills in your school?

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