



NATIONAL ASSOCIATION OF INDEPENDENT SCHOOLS

# 2007 NAIS Technology Survey

## Summary of Findings

### January 2008

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## Introduction

In Fall 2007, NAIS staff and members of the NAIS Technology Task Force developed Part II of the *NAIS Technology Survey* to learn about technology and curriculum, faculty professional development, and school technology policies. Part I of the *Technology Survey* explored NAIS member schools' computer platforms, Internet connectivity, technology staffing, and technology budgets. NAIS staff conducted this research by e-mailing an online survey to technology directors and librarian/media specialists at NAIS member schools. Findings from this study will help NAIS and its member schools learn how independent schools integrate technology into the curriculum, how they support faculty professional development, and what type of technology policies they use.

The primary objectives of the survey were to:

- Learn which technologies and technology skills are being integrated into the curriculum at independent schools;
- Identify how schools are supporting faculty in their use of technology;
- Learn about schools' technology policies.

## Highlights of the Findings

### Curriculum

Technology plays an important role in teaching and learning at respondents' schools. When asked to rate on a scale of one to seven (with one equal to "Never" and seven equal to "All of the time"), how often students at their school are engaged in collaborative and self-directed learning activities that use technology, respondents gave a rating of 4.23 for how often students are engaged in collaborative learning activities that use technology and a rating of 4.66 for how often students are engaged in self-directed activities that use technology. Respondents from one-to-one schools (schools with an individually assigned computer for each student) report higher frequencies of student engagement as they gave a rating of 4.65 for how often students are engaged in collaborative learning activities and

a rating of 4.91 for how often students are engaged in self-directed activities that use technology.

Technology skills are being used throughout grades one through 12 (see Figures 1 through 5). When asked to identify which technology skills students are using, a large number of respondents reported the following:

**Grades 1 and 2:** Using educational software, word processing, using the Internet and other digital sources for research, creating and using graphics/desktop publishing.

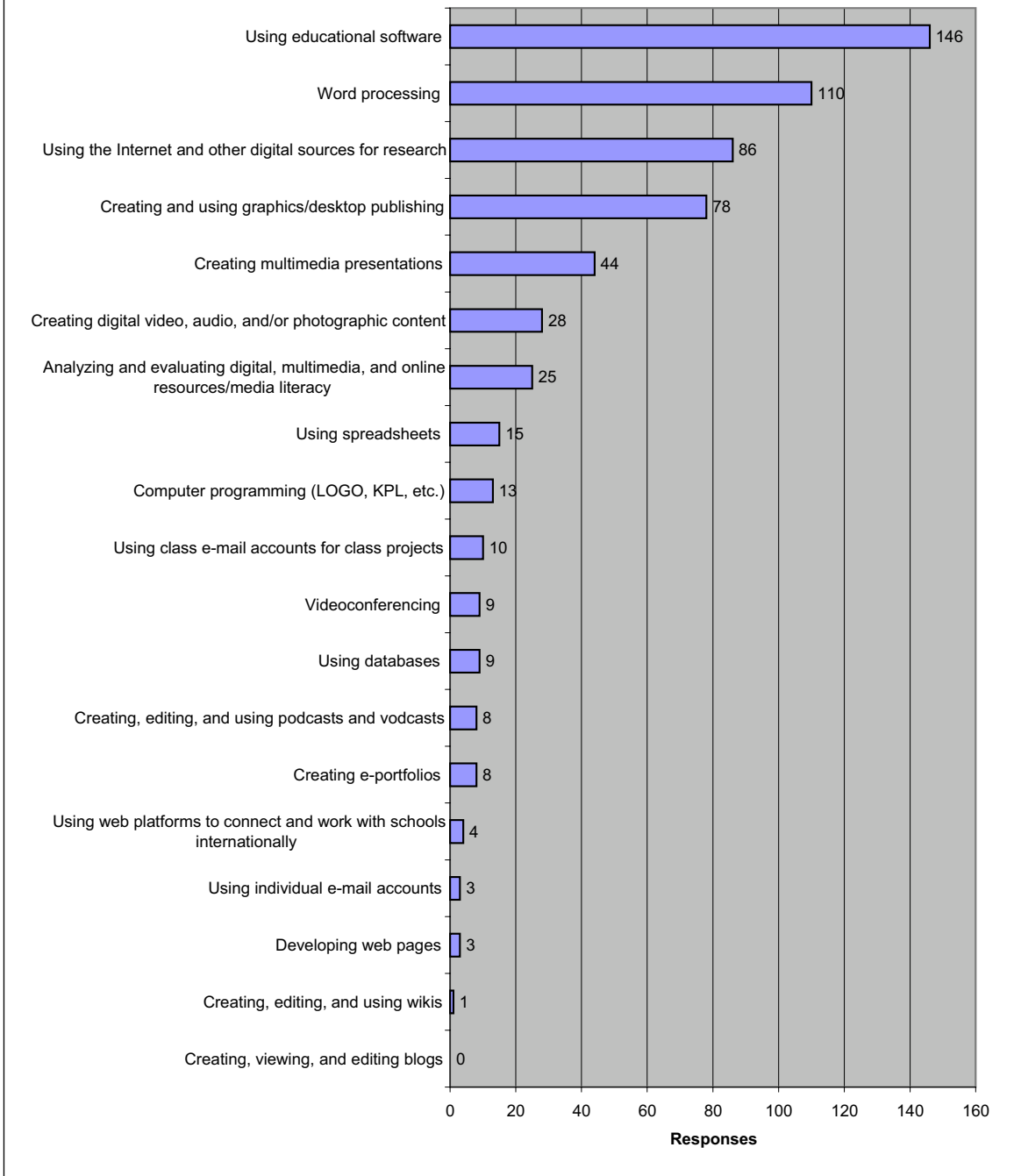
**Grades 3 and 4:** Word processing; using the Internet and other digital sources for research; using educational software; creating multimedia presentations; creating and using graphics/desktop publishing; analyzing and evaluating digital, multimedia, and online resources/media literacy.

**Grades 5 and 6:** Word processing; using the Internet and other digital sources for research; creating multimedia presentations; creating and using graphics/desktop publishing; using educational software; using spreadsheets; analyzing and evaluating digital, multimedia, and online resources/media literacy; creating digital video, audio, and/or photographic content; using individual e-mail accounts.

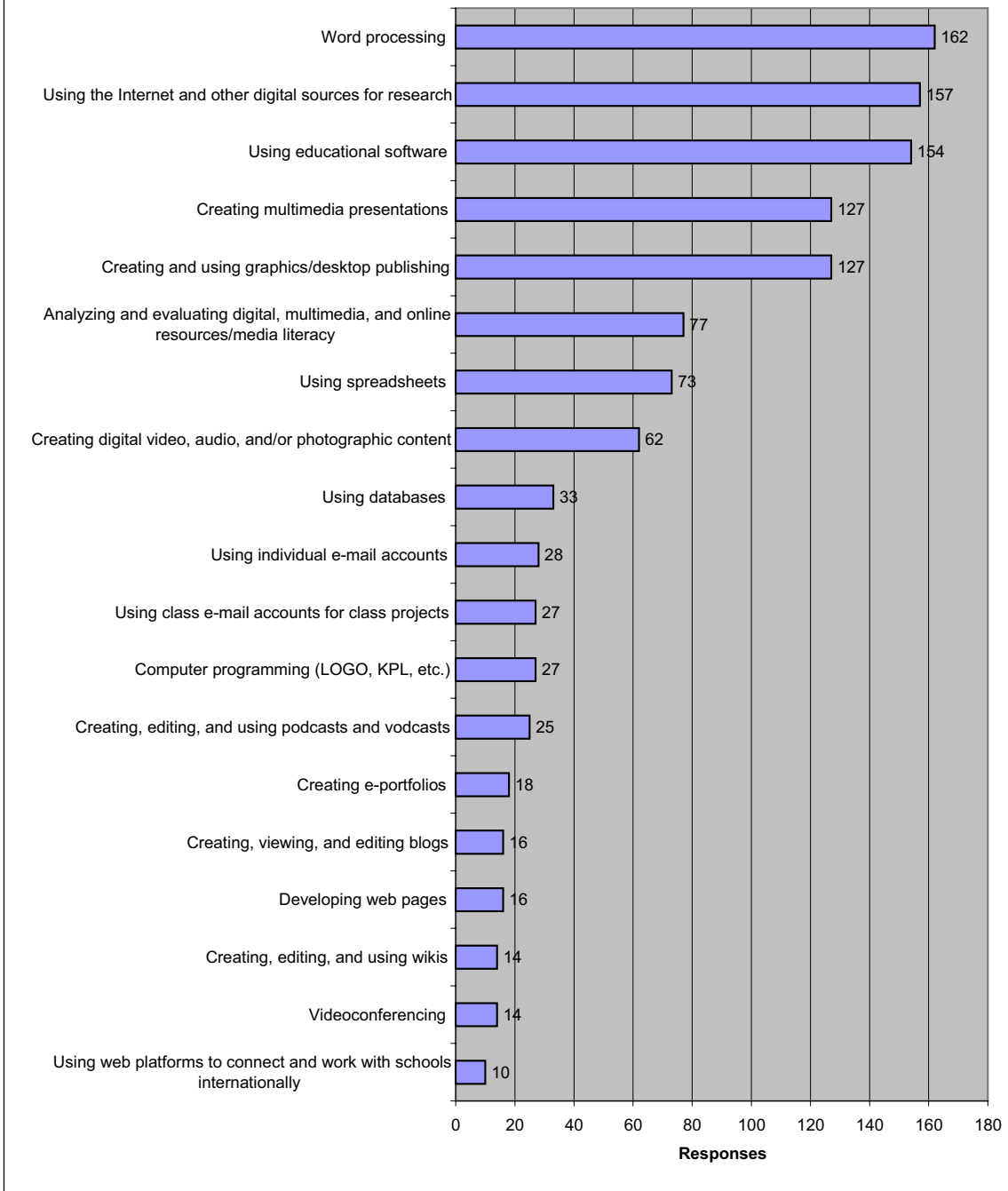
**Grades 7 and 8:** Using the Internet and other digital sources for research; creating multimedia presentations; word processing; using spreadsheets; creating and using graphics/desktop publishing; analyzing and evaluating digital, multimedia, and online resources/media literacy; using educational software; creating digital video, audio, and/or photographic content; using individual e-mail accounts; using databases; developing web pages.

**Grades 9, 10, 11, and 12:** Using the Internet and other digital sources for research; creating multimedia presentations; word processing; using spreadsheets; creating and using graphics/desktop publishing; using individual e-mail accounts; creating digital video, audio, and/or photographic content; analyzing and evaluating digital, multimedia, and online resources/media literacy; using educational software; using databases; computer programming; developing web pages; using class e-mail accounts for class projects; creating, viewing, and editing blogs.

**Figure 1. Technology Skills Used in Grades 1 and/or 2**  
146 responses

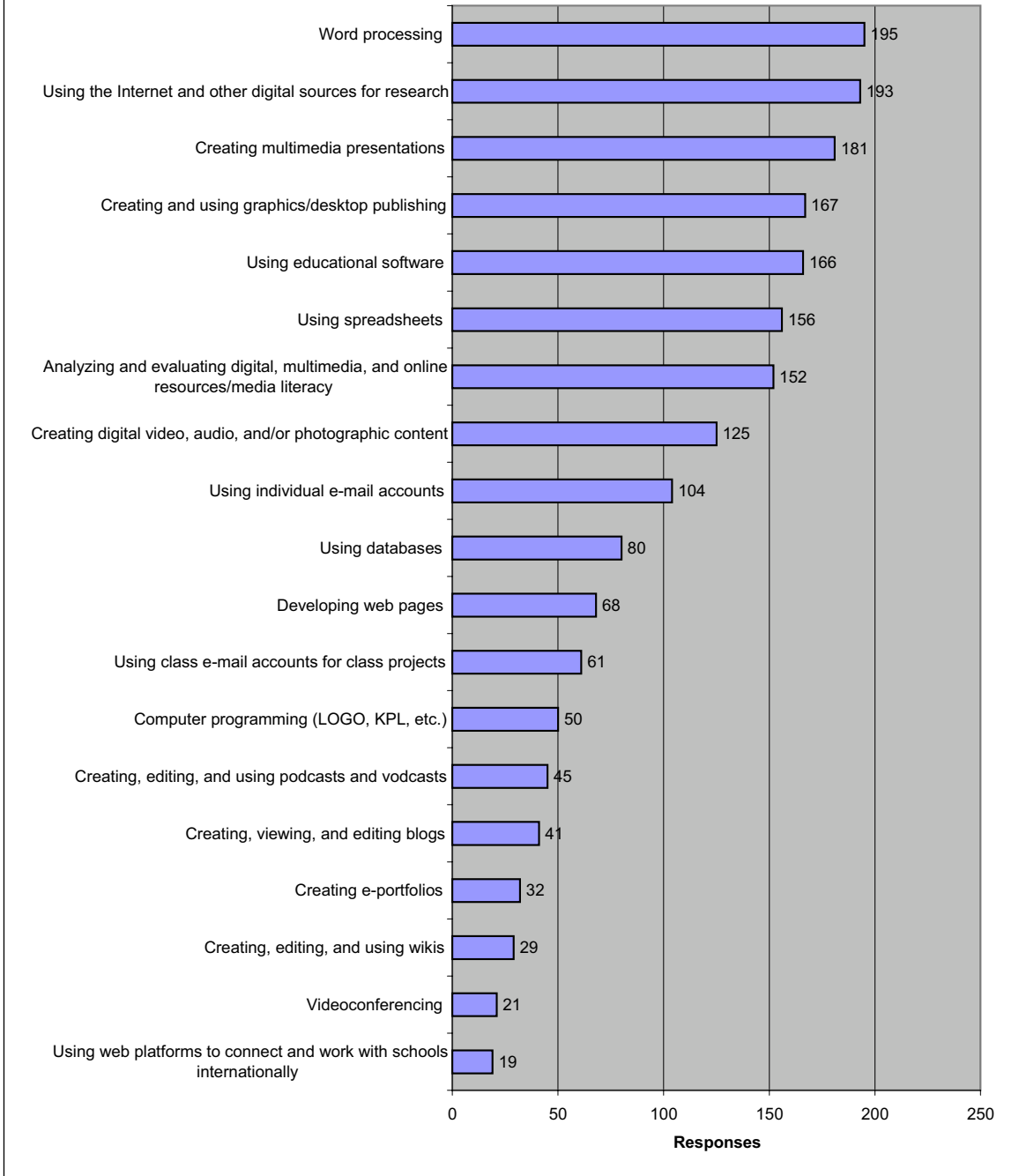


**Figure 2. Technology Skills Used in Grades 3 and/or 4**  
162 responses

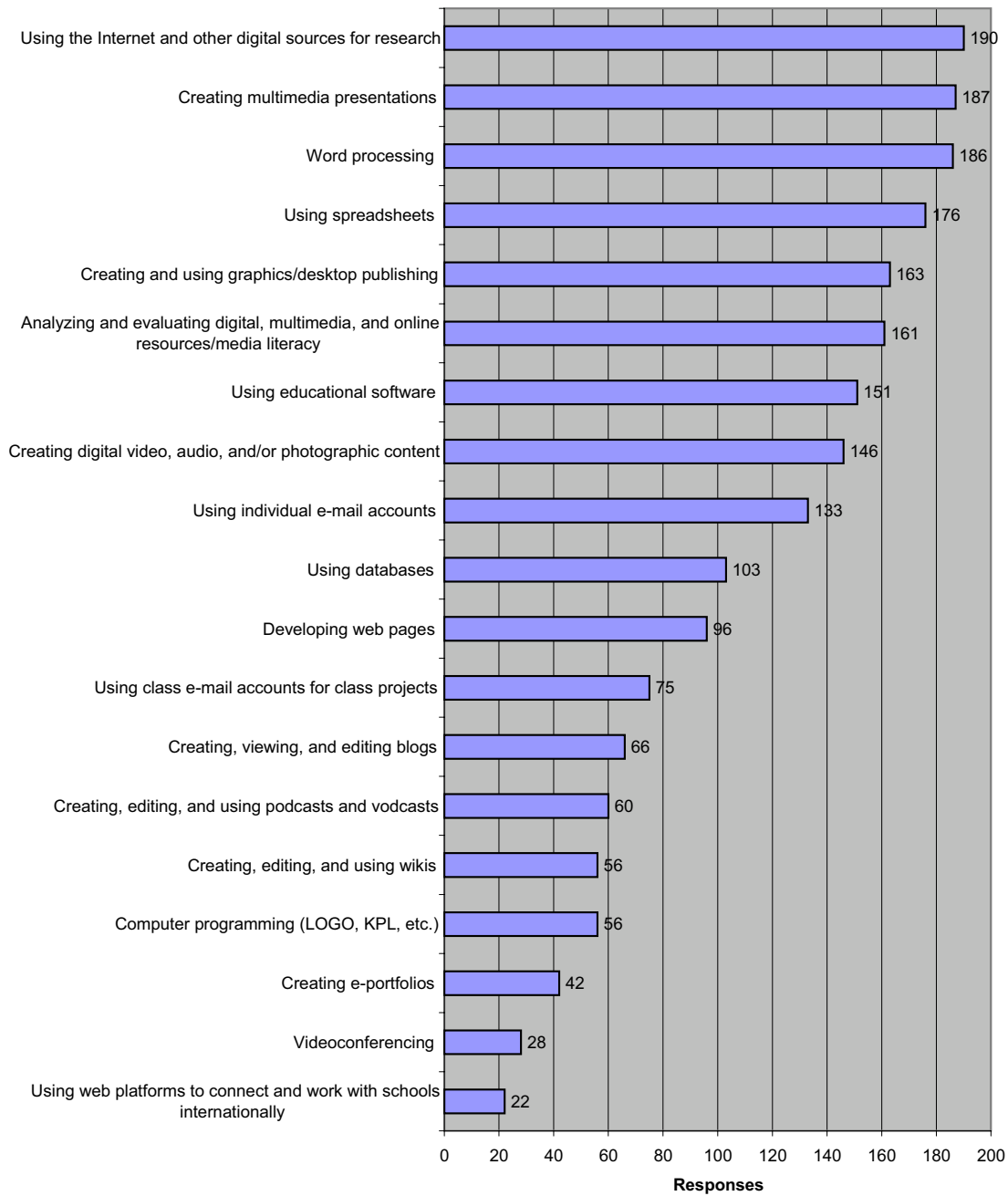


**Figure 3. Technology Skills Used in Grades 5 and/or 6**

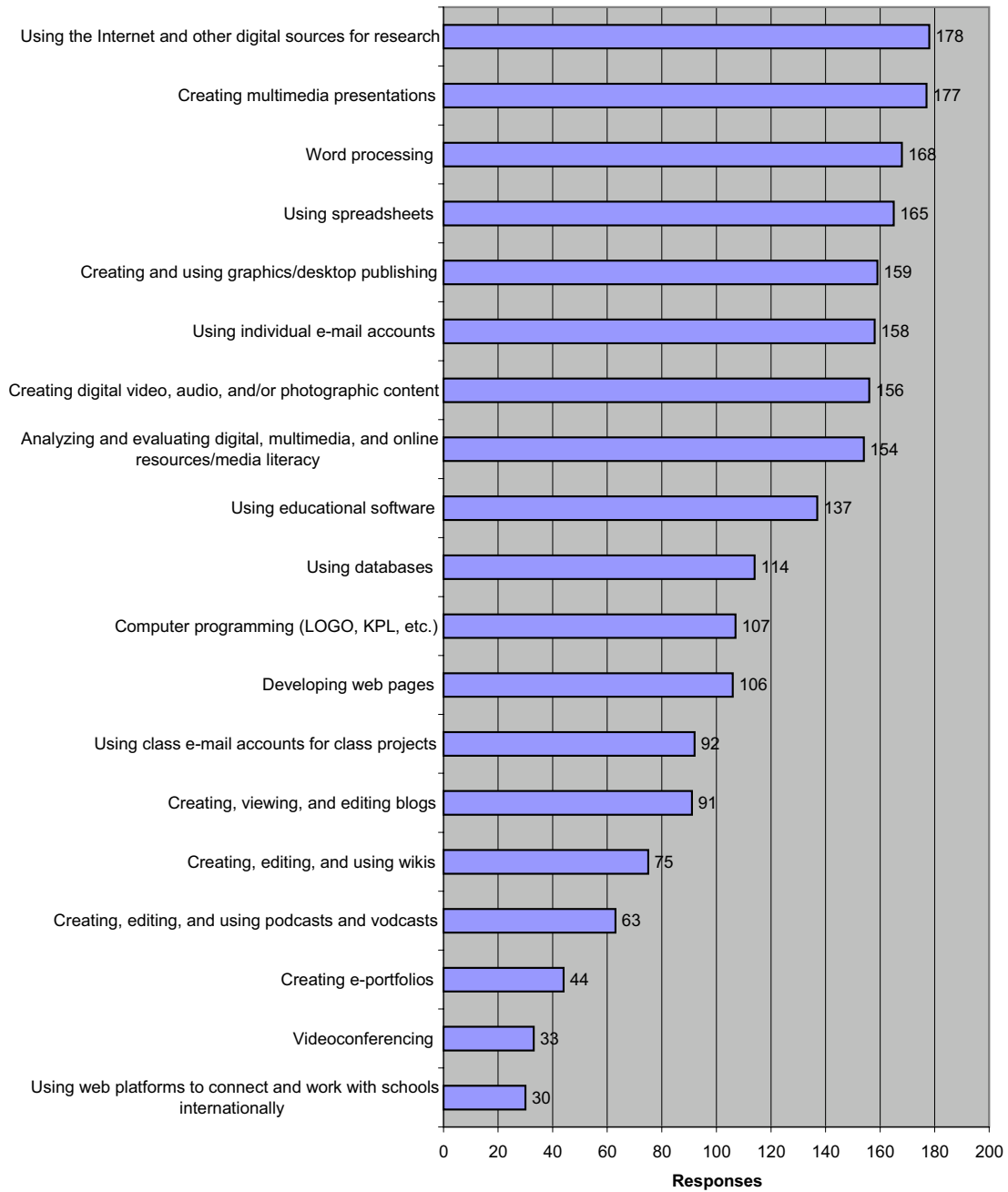
195 responses



**Figure 4. Technology Skills Used in Grades 7 and/or 8**  
190 responses



**Figure 5. Technology Skills Used in Grades 9, 10, 11, and/or 12**  
**178 responses**



Overall, the process by which schools teach technology skills varies by grade level. Technology integration appears to peak in grades 9 through 12 with the majority of survey respondents reporting that at these grade levels technology skills are integrated throughout their school's curriculum. Prior to grade 9, a large number of respondents report that technology skills are both integrated into the curriculum and also taught as stand-alone classes. However, significant differences were found for one-to-one schools where technology skills are integrated throughout the school's curriculum at much earlier grade levels and at much greater percentages. See Tables 1a and 1b.

| <b>Table 1a. All Schools</b>  |  |   |  |  |                       |
|---|--|---|--|--|-----------------------|
| <i>At these grade levels, are technology skills integrated throughout your school's curriculum, part of a stand-alone class, or not covered? (please check only one answer per grade level)</i> |  |   |  |  |                       |
|   | <b>Technology skills are integrated throughout the school's curriculum</b> | <b>Technology skills are integrated throughout the school's curriculum AND also taught as a stand-alone class</b> | <b>Technology skills are taught as a stand-alone class</b> | <b>Technology skills are not covered at this grade level</b> | <b>Response Count</b> |
| <b>Grades 1 and/or 2</b>  | 20.6% (39)   | <b>41.8% (79)</b>   | 25.9% (49)   | 11.6% (22)   | 189                   |
| <b>Grades 3 and/or 4</b>  | 20.9% (40)   | <b>59.2% (113)</b>  | 14.1% (27)   | 5.8% (11)  | 191                   |
| <b>Grades 5 and/or 6</b>  | 25.0% (53)   | <b>61.8% (131)</b>  | 10.8% (23)   | 2.4% (5)   | 212                   |
| <b>Grades 7 and/or 8</b>  | <b>44.9% (96)</b>  | 44.4% (95)  | 7.0% (15)  | 3.7% (8)   | 214                   |
| <b>Grades 9, 10, 11, and/or 12</b>  | <b>56.5% (113)</b>   | 32.0% (64)  | 4.5% (9)   | 7.0% (14)  | 200                   |

**Table 1b. One-to-One Schools**

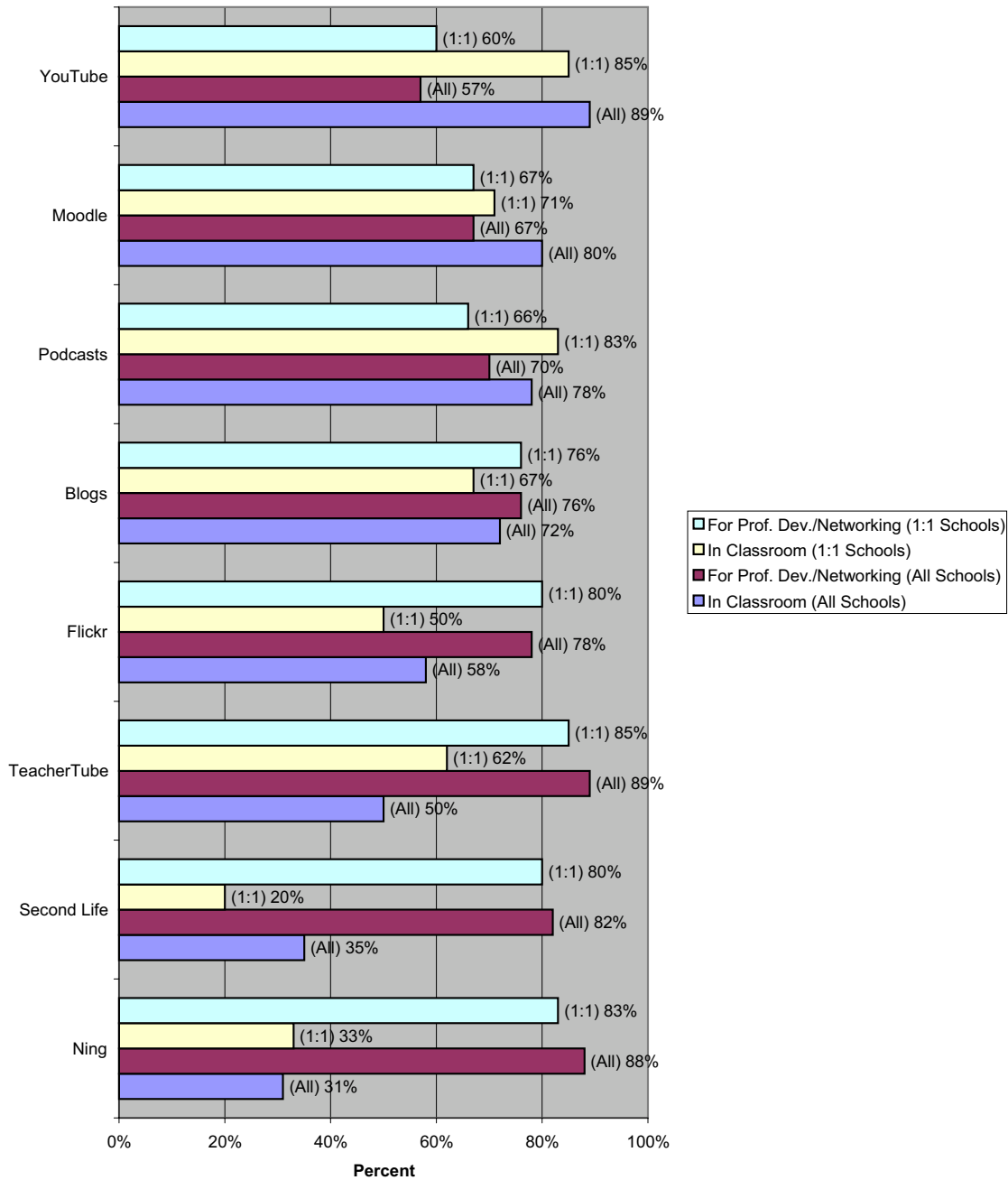
*At these grade levels, are technology skills integrated throughout your school's curriculum, part of a stand-alone class, or not covered? (please check only one answer per grade level)*

|                                    | <b>Technology skills are integrated throughout the school's curriculum</b> | <b>Technology skills are integrated throughout the school's curriculum AND also taught as a stand-alone class</b> | <b>Technology skills are taught as a stand-alone class</b> | <b>Technology skills are not covered at this grade level</b> | <b>Response Count</b> |
|------------------------------------|--|---|--|--|-----------------------|
| <b>Grades 1 and/or 2</b>           | 29.5% (13)   | <b>36.4% (16)</b>   | 25.0% (11)   | 9.1% (4)   | 44                    |
| <b>Grades 3 and/or 4</b>           | 27.3% (12)   | <b>54.5% (24)</b>   | 13.6% (6)  | 4.5% (2)   | 44                    |
| <b>Grades 5 and/or 6</b>           | 31.9% (15)   | <b>53.2% (25)</b>   | 14.9% (7)  | 0.0% (0)   | 47                    |
| <b>Grades 7 and/or 8</b>           | <b>54.5% (24)</b>  | 36.4% (16)  | 9.1% (4)   | 0.0% (0)   | 44                    |
| <b>Grades 9, 10, 11, and/or 12</b> | <b>66.7% (32)</b>  | 31.3% (15)  | 0.0% (0)   | 2.1% (1)   | 48                    |

An overwhelming majority of respondents' schools (83%) do not provide any type of online course for students at any grade level. The few schools that provide online courses through another organization use courses offered by Stanford University, Johns Hopkins University, learning.com, and other colleges and universities. A small number of schools have set up Moodle-based courses to be used in the event of an emergency.

Respondents report that teachers use Web 2.0 platforms both in the classroom and for professional development. A large number of teachers use YouTube, Moodle, podcasts, and blogs in the classroom. Many teachers also use Ning, SecondLife, TeacherTube, and Flickr for professional development. Many respondents state that wikis are very popular for classroom work and professional development and some respondents indicate that ning, del.ici.ous, Google, and FirstClass are being used at their schools. A small number of respondents' schools use Skype, Moodle, NAIS Challenge 20/20, wikis, blogs, nings, e-mail and websites to connect to, and work with, schools internationally. See Figure 6.

**Figure 6. Web 2.0 Platforms Used by Teachers**  
**1:1 Schools=55 responses; All Schools=220 responses**



The majority of respondents' schools do not have a technology or information literacy requirement for students (54.5%) and do not have a joint library/technology department or team (57.3%). A higher percent of respondents from one-to-one schools report that their schools have a technology or information literacy requirement for students (50%). A much smaller percent of one-to-one schools (35.6%) have joint library/technology departments or teams.

| <b>Table 2. Does your school have a technology or information literacy requirement(s) for students?</b> |                    |                    |
|---|--------------------|--------------------|
|   | All Schools        | One-to-one Schools |
| <b>Yes</b>  | 45.5% (116)        | <b>50.0% (29)</b>  |
| <b>No</b>   | <b>54.5% (139)</b> | <b>50.0% (29)</b>  |
| <b>Total Responses</b>  | 255                | 58                 |

| <b>Table 3. Does your school have a joint library/technology department or team?</b> |                    |                    |
|--|--------------------|--------------------|
|  | All Schools        | One-to-one Schools |
| <b>Yes</b>   | 42.7% (109)        | 35.6% (21)         |
| <b>No</b>  | <b>57.3% (146)</b> | <b>64.4% (38)</b>  |
| <b>Total Responses</b>   | 255                | 59                 |

Course management systems are being used formally and/or informally by more than fifty percent of respondents' schools. Thirty-six percent of respondents from one-to-one schools indicate that course management systems have been formally adopted at their schools. Moodle is the most popular course management system used by respondents' schools and is especially popular at one-to-one schools. Blackboard, Whipple Hill, Edline, and FirstClass are also used by some schools. A small number of respondents' schools use data management systems for student growth performance measures. Systems used include Blackbaud, Senior Systems, Whipple Hill, PowerSchool, and in-house systems.

| <b>Table 4. Are course management systems used at your school? (Moodle, Blackboard, etc.)</b>   |                    |                    |
|---|--------------------|--------------------|
|   | All Schools        | One-to-one Schools |
| <b>Yes—the use of course management systems has been formally adopted at our school</b>   | 28.2% (71)         | 35.6% (21)         |
| <b>Yes—although the use of course management systems has not been formally adopted at our school, teachers have the option to use course management systems if they want to</b> | 24.2% (61)         | 22.0% (13)         |
| <b>No—course management systems are not used at our school</b>  | <b>47.6% (120)</b> | <b>42.4% (25)</b>  |
| <b>Total Responses</b>  | 252                | 59                 |

| <b>Table 5. Does your school use a data management system for student growth performance measures?</b> |                    |                    |
|--|--------------------|--------------------|
|  | All Schools        | One-to-one schools |
| <b>Yes</b>   | 25.0% (61)         | 34.5% (20)         |
| <b>No</b>  | <b>75.0% (183)</b> | <b>65.5% (38)</b>  |
| <b>Total Responses</b>   | 244                | 58                 |

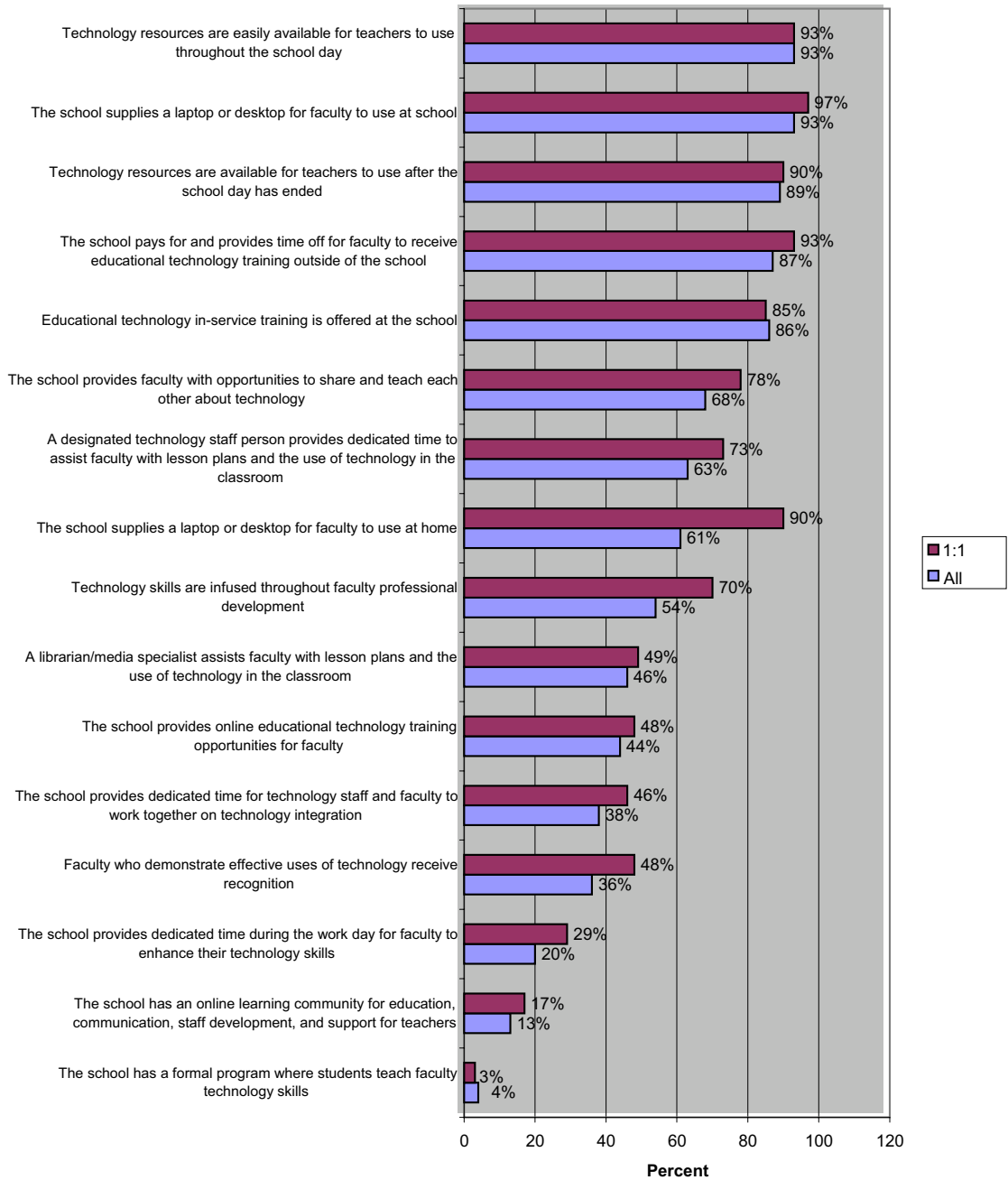
## **Faculty Professional Development**

From making technology resources available for faculty to providing educational technology training opportunities, the majority of respondents' schools offer support for faculty use of technology. Overall, schools demonstrate strong support in making technology resources and training available for faculty. One-to-one schools are especially strong in these areas with 90 percent of respondents from one-to-one schools reporting that in addition to supplying technology resources for faculty at school, their schools also supply laptops or desktops for faculty to use at home. See Figure 7.

A majority of respondents from all schools (59.2%) and respondents from one-to-one schools (67.8%) report that teachers from their schools present educational technology sessions at workshops, seminars, or conferences. A small number of respondents' schools (20.7%) have technology competency requirements for faculty. However, a significant number of respondents' schools (35.2%) and in particular, one-to-one schools (45.6%), include technology skills and proficiencies in faculty performance objectives and evaluations. See Tables 6, 7, and 8.

**Figure 7. How does your school support faculty in their use of technology?  
(check all that apply)**

**1:1 Schools=59 responses; All Schools=249 responses**



| <b>Table 6. Do teachers at your school present educational technology sessions at workshops, seminars, or conferences?</b> |                    |                    |
|--|--------------------|--------------------|
|  | All Schools        | One-to-one schools |
| <b>Yes</b>   | 59.2% (148)        | 67.8% (40)         |
| <b>No</b>  | <b>40.8% (102)</b> | <b>32.2% (19)</b>  |
| <b>Total Responses</b>   | 250                | 59                 |

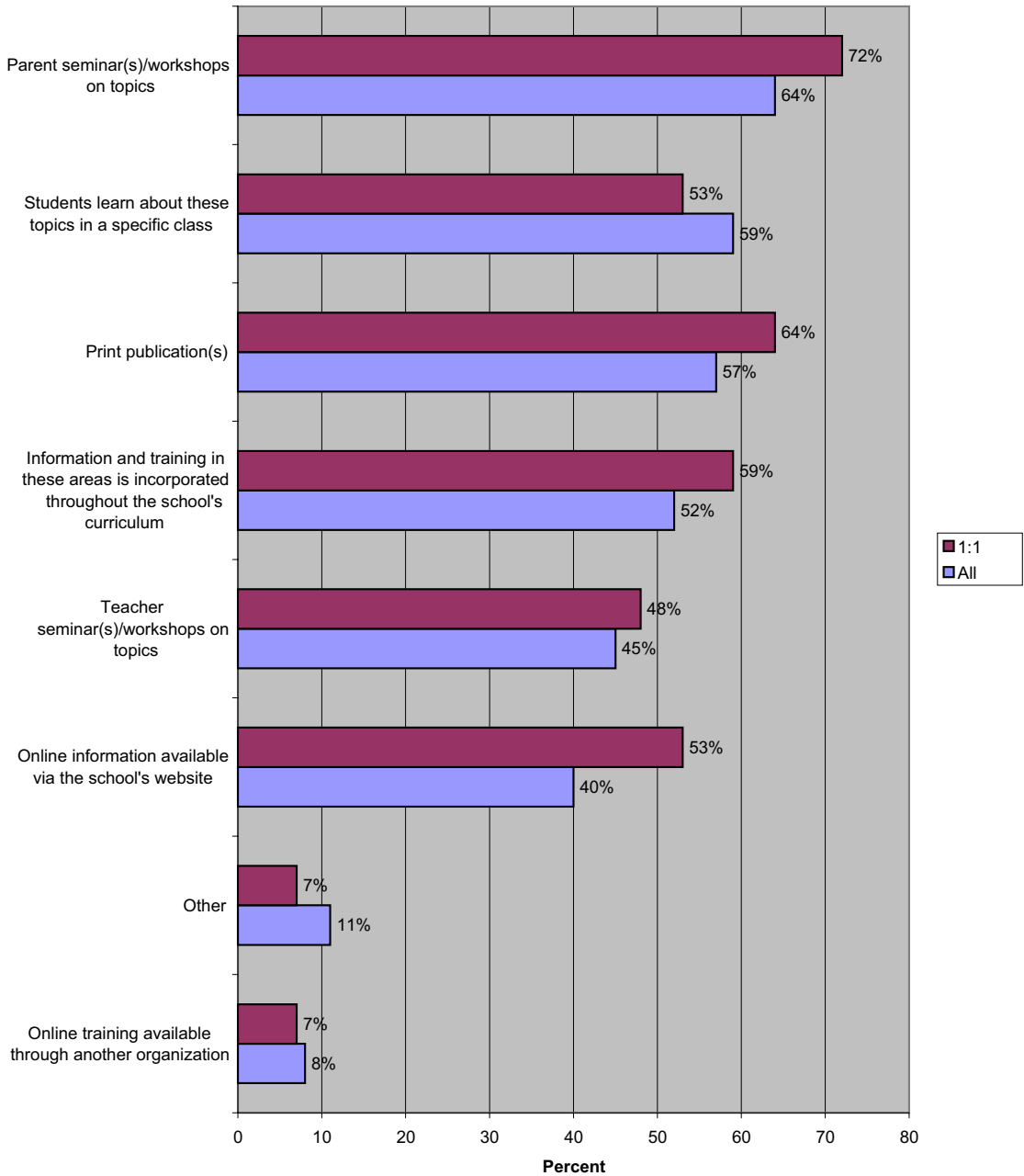
| <b>Table 7. Does your school have technology competency requirements for faculty?</b> |                    |                    |
|---|--------------------|--------------------|
|   | All Schools        | One-to-one schools |
| <b>Yes</b>  | 20.7% (52)         | 30.5% (18)         |
| <b>No</b>   | <b>79.3% (199)</b> | <b>69.5% (41)</b>  |
| <b>Total Responses</b>  | 251                | 59                 |

| <b>Table 8. Are technology skills and proficiencies included in faculty performance objectives and evaluations?</b> |                    |                    |
|---|--------------------|--------------------|
|   | All Schools        | One-to-one schools |
| <b>Yes</b>  | 35.2% (86)         | 45.6% (26)         |
| <b>No</b>   | <b>64.8% (158)</b> | <b>54.4% (31)</b>  |
| <b>Total Responses</b>  | 244                | 57                 |

## **Policies**

Respondents' schools actively work to educate parents and students about the safe, healthy, ethical, legal, and appropriate use of technology. The majority of respondents' schools offer parent workshops and seminars on these topics, teach students about these topics in a specific class, provide print publications on these topics, and incorporate information and training on these topics throughout the school's curriculum. A large number of schools also offer teacher seminars and workshops on these topics and provide online information on these topics through their school websites.

**Figure 8. How does your school educate students, teachers, and parents about the safe, healthy, ethical, legal, and appropriate use of technology resources? (check all that apply)**  
*1:1 Schools=58 responses, All Schools=237 responses*



Many respondents' schools currently have or have had a formal technology integration plan. Most schools with formal technology integration plans evaluate these plans yearly, or every three years. Interestingly, at close to 38 percent of responding one-to-one schools, technology has become so infused throughout the school that a formal technology plan is no longer needed.

Acceptable use policies for students are in effect at close to 100 percent of all responding schools. A majority of schools also have acceptable use policies for faculty (77.1%) and staff (74.2%). Most schools address cell phone use (68.4%) in their acceptable use policies or in other school policies.

| <b>Table 9. Does your school currently have a formal technology integration plan?</b>   |                    |                           |
|---|--------------------|---------------------------|
|   | <b>All Schools</b> | <b>One-to-one Schools</b> |
| <b>Yes, we currently have a formal technology integration plan</b>  | <b>34.1% (84)</b>  | 36.2% (21)                |
| <b>No, we used to have a formal technology integration plan but technology has become so infused throughout our school that we no longer need a formal plan</b> | 25.2% (62)         | <b>37.9% (22)</b>         |
| <b>No, we do not currently have and have never had a formal technology integration plan</b>   | 27.2% (67)         | 22.4% (13)                |
| <b>Other</b>  | 13.4% (33)         | 3.4% (2)                  |
| <b>Total Responses</b>  | 246                | 58                        |

| <b>Table 10. If your school has a formal technology integration plan, how often is it evaluated?</b> |                    |                           |
|--|--------------------|---------------------------|
|  | <b>All Schools</b> | <b>One-to-one Schools</b> |
| <b>Yearly</b>  | <b>38.9% (44)</b>  | 44.0% (11)                |
| <b>Every other year</b>  | 5.3% (6)           | 0.0% (0)                  |
| <b>Every three years</b>   | 31.9% (36)         | <b>48.0% (12)</b>         |
| <b>Other</b>   | 23.9% (27)         | 8.0% (2)                  |
| <b>Total Responses</b>   | 113                | 25                        |

| <b>Table 11. For which of these groups does your school have a formal Acceptable Use Policy? (check all that apply)</b> |                    |                           |
|---|--------------------|---------------------------|
|   | <b>All Schools</b> | <b>One-to-one Schools</b> |
| <b>Students</b>   | 99.6% (239)        | 100.0% (57)               |
| <b>Faculty</b>  | 77.1% (185)        | 84.2% (48)                |
| <b>Staff</b>  | 74.2% (178)        | 82.5% (47)                |
| <b>Total Responses</b>  | 240                | 57                        |

| <b>Table 12. Is student use of cell phones during the school day covered in your Acceptable Use Policy or in any other school policy?</b> |                    |                           |
|---|--------------------|---------------------------|
|   | <b>All Schools</b> | <b>One-to-one Schools</b> |
| <b>Yes</b>  | <b>68.4% (167)</b> | <b>69.0% (40)</b>         |
| <b>No</b>   | 31.5% (77)         | 31.0% (18)                |
| <b>Total Responses</b>  | 244                | 58                        |

# The **ISTE** National Educational Technology Standards (NETS•S) and Performance Indicators for Students

## **1. Creativity and Innovation**

Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology. Students:

- a. apply existing knowledge to generate new ideas, products, or processes.
- b. create original works as a means of personal or group expression.
- c. use models and simulations to explore complex systems and issues.
- d. identify trends and forecast possibilities.

## **2. Communication and Collaboration**

Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others. Students:

- a. interact, collaborate, and publish with peers, experts, or others employing a variety of digital environments and media.
- b. communicate information and ideas effectively to multiple audiences using a variety of media and formats.
- c. develop cultural understanding and global awareness by engaging with learners of other cultures.
- d. contribute to project teams to produce original works or solve problems.

## **3. Research and Information Fluency**

Students apply digital tools to gather, evaluate, and use information. Students:

- a. plan strategies to guide inquiry.
- b. locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media.
- c. evaluate and select information sources and digital tools based on the appropriateness to specific tasks.
- d. process data and report results.

## **4. Critical Thinking, Problem Solving, and Decision Making**

Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources. Students:

- a. identify and define authentic problems and significant questions for investigation.
- b. plan and manage activities to develop a solution or complete a project.
- c. collect and analyze data to identify solutions and/or make informed decisions.
- d. use multiple processes and diverse perspectives to explore alternative solutions.

## **5. Digital Citizenship**

Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior. Students:

- a. advocate and practice safe, legal, and responsible use of information and technology.
- b. exhibit a positive attitude toward using technology that supports collaboration, learning, and productivity.
- c. demonstrate personal responsibility for lifelong learning.
- d. exhibit leadership for digital citizenship.

## **6. Technology Operations and Concepts**

Students demonstrate a sound understanding of technology concepts, systems, and operations. Students:

- a. understand and use technology systems.
- b. select and use applications effectively and productively.
- c. troubleshoot systems and applications.
- d. transfer current knowledge to learning of new technologies.