DIGITAL CONTENT GOES TO SCHOOL

Trends in K–12
Classroom E-Learning

ASCD | OverDrive

ASCD

Deborah S. Delisle, Executive Director and CEO
Marjory Moore, Director, Corporate Relations
Catherine "Kit" Harris, Market Research Manager
Kyle Steichen, Sr. Production Specialist
Katie Freeman, Sr. Associate Editor
Melissa Johnston, Sr. Graphic Designer

Founded in 1943, ASCD is the global leader in developing and delivering innovative programs, products, and services that empower educators to support the success of each learner. Comprising more than 125,000 members—superintendents, principals, teachers, professors, and advocates from more than 138 countries—the ASCD community also includes 54 affiliate organizations. The nonprofit's diverse, nonpartisan membership is its greatest strength, projecting a powerful, unified voice to decision makers around the world. The association provides expert and innovative solutions in professional development, capacity building, and educational leadership essential to the way educators learn, teach, and lead.

www.ascd.org
1703 N. Beauregard Street
Alexandria, VA 22311
1-800-933-2723
1-703-578-9600

OVERDRIVE, INC.

Steve Potash, President and CEO
Herb Miller, Ed.M., Director of Education Sales
David Burleigh, Director of Marketing & Communication
Emily Clark, Advertising & Sponsorship Specialist
Brian Byrne, Communication Specialist & Writer

OverDrive is the leading provider of e-books for grades K–12. We're the only 100 percent digital content solution, delivering a better way for your district or school to buy and use your books. This simple, proven digital education model saves funds and increases usage by making it easy for students and faculty to get the right content at the right time, online and offline, on any device! With our industry-leading catalog of over 2 million titles from 5,000 top publishers, you can select the digital versions of books you have in print and supplement with other digital materials (e-books, audiobooks, video, periodicals) to support curriculum and instruction goals. Serving 12,000+ districts and schools worldwide.

www.overdrive.com/schools
World Headquarters
One OverDrive Way
Cleveland, OH 44125 USA
1-216-573-6886

THE STUDY

The findings cited in this report are based on a survey cosponsored by ASCD and OverDrive. The "Digital Content Goes to School" Survey was conducted online among both school-based and district-based administrators. This survey was designed to better understand the usage of and attitudes toward classroom digital content among ASCD members, providing the information needed to best meet their needs in developing products and services for their school use as well as their professional development. This look at the digital content market focuses on current usage habits and future plans, as well as administrators' mindsets as they make their decisions on digital content going forward.

ASCD and OverDrive contracted with Readex Research to conduct this proprietary online study among 2,964 of ASCD's current members in administrative roles. The survey sample of 34,414 was selected in systematic fashion by ASCD and Readex Research from ASCD's member database. The data was gathered from November 10 through December 8, 2015, with a response rate of 9 percent, and most results are based on the 2,033 respondents who said their role in education is as a school- or district-based administrator. Significant differences, either larger or smaller, are indicated in the tables in bold blue font.

This report was prepared by the ASCD Research Unit and is available at **www.ascd.org /digitalcontentreport** and at **http://company.overdrive.com/DigitalContentReport**. The report appendix is available at **www.ascd.org/digitalcontentreportappendix**.

Qualitative information in the form of questions and answers was collected from OverDrive digital content customers from four different districts and is summarized throughout the report in sidebars. These educators and their districts were:

- **Kate MacMillan**, coordinator of library services/digital resource project manager, Napa Valley Unified School District, Napa County, California. This public K–12 district serves more than 18,000 students.
- **Kahle Charles**, executive director of curriculum, St. Vrain Valley Schools, Longmont, Colorado. This public preK–12 district serves more than 32,000 students.
- **Anne Aita**, district instructional technology coach, Beaufort County School District, Beaufort, South Carolina. This public preK–12 district serves about 20,000 students.
- **Edward Manuszak**, assistant superintendent of instructional and student services, Bedford Public Schools, Bedford, Michigan. This public preK–12 district serves about 4,500 students.

EXECUTIVE SUMMARY

Overall

The ASCD–OverDrive survey further underscores the fact that digital content—such as e-books; audio books; or digital versions of textbooks, novels, or nonfiction titles—is firmly implanted on the radar screens of American educators, and its use continues to increase. However, digital consumption in schools remains in a transitional phase, and any reports of the death of print have been greatly exaggerated. This mirrors what is happening in the greater world of media consumption, with newspapers, magazines, and books all heading online.

About 80 percent of these administrators are currently using digital content in a variety of ways, from embedding it in the curriculum to using it outside of the classroom and everything in between, with another 9 percent planning to implement digital content in the next year or so. Among those already using digital content, 65 percent report that their school or districts' replacement of print materials will increase next year; however, for now, these materials represent about a third of their instructional materials and budgets.

Of those 7 out of 10 using digital content in the classroom, more are using it as part of their curriculum than not. The 10 percent only using it outside the classroom appear to be using digital content to create a rounded-out e-book collection in a library or media center.

Across the board, these administrators reported their teachers were most looking for digital content for ELA. Out of the 6 types of digital content offerings presented in the survey, the largest concentration of respondents selected informational texts/literary nonfiction, aligned to units of study (74 percent) as the one that would be most helpful to educators in supporting students.

Respondents gave a variety of reasons why they did or did not plan to expand their use of digital, although regardless of whether they planned to expand, virtually all of them saw benefits and many shared mitigating concerns.

Those who planned to increase their use of digital content cited as reasons for its growth the movement toward 1:1 programs, increased technology mandates and initiatives, the Common Core State Standards and accompanying online assessment requirements for digital materials, and the general sense that technology is the future for schools. Those not increasing their use of digital content cited modest budgets, lack of infrastructure, a lack of priority at the district level, and lack of staff training as their reasons for keeping the status quo.

The top three benefits respondents saw in digital content were

- the ability to deliver individualized instruction,
- allowing students to practice independently, and
- capturing greater student attention/engagement.

Following these top reasons, they reported varying the delivery method of instruction, learning 21st century skills, and empowering students to take charge of their own learning as other benefits of digital content.

The top hesitations about going digital that were voiced by these administrators were

- equity concerns about lack of Internet access at home,
- fear of teachers not wanting to go digital and teachers not prepared or comfortable or effective with digital learning,
- not enough devices,
- lack of funding, and
- content not working on all devices.

It is clear from reading the open-ended responses that there is confusion in the marketplace about the availability of personally owned devices, how the devices they have can best be used, and the ability of different types of vendor models that can serve to address their concerns.

Among those using digital content, strategic planning has become relatively commonplace, although it is by no means universal. Nearly three-quarters of these educators have a device strategy, and of those who do, more than 6 out of 10 have a plan that aligns with it. Once the school or district has made the decision to go digital, or increase its digital offerings, a vendor must be selected. The array of vendors in this market is wide, from going to publishers directly, digital distributors, other software providers, or consumer models. In making the decision on a product, vendor, or both, these administrators relied on the principals and teachers (private schools) or the district curriculum or technology leader, superintendent, or both (public schools) to make the decision. Administrators rated the ability to support differentiated or personalized learning as the most important determining factor they would use if they were involved in the decision to select digital content and a digital content provider.

These educators reported that their teachers would benefit from additional professional development or learning to tackle this digital content implementation. Most requested was hands-on, how-to, differentiated PD, preferably led by someone who has already experienced this transition. In addition, they wanted this PD to focus on how to successfully integrate digital content into their instruction and curriculum.

Subgroups

The ASCD–OverDrive survey also highlighted numerous differences among the subgroup categories examined—whether schools were public or private, small or large, used digital content, or had a 1:1 device program. (For a full list of these differences, please see the appendix report, *Digital Content Goes to School Report Appendix*, available at **www.ascd.org/digitalcontentreportappendix**.)

Those using digital content in their curriculum, those in larger schools, and those with a 1:1 program in place gave similarly robust responses in terms of their likelihood to use digital materials, the percent of their budget allocated to digital materials, and the percent of those with a digital strategy aligned to a device strategy.

District-based Versus School-based Administrators

District-based administrators using digital content were more likely than their school-based peers to see an increase in usage over the next year, and they appear to be more focused than the school-based administrators are on future digital implementation. Yet they voice greater concerns than school-based administrators do about moving to digital, particularly on issues like equity and adequate teacher preparation, and they are more likely to have a 1:1 program in place. On the financial front, the median instructional budget was $50,000 for the schools and $227,000 for the district-based administrators; funding for purchasing digital content most often comes from the district followed by grants for both groups.

Public Versus Private Schools

Public and private schools have adopted digital content into their curriculum at the same rate, but public schools are more likely to use it in the classroom outside of the curriculum, while private schools are less likely to be using digital content at all. Public schools are more likely to receive federal, state, district, and grant funds, while private schools rely on local and other sources. Where private schools touted the cost-effectiveness of digital content, public schools were more likely to praise its ability to deliver individualized instruction and alignment with lesson plans, standards, or both. Finally, private schools' concerns centered around student online safety and lack of preparedness, family preference for print, and the lack of long-term plans, while public schools focused on equity concerns; paucity of devices; and lack of technology infrastructure, including Internet access.

Current Users Versus Nonusers

Those already using digital content in their curriculum were more likely to report that its use will grow significantly in the next year, while those using it in class but not in the curriculum were more likely to say that usage will stay the same. Those not yet using digital content saw fewer benefits on the whole than those already using it, but they agreed about its cost-effectiveness. Those using digital content in the classroom but not in the curriculum agreed about the benefits with those who had made it part of the curriculum, but those who had not yet infused it into the curriculum shared hesitations about issues like teachers being unprepared, uncomfortable, or not effective with digital content; lack of devices and funding for digital investments; lack of overall technology infrastructure; and the possibility that the content will not work on all devices easily. Those using digital content in the curriculum were more likely to have both a device strategy and a plan for digital content that aligns with that strategy.

1:1 Device Program Versus No 1:1 Device Program

Schools or districts with a 1:1 device program in place represent perhaps the strongest correlation with use of digital content. Of course, it is not necessary to have a 1:1 program in place to use digital content, as evidenced by the nearly 70 percent of schools and a third of districts using digital content without a 1:1 program in place. Those with a 1:1 program are more likely to use digital content in their curriculum, in the classroom, and in their media center, and they are more likely to plan to use digital content in the future. They are using a higher percentage of digital content than print, have a higher percentage of their budgets devoted to it, and are more likely to foresee significant increases in the replacement of print with digital content next year. Those with 1:1 programs saw benefits like learning 21st century skills, empowering students to take charge of their own learning, and providing a high degree of interactivity more clearly than those without 1:1 programs do. And they evinced greater interest in digital content in every subject except for English/language arts, where their interest equaled that of schools and districts without 1:1 programs.

Larger Schools/Districts Versus Smaller Schools/Districts

Larger schools and districts see more likelihood of growth in digital content than smaller ones, which (generally speaking) do not foresee an increase. Larger schools and districts, which are more likely to be public, rely more on district and state funds and are more likely to have both a device strategy and a plan for digital content that aligns with that strategy. Larger schools and districts also had more concerns about student equity due to lack of Internet access at home; fewer devices on the part of schools or families; and a lack of technology infrastructure, including Internet access (in schools). Smaller schools and districts reported being less sure of the right long-term path for digital learning. Larger schools were more likely to have an interest in literacy engagement and library resources, but less of an interest in classroom libraries. Smaller schools and districts were more likely to say that principals and teachers were influential in the decision to implement digital content.

Geographic Regions

Although there were differences by region, there were not a lot of discernable geographic patterns. The only pattern that emerged was that the Western region (which tended to have school-based administrators) was least likely to be using digital content, and had a lower median instructional materials budget.

"What has been the result so far for your digital content initiative?

Kahle Charles: We've had an overwhelmingly positive response from teachers, students and parents. Based on our checkout rates, our students and staff are reading eBooks at an increasing rate! All parties have found checking out e-books in the District Digital Library easy and the 24/7 access is outstanding. Through our novel e-book sets, aligned to our curriculum, we are able to reach students with high-quality texts who might not previously be able to due to lack of copies. With students reading more outside the classroom this enables teachers to take a "deeper dive" with content and 21st century skills.

Kate MacMillan: There has been more engagement in reading as seen by the increased circulations. It has put that sense of adventure and joy back into reading. Digital content ensures literacy privacy. Students can read above or below level and read titles dealing with controversial or sensitive subjects without comment from their peers.

Conclusions

As evidenced by the findings, whether they are a school principal or a district supervisor, the vast majority of these educators have been exposed to digital content in the educational environment. Many have incorporated it in the classroom or curriculum, while a far smaller percent have only gone as far as adding e-books into their school media center.

Although digital content currently occupies only a third of their instructional materials and budget, one of the key takeaways from this study is that the use of digital content is growing. Strategic planning regarding devices is also prevalent, with nearly three-quarters of these ASCD members' schools or districts having a device strategy already in place, and more than half have a digital content plan that aligns with it. The movement toward 1:1 programs, which half the districts in the study have, has also contributed toward the growth of digital content.

This research presents new insights into the reasons for digital content's growth, from its ability to deliver individualized instruction to its ability to encourage independent work. As digital content continues to transform the classroom, the concept of a personalized, individual model of schooling becomes more feasible. It also bears noting that many have hesitations about the use of digital content, including current users, who see the challenges regarding equity concerns about Internet access at a home, teachers who may or may not be comfortable with integrating the technology into their instruction, or lack of devices and funding.

The use of digital content in schools is no longer a new frontier, but many comments from these educators expressed confusion and uncertainty about their long-term path with digital content. It is incumbent upon the publishers and distributors of digital content to address these concerns and provide solutions to educators grappling with this new content, offering options that meet the educator's need for content and providers that support differentiated or personalized learning. Digital solutions that make the technology elegantly simple for intuitive use by teachers and students will go a long way to addressing these administrators' concerns about the ultimate success their staff will have with digital content. As we think about the growth of digital, it should be noted that these administrators feel that better results and faster growth will occur if teachers are also provided the appropriate professional learning that will illustrate how to best incorporate digital content into their curriculum.

As administrators consider the transition to digital or the growth of digital content in their schools or districts, this research indicates some key questions they might ask to resolve some of their issues and avoid costly or time-consuming pitfalls. These questions include the following:

- How do we find and purchase the best combination of digital content—including, but not limited to, textbooks, such as supplemental materials and reading materials—regardless of publisher?
- How can we make it easy for teachers and students to access all the digital content needed and use it on all the devices to which they have access (whether 1:1 or personal/family-owned)?
- How can we maximize return on investment by ensuring institutional control of the content year after year, rather than individual control?
- How do we budget funds that will make good use of initial and ongoing investments?
- What are the content areas beyond traditional textbooks that are going to give the most leverage in going digital?

REVIEW OF THE LITERATURE

This research builds on the work of other organizations that have examined K–12 adoption of digital content in the curriculum, classroom, and library/media center. This includes a 2015 report from the publisher Houghton Mifflin Harcourt (HMH); a 2015 whitepaper from Project Tomorrow, a California-based nonprofit with a mission to support "innovative uses of science, math and technology resources in our K–12 schools and communities" and a report from LightSail on the *State of the Ebook Market*. Also looking into the adoption of digital content was the 2014 School Library Journal *Survey of Ebook Usage in School*.

The Houghton Mifflin Harcourt paper, simply titled *2015 HMH Educator Conference Report*, showed educators to be optimistic about the new tools that e-learning provides, with 97 percent of them using it in the classroom in some form. But the survey of 1,008 educators, 82 percent of whom were teachers and the rest administrators, also pointed to anxiety and frustration about the confluence of adopting new technology and new academic standards at a time of limited professional development budgets.

The top benefits these educators saw in adopting technology for the classroom included improvement in student engagement (cited by 60 percent of respondents), improved ability for students to access content anytime and anywhere (55 percent), and ability to deliver differentiated/individualized instruction (48 percent). In addition, 41 percent said they were excited about having increased access to the latest technology, and 38 percent were excited about more access to online learning tools.

Teachers and administrators surveyed by Houghton Mifflin Harcourt saw a high level of use of these new tools, but shared concerns about digital learning as well. More than half were either very (17 percent) or somewhat (41 percent) concerned about the risks associated with the collection and use of student data. Nearly half (46 percent) cited technology devices for use in the classroom as a top need in their district, and about one-third (34 percent) said they needed more training on technology implementation.

The Project Tomorrow report, titled *Digital Learning 24/7: Understanding Technology-Enhanced Learning in the Lives of Today's Students*, drew from a 2014 survey of 431,231 students in more than 8,000 schools and 2,600 districts both in the United States and around the world. Students appear increasingly interested in online learning: Although only 8 percent of high-school students said they would like to take all of their classes online in a 2013 survey from Project Tomorrow, that group tripled to 24 percent in 2014.

The report's four key findings were as follows:

- Access to technology, especially when provided by the school, makes students' use of these tools and resources deeper and more sophisticated.
- As a result, such students place a higher importance on technology in furthering their education.
- In turn, they see these tools and resources as crucial in developing college, career, and citizenship skills.
- This connection to technology leads to a grounding in active, self-directed, independent learning that carries forward into college and beyond.

The LightSail survey found that 60 percent of their survey sample (school administrators) reported that e-books account for less than 10 percent of the books students read. Going forward, however, 94 percent predicted an increase in e-book sales in the next two years. Over half of these administrators preferred that their students read digital books rather than print.

The School Library Journal survey found that the explosion of e-book reading overall has reached more than half of all schools and school libraries, with 66 percent of the nation's schools offering e-books. They found the barriers and challenges to entering the e-book market to be affecting the growth of digital adoption, such as limited access to devices, costs, and student demand. They found the schools with a 1:1 program in place experienced an increase in demand for e-books.

STUDY CONTRIBUTORS

About ASCD

Founded in 1943, ASCD is the global leader in developing and delivering innovative programs, products, and services that empower educators to support the success of each learner. Comprising 125,000 members—superintendents, principals, teachers, professors, and advocates from more than 138 countries—the ASCD community also includes 56 affiliate organizations. The nonprofit's diverse, nonpartisan membership is its greatest strength, projecting a powerful, unified voice to decision makers around the world. The association provides expert and innovative solutions in professional development, capacity building, and educational leadership essential to the way educators learn, teach, and lead.

About OverDrive

OverDrive is the leading provider of digital content for grades K–12. We're the only 100 percent digital content solution, delivering a better way for your district or school to buy and use your books. This simple, proven digital education model saves funds and increases usage by making it easy for students and faculty to get the right content at the right time, online and offline, on any device! With our industry-leading catalog of over 2 million titles from 5,000 top publishers, you can select the digital versions of books you have in print and supplement with other digital materials (e-books, audiobooks, video, periodicals) to support curriculum and instruction goals. Serving 12,000+ districts and schools worldwide. Visit us at **www.overdrive.com/schools**.

About Readex Research

Readex Research is a nationally recognized independent research company located in Stillwater, Minnesota. Its roots are in survey research for the magazine publishing industry, but specialization in conducting high-quality survey research (by mail or the Internet) has brought clients from many other markets, including associations, corporate marketers and communicators, and government agencies. Since its founding in 1947, Readex Research has completed thousands of surveys for hundreds of different clients.

RESULTS AND ANALYSIS

Current Usage

How Digital Content Is Used

A total of 80 percent of the survey respondents are currently using digital content, such as e-books; audio books; or digital versions of textbooks, novels, or nonfiction titles in their schools or districts. Another 9 percent of these educators are planning to implement digital content in the next year or so.

These digital content users vary in how they are implementing it. A total of 41 percent of these educators reported that they currently use *digital content as part of their curriculum*, with 29 percent using *digital content in their classrooms but not necessarily as part of the curriculum*, and 10 percent currently use *digital content only outside their classroom, such as in the library or media center*.

The school-based administrators are more likely than the district-based administrators to report they are less likely to use digital content and have no current plans to add it (8 percent of the school-based administrators don't use digital content and have no plans to add it, versus 4 percent for districts) (see Graph 1).

Although public and private schools are equally likely to use digital content as part of their curriculum, public schools are more likely to use it in the classroom, but not necessarily as part of their curriculum. Private schools that have not already moved forward are more likely to plan to implement digital content within the next 12–18 months.

Those with a 1:1 device program in place are more likely to use digital content in their curriculum, while those without a 1:1 program are more likely to use it in the classroom, in the media center, and to plan on using it in the future (see Table 1).

Graph 1: Digital Content Usage

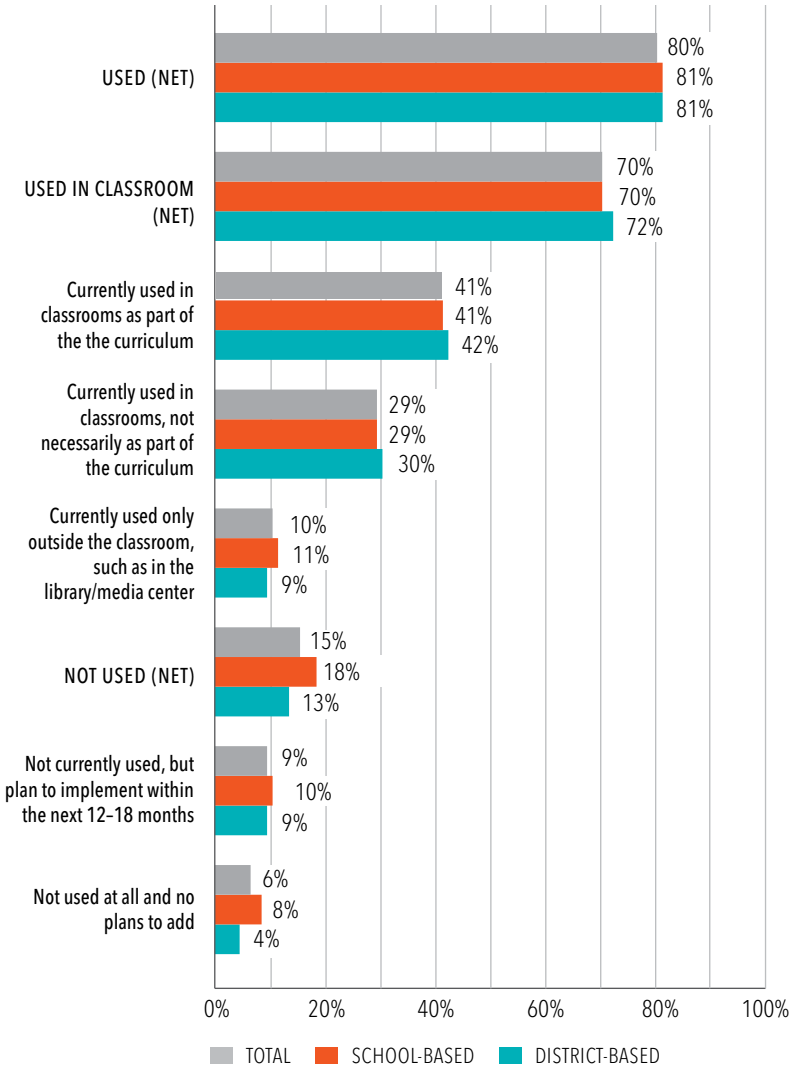


Table 1: Subgroup Analysis—Digital Content Usage

		SCHOOL/DISTRICT		1:1 DEVICE	
	TOTAL	Public	Private	Yes	No
Currently used in classrooms as part of the curriculum	41%	40%	45%	57%	32%
Currently used in classrooms, not necessarily as part of the curriculum	29%	30%	24%	26%	31%
Currently used only outside the classroom, such as in the library/ media center	10%	11%	8%	5%	14%
Not currently used, but plan to implement within the next 12–18 months	9%	9%	13%	6%	12%
Not used at all and no plans to add	6%	6%	7%	2%	9%

Extent of Use

Digital Content as a Percent of Instructional Materials

Those currently using digital content report that these materials represent just under a third (31 percent) of their instructional materials. School-based and district-based administrators report the same average use of digital materials.

Digital Content as a Percent of Instructional Budget

Just over a third (34 percent) of respondents' budgets are allocated to digital content. School-based administrators report a higher percent of their budget allocated to print materials than do their district counterparts (see Graph 2).

Those using digital content as part of their curriculum report that it represents a higher percent of all their instructional materials as well as their budget versus those using it in the classroom but not necessarily as part of the curriculum. Among the subgroups, large schools and those with a 1:1 device program in place are using a higher percent of digital materials and have a higher budget for digital instructional materials than for print instructional materials (see Table 2).

Graph 2: Average Percent of Budget Allocation

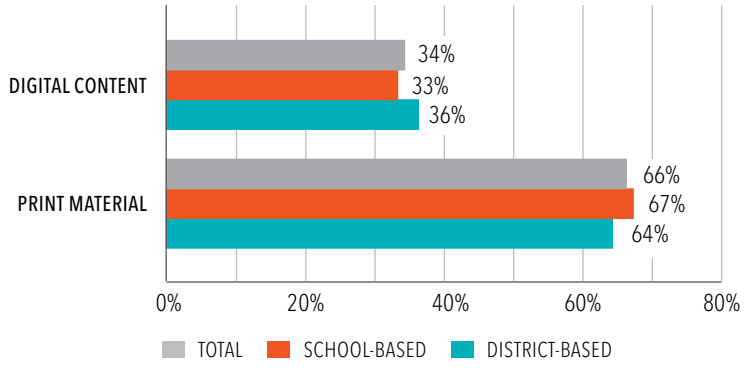


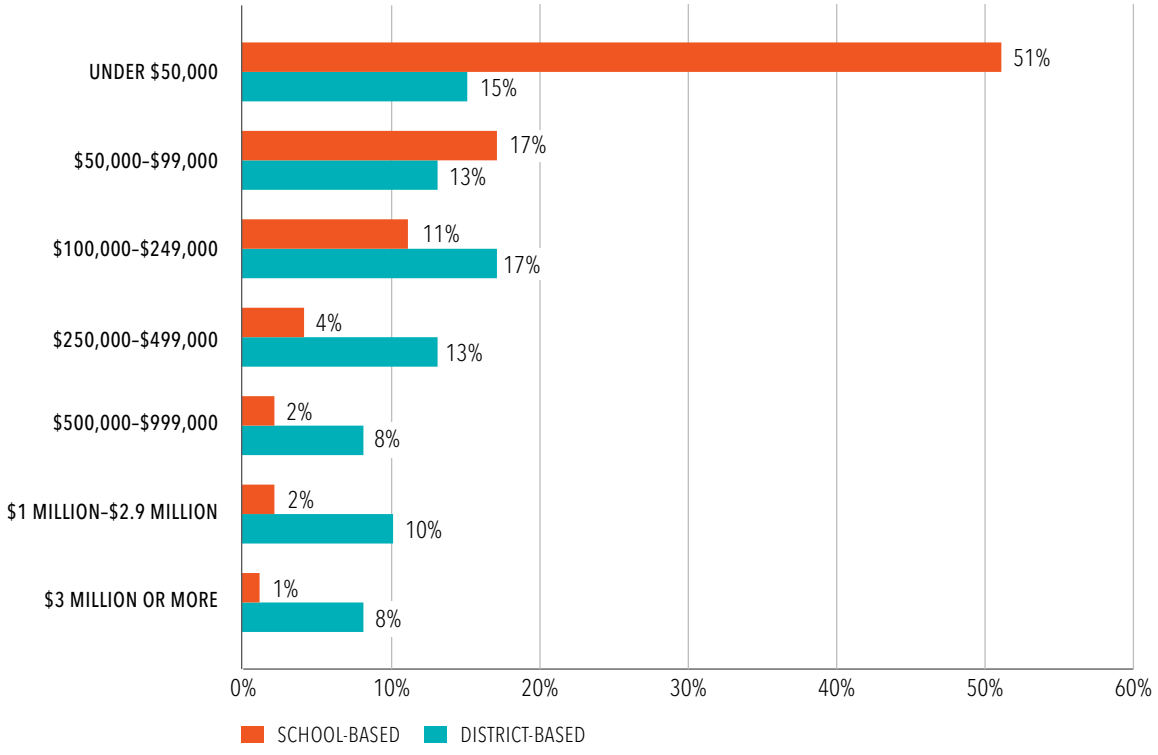
Table 2: Subgroup Analysis—Average Percent of Allocation

		USE OF DIGITAL CONTENT		STUDENT ENROLLMENT			1:1 DEVICE	
	TOTAL	Curriculum	In Class	Small	Medium	Large	Yes	No
The percent of all instructional materials that is digital	31%	37%	23%	30%	29%	33%	37%	26%
The percent of the instructional materials budget that is digital	34%	40%	25%	34%	31%	37%	40%	29%

Amount of Instructional Budget

The median instructional budget for school-based administrators was $50,000, and for district-based administrators it was $227,100. The average budget for schools was $162,533, while for districts it was $2,565,278 (see Graph 3).

Graph 3: Breakdown of Instructional Budgets



How is the push toward digital content affecting your budget planning process?

Kahle Charles: The district has realized savings through digital adoption, resulting in the ability to purchase more titles. However, the integration of digital also has forced the district to hire additional technology staff. We've had to make transitions on the fly.

Kate MacMillan: It makes it easier because you don't have concerns/drawbacks of print resources (digital titles will never be lost, staff doesn't have to spend time managing print resources, etc.).

Anne Aita: End-of-year budget surpluses have been used to purchase digital content.

Edward Manuszak: Tremendously. The district was put on a "deficit elimination" plan three years ago by the state. As such, the district has had to be creative in figuring out how to fund the transition to digital while monitoring its financial state to ensure it doesn't again fall into a deficit. Our board of education is highly, highly committed to updating and improving our curriculum because it had been an exceptionally long time since something like this had been done.

The school-based administrators reported two differences in median instructional budgets within the subgroups: the larger schools had a greater median budget, at $69,400, and the schools with a 1:1 device program in place had a higher instructional budget, with a median of $50,800 (see Table 3a).

Table 3a: Subgroup Analysis—Median Budgets

SCHOOL-BASED	STUDENT ENROLLMENT			1:1 DEVICE	
TOTAL	Small	Medium	Large	Yes	No
$50.0	$50.0	$50.0	$69.4	$50.8	$50.0

(in thousands)

Among the district-based administrators, the public schools ($247,600), the larger schools ($902,800), and those with a 1:1 device program ($283,900) had greater budgets (see Table 3b).

Table 3b: Subgroup Analysis—Median Budgets

DISTRICT-BASED	DISTRICT		STUDENT ENROLLMENT			1:1 DEVICE	
TOTAL	Public	Private	Small	Medium	Large	Yes	No
$227.1	$247.6	$50.0	$76.3	$258.6	$902.8	$283.9	$172.2

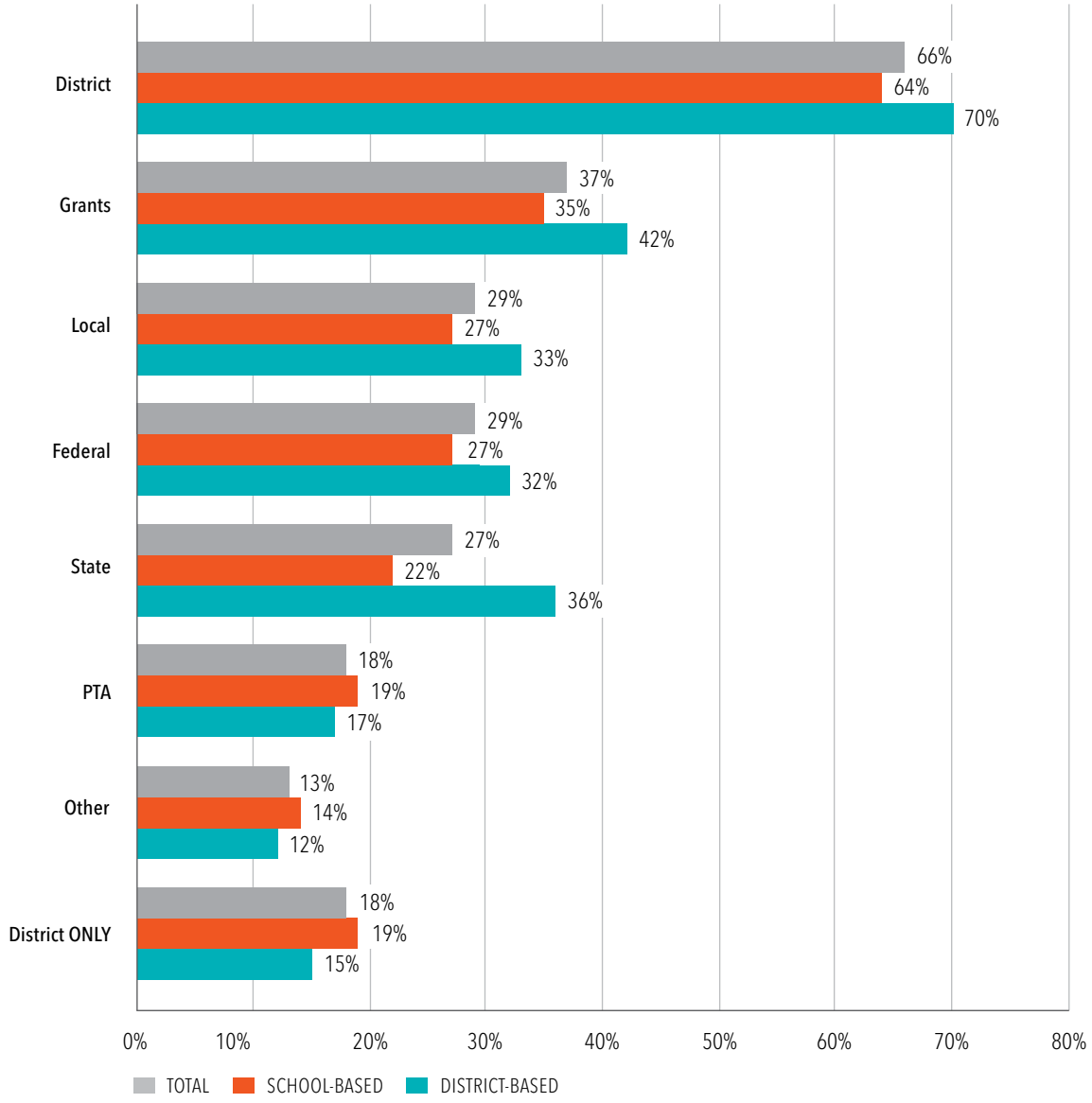
(in thousands)

Funding Sources

Overall, the *district* is the most frequent mentioned funding source for purchasing digital content (66 percent), followed by *grants* (37 percent), *local funds* (29 percent), *federal funds* (29 percent), and *state funds* (27 percent).

Nearly 20 percent of respondents reported that the *district was their only source* of funding. District-based administrators were more likely than their school-based counterparts to mention funding sources that included the district, grants, federal, state, and local funds (see Graph 4).

Graph 4: Funding Sources



Funding sources for digital content vary greatly between public and private schools and districts. Public schools are more likely to obtain their funds from districts, grants, and federal and state funds, while private schools are more likely to use local funds and other sources. Other significant subgroup differences in funding were that larger schools and districts (most likely public) rely more on district funds and state funds, and those without a 1:1 program rely more on their PTAs (see Table 4).

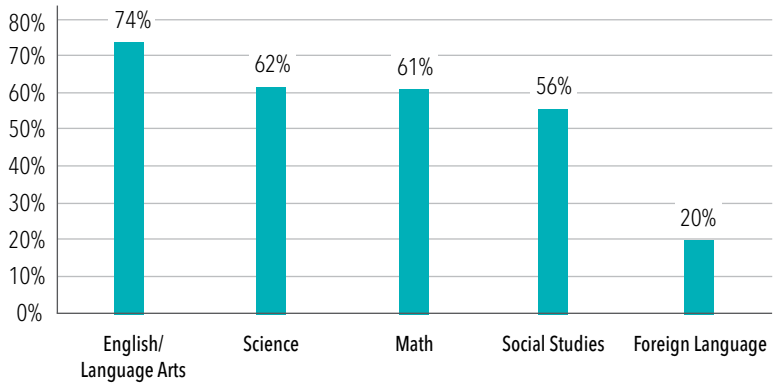
Table 4: Subgroup Analysis—Funding Sources

		SCHOOL/DISTRICT		STUDENT ENROLLMENT			1:1 DEVICE	
	TOTAL	Public	Private	Small	Medium	Large	Yes	No
District	66%	75%	16%	52%	69%	73%	66%	67%
Grants	37%	40%	21%	31%	41%	37%	36%	38%
Federal	29%	33%	10%	26%	30%	31%	30%	29%
Local	29%	28%	36%	28%	28%	30%	29%	29%
State	27%	30%	10%	24%	26%	32%	29%	26%
PTA	18%	19%	17%	17%	19%	18%	14%	21%
Other	13%	7%	49%	21%	11%	9%	15%	11%
District ONLY	18%	20%	5%	16%	17%	19%	19%	16%

Subjects Desired

These educators felt their teachers most desired *English/language arts* content in digital format (74 percent), followed by *science* (62 percent), *math* (61 percent), and *social studies* (56 percent) (see Graph 5).

Graph 5: Digital Content Subjects Desired (Total)



Those in public schools were more likely to be looking for materials for English/language arts and less likely than private schools to be looking for materials for foreign languages.

Those using digital content in their curriculum were more interested in science, social studies, and foreign languages. The schools and districts with a 1:1 program expressed more interest in every subject listed, with the exception of English/language arts, where their interest was equal to those without a 1:1 device program (see Table 5).

Table 5: Subgroup Analysis—Digital Content Subjects Desired

		SCHOOL/DISTRICT		USE OF DIGITAL CONTENT				1:1 DEVICE	
	TOTAL	Public	Private	Curriculum	In Class	Not In Class	Not Used	Yes	No
English/language arts	74%	76%	64%	75%	74%	81%	69%	74%	74%
Science	62%	62%	64%	67%	62%	63%	53%	67%	59%
Math	61%	60%	65%	67%	64%	51%	49%	64%	59%
Social studies	56%	56%	58%	63%	53%	58%	47%	62%	53%
Foreign language	20%	19%	28%	27%	16%	17%	14%	28%	15%

"Besides apps and specific software for targeted groups of students, what is your plan to incorporate digital content in the classroom?

Kate MacMillan: The district is training staff to use digital content through increased professional development efforts. The problem had been that when we went through the Great Recession, we had no money; we were barely hanging on, but technology kept moving forward. So the kids probably become more adept users of technology than the teachers. The district has also hired technology integration specialists to work with teachers.

Kahle Charles: We implemented Schoology this year to great reviews. The teachers are loving that. It's been really good for us… curation of district-created content.

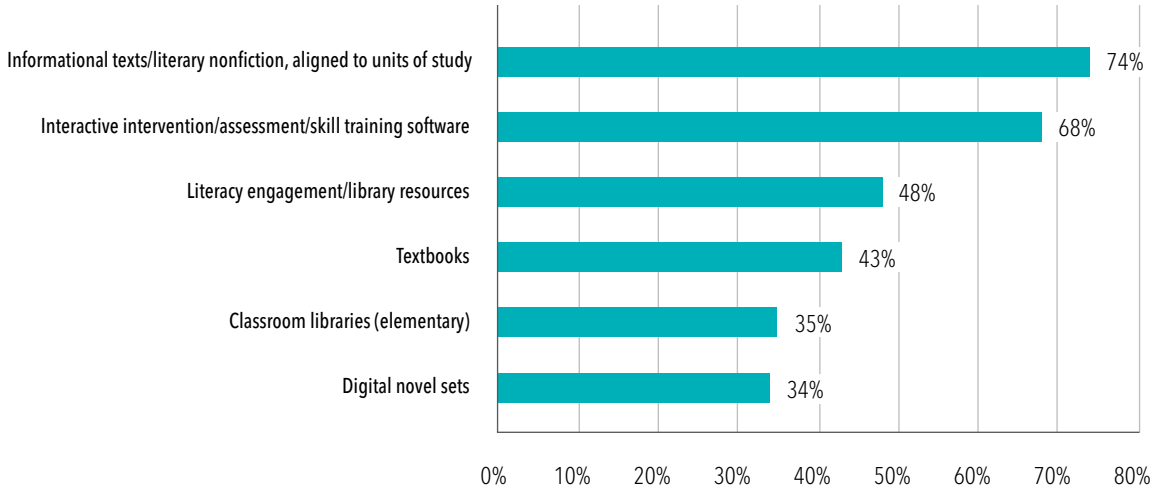
Anne Aita: The district has used Subtext to promote note taking and discussions about digital texts. Smartboards are used at the elementary level to display texts. Audiobook versions of novels are played while students read in class.

Edward Manuszak: It's about modeling. You can't expect students to be in a digital environment when the instructors are not proficient in how they should be using the technology. This has involved instituting an extensive professional development program about using devices and digital content.

Types of Digital Content Desired

In addition to subject matter, these educators were asked about their interest in 6 different digital products. The largest percentage of respondents selected *informational texts/literary nonfiction, aligned to units of study* (74 percent) as the area that would be most helpful to educators supporting students in and out of the classroom. The next most helpful would be interactive *intervention/assessment/skill training software* (68 percent) (see Graph 6).

Graph 6: Most Helpful Products (Total)



Those in public schools and districts were more likely to say that literacy engagement/library resources and digital novel sets would be helpful, while those in private schools were more likely to cite textbooks as useful. Those using digital content, but not in the curriculum, were more likely to say that material for classroom libraries (elementary) would be most useful. Larger schools were somewhat more likely to be interested in literacy engagement/library resources and less likely to be interested in materials for classroom libraries (see Table 6).

Table 6: Subgroup Analysis—Most Helpful Products

		SCHOOL/DISTRICT		USE OF DIGITAL CONTENT				STUDENT ENROLLMENT		
	TOTAL	Public	Private	Curriculum	In Class	Not In Class	Not Used	Small	Medium	Large
Informational texts/literary nonfiction, aligned to units of study	74%	75%	70%	72%	76%	73%	78%	73%	76%	73%
Interactive intervention/assessment/skill training software	68%	68%	66%	70%	68%	64%	61%	67%	69%	67%
Literacy engagement/library resources	48%	50%	36%	49%	49%	48%	41%	43%	48%	51%
Textbooks	43%	41%	58%	43%	40%	46%	46%	44%	40%	46%
Classroom libraries (elementary)	35%	35%	30%	30%	39%	41%	34%	35%	39%	28%
Digital novel sets	34%	35%	28%	31%	35%	37%	38%	34%	34%	34%

Devices Used to Access Digital Content

Three-quarters of these administrators report that their students use *laptops* for digital content (75 percent). More than 6 out of 10 mentioned *tablets* (62 percent) and just under half (49 percent) said *personal computers* were part of the device mix. Far fewer said students use *smartphones* (17 percent) or *e-readers* (11 percent) (see Graph 7).

There were few subgroup differences in the devices used for digital content (see Table 7). These included the following:

- Those using digital content outside of the classroom (in the library or media center) were less likely to use tablets and more likely to use smartphones than those using digital content in class.
- Larger schools and districts were about twice as likely to use smartphones as smaller or midsized ones were.
- Those with a 1:1 device program in place were less likely to use PCs or smartphones.

Graph 7: Devices Used (Total)

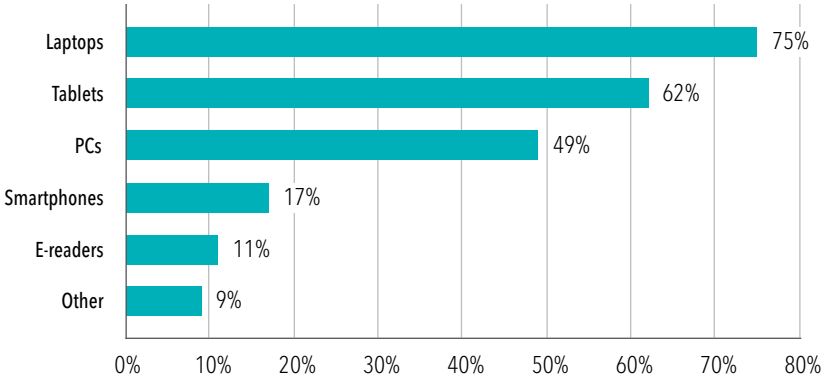


Table 7: Subgroup Analysis—Devices Used

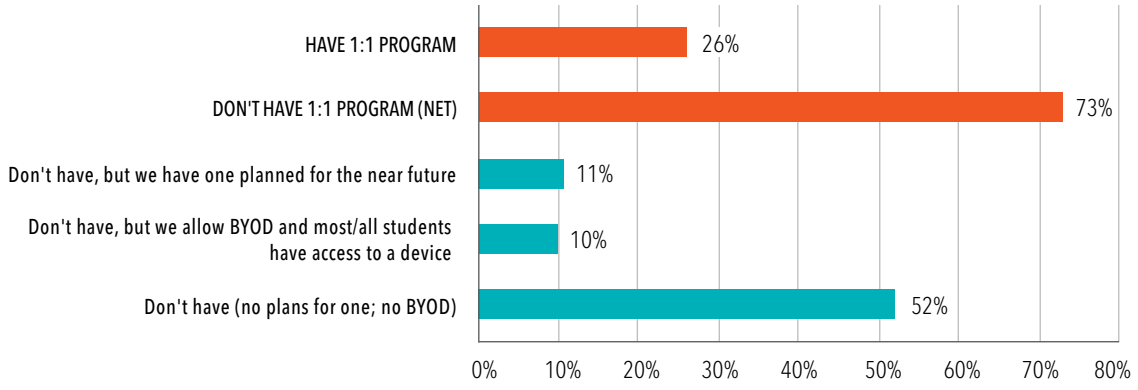
		USE OF DIGITAL CONTENT			STUDENT ENROLLMENT			1:1 DEVICE	
	TOTAL	Curriculum	In Class	Not In Class	Small	Medium	Large	Yes	No
Tablets	62%	64%	63%	55%	59%	64%	61%	64%	60%
PCs	49%	47%	49%	55%	49%	50%	47%	38%	56%
Smartphones	17%	17%	15%	21%	14%	11%	25%	14%	19%

1:1 Device Program

School-Based Administrators

About a quarter of the school-based administrators have a *1:1 device program* in place (26 percent), and another 11 percent *have one planned*. A total of 10 percent of the administrators reported that they *don't have a 1:1 program but do have a bring-your-own-device (BYOD) plan, and most or all students have access to a device*. About half of schools *neither have a 1:1 program, nor plan for one in the future, nor allow BYOD* (52 percent) (see Graph 8).

Graph 8: School-Based 1:1 Device Program

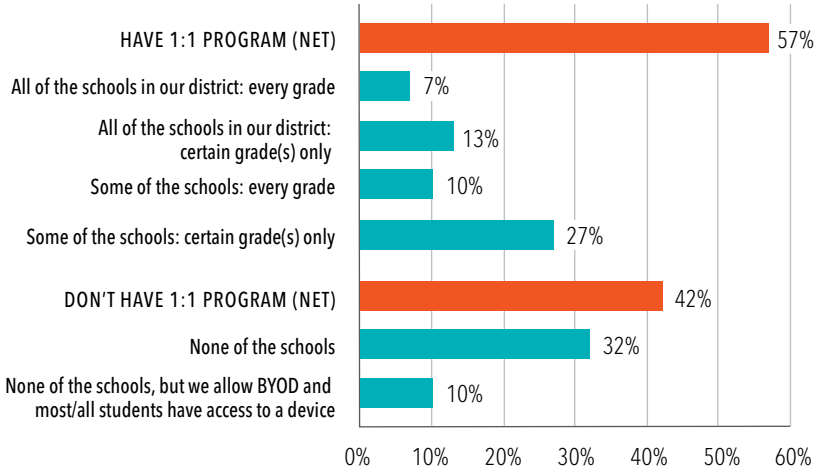


District-Based Administrators

About half of the district-based administrators have a 1:1 device program in place at least in some schools or some grades (57 percent). A total of 42 percent do not have a 1:1 program. Another 10 percent don't have a 1:1 program but do allow BYOD, and most or all of the students have access to a device. For a third of the administrators, there is neither a 1:1 device nor a BYOD plan in place (see Graph 9).

The private schools were more likely than the public schools to have a 1:1 device program in place, as were those who use digital content in their curriculum.

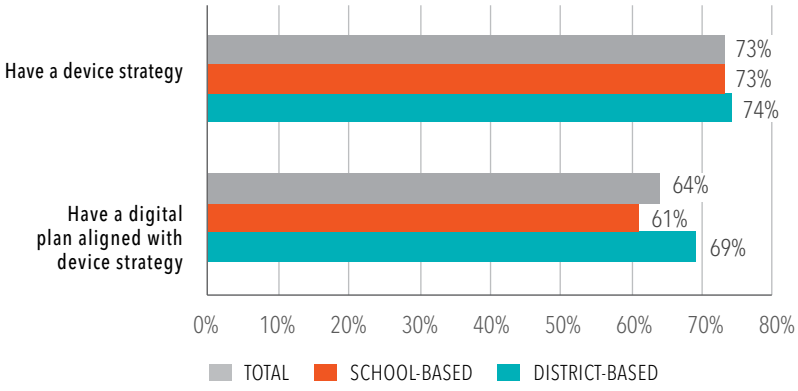
Graph 9: District-Based 1:1 Device Program



Alignment with Device Strategy

Nearly three-quarters of these educators actually *have a device strategy* in place (73 percent). Of those who do, more than 6 out of 10 have *a plan for digital content that aligns with their device strategy* (64 percent). District-based administrators who have a device strategy are more likely than those at schools to have a digital content plan that aligns with that strategy (see Graph 10).

Graph 10: Digital Content Plan That Aligns with Device Strategy



Those using digital content in their curriculum, larger schools and districts, and those with a 1:1 device program were more likely both to have a device strategy, and among those who do, to have a plan for digital content that aligns with that strategy (see Table 8).

Table 8: Subgroup Analysis—Device Strategy

		USE OF DIGITAL CONTENT				STUDENT ENROLLMENT			1:1 DEVICE	
	TOTAL	Curriculum	In Class	Not In Class	Not Used	Small	Medium	Large	Yes	No
Have a device strategy	73%	83%	71%	63%	66%	68%	73%	78%	86%	67%
Have digital plan aligned with device strategy	64%	77%	61%	44%	37%	59%	61%	67%	73%	55%

“Are you a 1:1 district? How do you think this affects the process and makes it different from a district that is not?

Kate MacMillan: No, but the district does provide students in grades 6–12 with Chromebooks if they request one. 1:1 is costly and not something the district has ever really thought too much about.

Anne Aita: Yes, in grades K–12. The district provides iPad 2s for grades K–2, iPad Airs for grades 3–5 and Dell tablets for grades 6–12. Being 1:1 makes the process easier because it allows the district to easily provide every student and teacher with the right app to access digital content. That’s one last thing that we have to do to promote digital content. One disadvantage of being 1:1 is that it falls on the district’s shoulders to facilitate authentication.

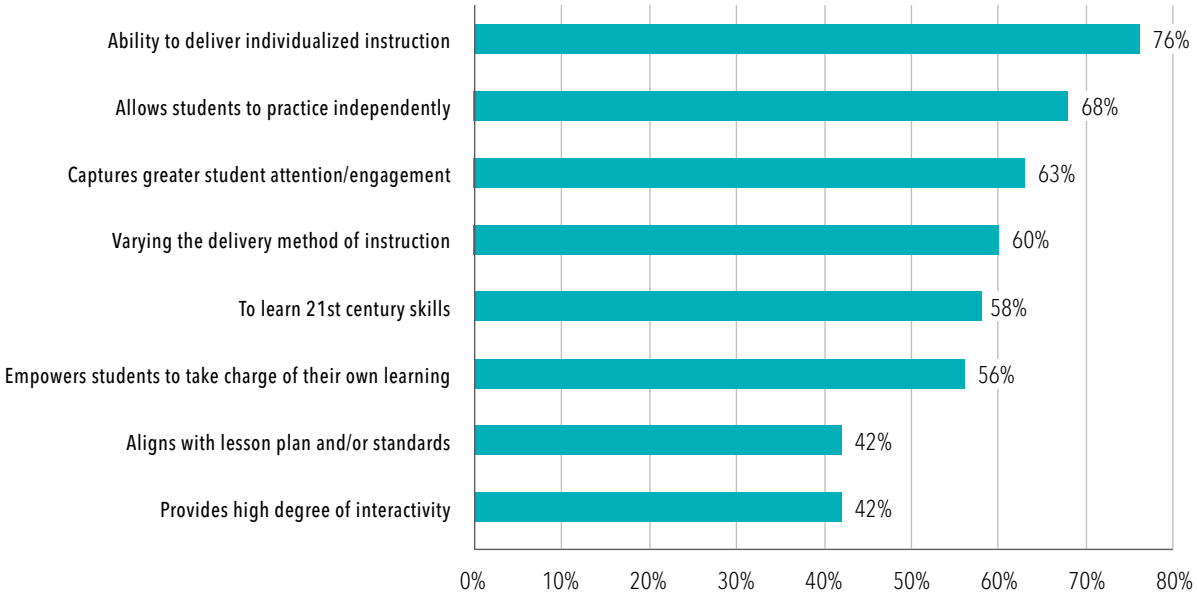
Edward Manuszak: Yes. The goal is to be 1:1 with Chromebooks by the 2017–18 school year for grades 3–12. Beyond that, the district will look to incorporate appropriate digital content and devices for grades K–2. Being BYOD would complicate the process because it would be difficult to ensure the digital content would work on all individual devices and make providing technical support difficult.

Attitudes toward Digital Content

Benefits

Virtually all respondents (99 percent) saw at least one benefit in using digital content over print in the classroom. Whether or not they currently use digital content, the most commonly cited benefit of using digital content over print in the classroom was the *ability to deliver individualized instruction* (76 percent), followed by *allows students to practice independently* (68 percent), and *captures greater student attention/engagement* (63 percent). Other benefits mentioned by about 60 percent of respondents included *varying the delivery method of instruction* (60 percent), *to learn 21st century skills* (58 percent), and *empowers students to take charge of their own learning* (56 percent) (see Graph 11).

Graph 11: Top Benefits of Digital Content (Total)



Those using digital content were more likely than those schools and districts who have not yet begun to move away from printed materials to select each of the benefits of digital listed (see Table 9).

Table 9: Subgroup Analysis—Benefits by Users Versus Nonusers

	USE OF DIGITAL CONTENT	
	Used (NET)	Not Used
Ability to deliver individualized instruction	78%	66%
Allows students to practice independently	70%	61%
Captures greater student attention and engagement	65%	57%
Varying the delivery method of instruction	61%	53%
To learn 21st century skills	60%	49%
Empowers students to take charge of their own learning	58%	50%
Provides high degree of interactivity	44%	36%

The subgroup breakdown showed a handful of significant differences in attitudes about the benefits of digital content. Those in private schools were less likely to cite the ability to deliver individualized instruction and that it aligns with lesson plans and/or standards; and they were more likely to report that digital content was cost-effective. Those who have 1:1 programs in place saw four benefits as more important than those who did not have such a program: to learn 21st century skills, empowers students to take charge of their own learning, provides high degree of interactivity, and delivering instruction directly to students (see Table 10).

Table 10: Subgroup Analysis—Benefits

		SCHOOL/DISTRICT		1:1 DEVICE	
	TOTAL	Public	Private	Yes	No
Ability to deliver individualized instruction	76%	77%	68%	77%	75%
Allows students to practice independently	68%	68%	69%	68%	68%
Captures greater student attention/engagement	63%	64%	63%	62%	64%
Varying the delivery method of instruction	60%	60%	60%	60%	59%
To learn 21st century skills	58%	58%	56%	61%	56%
Empowers students to take charge of their own learning	56%	57%	53%	62%	52%
Provides high degree of interactivity	42%	42%	48%	47%	40%
Aligns with lesson plan and/or standards	42%	43%	37%	45%	40%
Delivering instruction directly to students	30%	30%	31%	33%	28%
Cost-effective	26%	25%	34%	28%	25%

“What are the most important reasons for (or benefits of) using digital content over print?

Kahle Charles: We believe the paradigm of instruction needs to change. Devices bring more knowledge to students’ fingertips than the teacher can give, so the traditional lecture model is no longer applicable. We want content that will engage students and the ability to introduce flipped classrooms with content that students can access at any time, at any pace. Digital textbooks are automatically updated to the latest version (vs. static print text), and they allow students to collaborate, an important skill in today’s workforce.

Anne Aita: Benefits include the availability of content over the summer without staff needing to manage it, the option for classroom sets/subscriptions that groups of kids can access at once and the fact that it’s easier to weed out titles that are no longer needed. And, you automatically receive updated versions of titles.

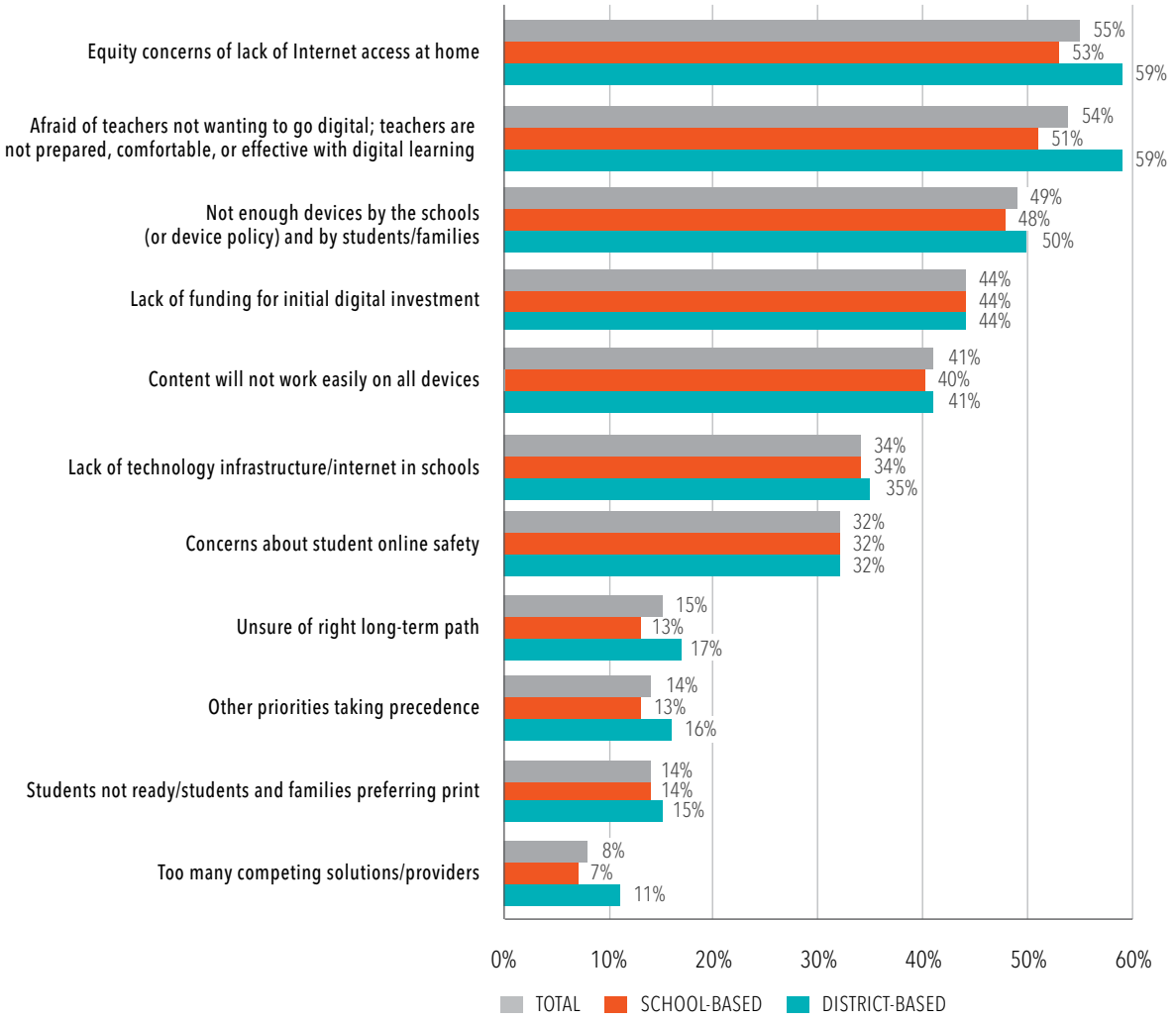
Concerns

In spite of virtually everyone seeing benefits, respondents had a variety of concerns about moving to digital content for instructional materials. The two issues at the top of the list were *equity concerns about lack of Internet access at home* (55 percent) and the *fear of teachers not wanting to go digital; teachers not prepared, comfortable, or effective with digital learning* (54 percent).

Three other concerns were cited by nearly half of these administrators: *not enough devices by the schools (or device policy) and by students/families* (49 percent), *lack of funding for initial digital investment* (44 percent), and *content will not work easily on all devices* (41 percent).

The district-based administrators are somewhat more likely to have concerns about moving to digital content than the school-based administrators, particularly in the areas of equity, teacher preparation, long-term path, other priorities taking precedence, and the dizzying array of competing solutions and providers (see Graph 12).

Graph 12: Top Concerns with Moving to Digital Content



Those not using digital content had more concerns with digital content than those using it in the classroom (see Table 11).

Table 11: Subgroup Analysis—Concerns by Users Versus Nonusers

	USE OF DIGITAL CONTENT	
	Used (NET)	Not Used
Equity concerns of lack of Internet access at home	54%	58%
Afraid of teachers not wanting to go digital; teachers are not prepared, comfortable, or effective with digital learning	52%	59%
Not enough devices by the schools (or device policy) and by students/families	47%	57%
Lack of funding for initial digital investment	41%	57%
Content will not work easily on all devices	41%	38%
Lack of technology infrastructure/Internet in schools	32%	43%
Unsure of right long-term path	13%	20%

Public schools were twice as likely to be concerned about equity and lack of Internet access at home and significantly more likely to cite lack of devices and lack of technology infrastructure or Internet access in schools as a concern. Private schools were more likely to be concerned about student online safety, uncertainty about the right long-term path, and students not being ready for digital or students and families preferring print.

Larger schools and districts were more likely than smaller ones to be concerned about equity and lack of Internet access at home, lack of devices (or device policies) in the schools or the homes, and lack of technology infrastructure or Internet in schools. Smaller schools and districts were more likely to report they were unsure of the right long-term path (see Table 12).

Table 12: Subgroup Analysis—Concerns

		SCHOOL/DISTRICT		STUDENT ENROLLMENT		
	TOTAL	Public	Private	Small	Medium	Large
Equity concerns of lack of Internet access at home	55%	60%	30%	52%	53%	61%
Afraid of teachers not wanting to go digital; teachers are not prepared, comfortable, or effective with digital learning	54%	54%	55%	54%	52%	55%
Not enough devices by the schools (or device policy) and by students/families	49%	51%	35%	43%	50%	51%
Lack of funding for initial digital investment	44%	44%	40%	45%	44%	42%
Content will not work easily on all devices	41%	41%	41%	39%	39%	43%
Lack of technology infrastructure/Internet in schools	34%	35%	27%	30%	35%	36%
Concerns about student online safety	32%	31%	36%	33%	32%	29%
Unsure of right long-term path	15%	13%	21%	18%	13%	14%
Students not ready/students and families preferring print	14%	13%	22%	17%	11%	16%
Other priorities taking precedence	14%	14%	13%	17%	13%	14%
Too many competing solutions/providers	8%	8%	8%	10%	6%	10%

Professional Development Needs

In an open-ended question, respondents were asked what type of professional development or learning their teachers would most like in order to flourish with digital content in the classroom.

There were two major themes in these educators' responses to the type of PD they desired to be successful with digital content. They felt the PD should be a hands-on how-to, differentiated, and in-person (with support), possibly with facilitators who have already successfully implemented the software or hardware in their own classrooms. Second, they were looking for training, ideas, and examples on how best to smoothly integrate the digital content or technology into their instruction, curriculum, or both. Some simply requested practice and training on using the technology, while others wanted blended learning, or alignment to the CCSS technology training, or alignment to the standards themselves.

Some of their comments about their PD needs that touched on common themes included the following:

Face-to-face training that allows them to work in the digital program while a real person is there to troubleshoot, discuss, and demonstrate the features and capabilities.

Full, hands-on training over a series of days, then occasional checkups every month for six months. Finally, an end-of-year get-together to share everything we learned on our own about the software.

How to successfully blend digital learning into the existing curriculum instead of viewing it as an add-on or something totally different.

Curriculum planning alignment with software, utilization of hardware, effective application and implementation of software with students, on-demand tutorial availability.

Teachers would be engaged in PD in a blended learning environment so the process and benefits could be modeled and teachers could become more familiar with the tools they are expected to use.

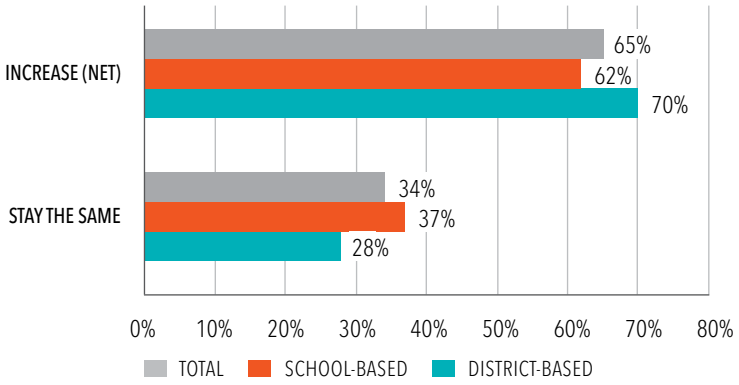
PD that makes connections with CCSS, differentiation, and the digital content.

Planning for Future Digital Content Use

Future Growth

Nearly two-thirds (65 percent) of those currently using digital content in their classroom report that their schools' or districts' replacement of print materials will *increase* next year. About a third report it will *remain the same*, and very few expect a *decrease* (1 percent). School-based administrators are less likely to anticipate increases in the use of digital content (see Graph 13).

Graph 13: Future Digital Content Use



Schools and districts already using digital content in their curriculum are more likely to report that its use will grow next year than those who are using it in class but not as part of the curriculum. Among other subgroups, larger and midsized schools and districts, and those with 1:1 device programs are more likely to foresee growth in digital content than smaller districts and those without 1:1 programs, respectively (see Table 13).

Table 13: Subgroup Analysis—Future Digital Content Use

		USE OF DIGITAL CONTENT		STUDENT ENROLLMENT			1:1 DEVICE	
	TOTAL	Curriculum	In Class	Small	Medium	Large	Yes	No
INCREASE (NET)	65%	68%	60%	59%	67%	66%	71%	60%

> *Next year, do you anticipate your school or district's replacement of print instructional materials with digital will increase, stay the same, or decrease?*

Kate MacMillan: Yes, this is the road we're taking. The district's stated goal: By 2020, more than 40 percent of student resources and 35 percent of textbooks will be available in digital format.

Edward Manuszak: The district hopes to be using 80-90 percent digital instructional materials by the end of the 1:1 implementation in 2017–18.

Reasons for Future Growth of Digital Content

Increasing Use

Among administrators whose schools or districts are increasing their use of digital content, many reported that they also were moving toward a 1:1 program, with iPads and/or Chromebooks as devices being used or introduced in their school. Many reported an administrative or school board "push" toward using more technology or a shift in mandates and initiatives. Several mentioned an increase in professional development geared toward how to best implement technology into their curriculum as a reason for the increase in digital content.

Administrators also mentioned that the materials recommended to be covered in the Common Core State Standards is available digitally and that online assessments are among the reasons they are stepping up their use of digital materials. In a more general way, many administrators cited the notion that technology and digital content is the future.

Some comments that reflected widely held sentiments among those increasing their use of digital content included the following:

> *We recognize the future is technology, and we want our student to be on the cutting edge of all the 21st century advancements that are available to them.*
>
> *We are in our first year of 1:1 Chromebook programming. As faculty become more comfortable and continue to convert their instruction to digital, I foresee a significant drop-off of print materials.*
>
> *I am currently exploring the Google Education Platform and Chromebooks for our students. This will allow us to take advantage of more instructional technology and educational resources for all students in the school.*
>
> *We have a focus on instructional technology and technology resources in our district. Additionally, we have increased our professional development offerings around technology.*
>
> *The district has provided all high school students with laptops in an effort to personalize instruction and to prepare them for completing globally. High school teachers have received training on how to integrate technology into the classroom and how to have students become leaders of their own learning.*

No Change in Use/Decreasing Use

Administrators who reported they will not be increasing their use of digital content offered budgetary concerns as their primary reason. Other reasons were that their school or district did not have high-quality broadband or sufficient infrastructure and equipment to expand their current use of digital materials.

Some mentioned that migrating to digital was a district decision and was not made at their level. In addition, some respondents stated that they did not have the required staff training and knowledge. Others felt that a balance between digital and print materials was optimal, and they had already reached such a balance.

Some of their comments that reflected widely held sentiments among those not increasing their use of digital content included the following:

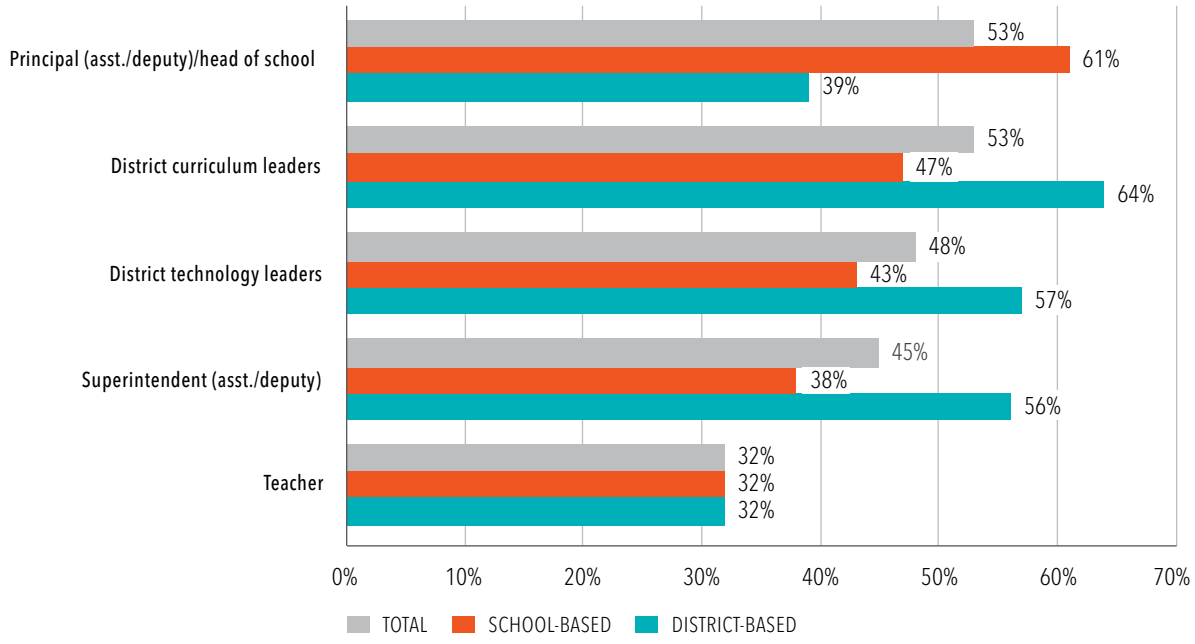
> *Budgetary constraints are limiting the number of devices we have per student and limiting our ability to transition from print to digital at a faster rate.*
>
> *Our district is in charge of purchasing material for all schools, and there are no upcoming changes in the adoption. Additionally, 1:1 devices are not a priority for elementary.*
>
> *Our district technological capabilities are slowly catching up with the mainstream, but we find that a lot of technological applications are NOT better than the print. So the resources available aren't necessarily better, or save time or money, or make life easier—so there's no urgency to move on. There's also a training piece to get our staff caught up to speed.*
>
> *Teachers are slowly making a switchover, but many students do not have a way to access the Internet on their Chromebooks outside of school, so they still need a paper copy of documents.*

Decision Maker

Overall, the *district curriculum leaders* and the *principals (or assistant/deputy principals)* are most influential in the decision to implement digital content for use in the classrooms (53 percent each), followed by *district technology leaders* (48 percent) and *superintendents (or assistant/deputy superintendents*) (45 percent).

The decision to implement digital content is made by individuals in different roles in schools versus districts. At the district level, it is more likely to be made by a district curriculum leader (64 percent), district technology leader (57 percent), or the superintendent (56 percent). At the school level, it is more likely to be made by the principal (61 percent) (see Graph 14).

Graph 14: Decision Makers



Subgroup breakdowns showed a number of trends in the roles that were most influential in the decision to implement digital content. District-based positions, such as curriculum and technology leaders or superintendents, were more likely to be influential in public schools and districts, while principals and teachers were more likely to be influential in private schools. Smaller schools and districts were more likely to have involved both teachers and principals in the decision (see Table 14).

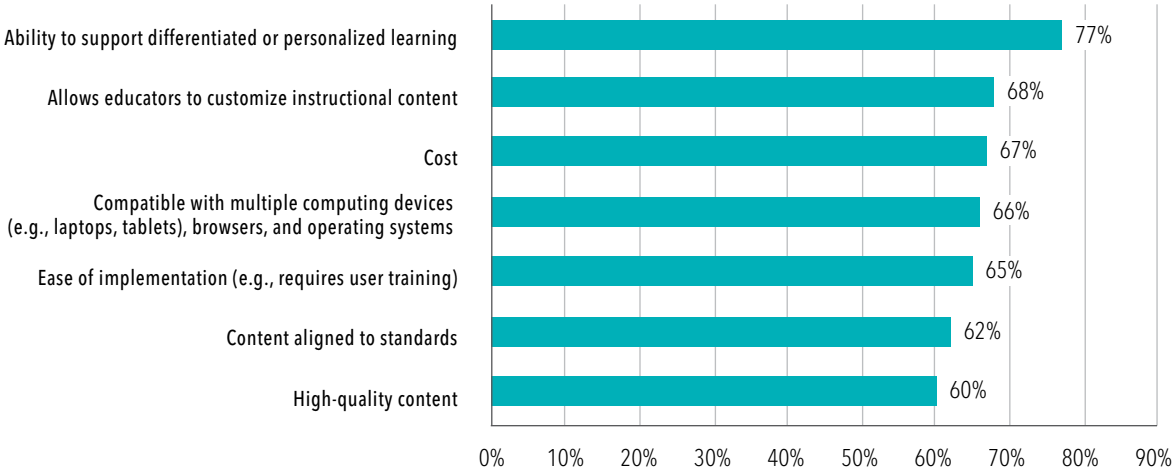
Table 14: Subgroup Analysis—Decision Makers

		SCHOOL/DISTRICT		STUDENT ENROLLMENT		
	TOTAL	Public	Private	Small	Medium	Large
District curriculum leaders	53%	60%	18%	41%	57%	59%
Principal (asst./deputy)/head of school	53%	49%	77%	62%	54%	46%
District technology leaders	48%	54%	17%	38%	48%	57%
Superintendent (asst./deputy)	45%	50%	18%	41%	47%	45%
Teacher	32%	30%	45%	39%	30%	30%
School board	29%	29%	25%	28%	27%	31%
Chief financial officer	20%	20%	19%	18%	18%	23%

Factors Affecting Decisions

If they were involved in the decision to select digital content and a digital content provider, these administrators rated the *ability to support differentiated or personalized learning* as the most important factor they would use in making their decision (77 percent). Other important factors included the ability *to customize* (68 percent), *cost* (67 percent), *compatibility* (66 percent), and *ease of implementation* (65 percent) (see Graph 15).

Graph 15: Top Factors for Digital Decision (Total)



> *What are the most important factors used when deciding what digital content and provider to use?*

Kate MacMillan: Napa Valley sought to incorporate digital textbooks into its high school math curriculum. However, state law mandates that should a student lack a home Internet connection, the district is required to fund this to ensure equitable access to the material—an undertaking that was deemed unfeasible. We needed a vendor that allows e-books to be downloaded for offline use, and is compatible with the iPads and Chromebooks the district provides and student-owned devices.

Kahle Charles: Does it address the standards? Is it sustainable without excessive, continued professional development? How will it be accepted by parents? Does it work well with existing student management systems and devices? Does it promote 21st century skills like critical thinking and problem solving?

Edward Manuszak: You need an organization that can handle the volume and complexity of working with an entire district. Another important factor is experience: We don't want to be the guinea pig. Is this something we'll be able to put into the hands of teachers, who can in turn put into the hands of students? Other factors include the ability to establish a positive relationship, knowing support will be there when needed and cost.

Only a few factors varied among the subgroups. Public school administrators reported three factors that were more likely to be important to them than their private school counterparts: content aligned to standards, integrates with our district/school LMS and other systems, and has been adopted or approved by the state.

Those who are using digital content in the curriculum are more likely to cite the ability to support differentiated or personalized learning than those who use it in the classroom but not the curriculum. Those using it in the classroom (either in the curriculum or not) are more likely to cite the ability to customize instructional content as well as content being aligned with standards as deciding factors (see Table 15).

Table 15: Subgroup Analysis—Top Factors for Digital Decision

		SCHOOL/DISTRICT		USE OF DIGITAL CONTENT			
	TOTAL	Public	Private	Curriculum	In Class	Not In Class	Not Used
Ability to support differentiated or personalized learning	77%	77%	73%	81%	75%	76%	73%
Allows educators to customize instructional content	68%	68%	69%	71%	71%	61%	62%
Content aligned to standards	62%	65%	46%	65%	65%	52%	58%
Integrates with our district/school LMS and other systems	28%	31%	15%	34%	25%	27%	19%
Has been adopted or approved by the state	15%	17%	5%	16%	14%	14%	13%
Relationship with publisher	10%	10%	14%	11%	10%	11%	8%