**FEBRUARY 28, 2013**

# How Teachers Are Using Technology at Home and in Their Classrooms

*A survey of Advanced Placement and National Writing Project teachers shows that digital tools are widely used in their classrooms and professional lives. Yet, many of these high school and middle school teachers worry about digital divides when it comes to their students' access to technology and those who teach low-income students face obstacles in bringing technology into their teaching.*

**Kristen Purcell**
*Director of Research, Pew Research Center's Internet & American Life Project*

**Alan Heaps**
*Vice-President, The College Board*

**Judy Buchanan**
*Deputy Director, National Writing Project*

**Linda Friedrich**
*Director of Research and Evaluation, National Writing Project*

http://pewinternet.org/Reports/2013/Teachers-and-technology

# Summary of Findings

A survey of 2,462 Advanced Placement (AP) and National Writing Project (NWP) teachers finds that digital technologies have helped them in teaching their middle school and high school students in many ways. At the same time, the internet, mobile phones, and social media have brought new challenges to teachers.

In addition, they report that there are striking differences in the role of technology in wealthier school districts compared with poorer school districts and that there are clear generational differences among teachers when it comes to their comfort with technology and its use in their classrooms.

Asked about the impact of the internet and digital tools in their role as middle and high school educators, these teachers say the following about the overall impact on their teaching and their classroom work:

- 92% of these teachers say the internet has a "major impact" on their ability to access content, resources, and materials for their teaching
- 69% say the internet has a "major impact" on their ability to share ideas with other teachers
- 67% say the internet has a "major impact" on their ability to interact with parents and 57% say it has had such an impact on enabling their interaction with students

At the same time, 75% of AP and NWP teachers say the internet and other digital tools have added new demands to their lives, agreeing with the statement that these tools have a "major impact" by increasing the range of content and skills about which they must be knowledgeable. And 41% report a "major impact" by requiring more work on their part to be an effective teacher.

## AP and NWP teachers bring a wide variety of digital tools into the learning process, including mobile phones, tablets, and e-book readers

The survey reveals the degree to which the internet and digital technologies, particularly mobile phones, suffuse teaching activities. Laptops and desktops are central, but they note mobile technology use has also become commonplace in the learning process:

- 73% of AP and NWP teachers say that they and/or their students use their mobile phones in the classroom or to complete assignments
- 45% report they or their students use e-readers and 43% use tablet computers in the classroom or to complete assignments

Teachers most commonly use digital tools to have students conduct research online, which was the focus of an earlier report based on these data.[1]  It is also common for these teachers to have students access (79%) and submit (76%) assignments online.  More interactive online learning activities, such as developing wikis, engaging in online discussions, and editing work using collaborative platforms such as GoogleDocs, are also employed by some of the teachers in the sample.

Overall, 62% of AP and NWP teachers feel their school does a "good job" supporting teachers' efforts to bring digital tools into the learning process, and 68% say their school provides formal training in this area.  Still, 85% of these teachers seek out their own opportunities to learn new ways to effectively incorporate these tools into their teaching.

## Teachers worry about digital divides, though they are split about the impact of digital tools on their students

These teachers see disparities in access to digital tools having at least some impact on their students. More than half (54%) say all or almost all of their students have sufficient access to digital tools *at school*, but only a fifth of these teachers (18%) say all or almost all of their students have access to the digital tools they need *at home*.

### 54% of AP and NWP teachers say all or almost all of their students have sufficient access to digital tools while IN SCHOOL, but just 18% say the same is true AT HOME

*How many of your students have sufficient access [INSERT] to the internet and other digital technologies they need to effectively complete school assignments…*
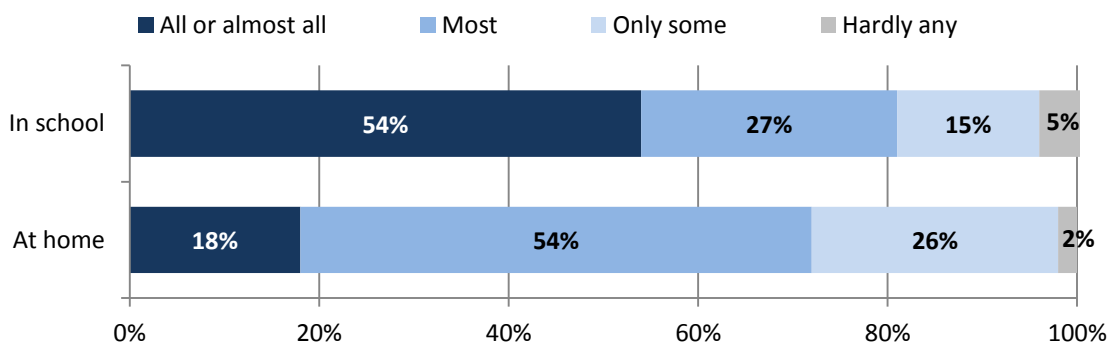


*Source: Teacher data from the Pew Research Center's Internet & American Life Project Online Survey of Teachers, March 7 to April 23, 2012, n=2,462 middle and high school teachers.*

Teachers of the lowest income students are the least likely to say their students have sufficient access to the digital tools they need, both in school and at home. In terms of community type, teachers in urban areas are the least likely to say their students have sufficient access to digital tools IN SCHOOL, while

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[1] See "How Teens Do Research in the Digital World," available at http://pewinternet.org/Reports/2012/Student-Research.aspx.

rural teachers are the least likely to say their students have sufficient access AT HOME.

Overall, while many AP and NWP teachers express concern about growing disparities *across schools and school districts*, they are divided as to whether access to digital tools is leading to greater disparities *among their students*. A large majority of these teachers (84%) agree to some extent with the statement that "Today's digital technologies are leading to greater disparities between affluent and disadvantaged schools and school districts." However, asked whether today's digital technologies are narrowing or widening the gap between the most and least academically successful students, 44% say technology is narrowing the gap and 56% say it is widening the gap.

## Teachers of the lowest income students experience the impact of digital tools in the learning environment differently than teachers whose students are from more affluent households

AP and NWP teachers' experiences with using digital tools in their teaching vary in some notable ways depending on the socioeconomic status of the students they teach. Among these findings:

- 70% of teachers working in the highest income areas say their school does a "good job" providing teachers the resources and support they need to incorporate digital tools in the classroom, compared with 50% of teachers working in the lowest income areas
- 73% of teachers of high income students receive formal training in this area, compared with 60% of teachers of low income students
- 56% of teachers of students from higher income households say they or their students use tablet computers in the learning process, compared with 37% of teachers of the lowest income students
- 55% of teachers of higher income students say they or their students use e-readers in the classroom, compared with 41% teaching in low income areas
- 52% of teachers of upper and upper-middle income students say their students use cell phones to look up information in class, compared with 35% of teachers of the lowest income students
- 39% of AP and NWP teachers of low income students say their school is "behind the curve" when it comes to effectively using digital tools in the learning process; just 15% of teachers of higher income students rate their schools poorly in this area
- 56% of teachers of the lowest income students say that a lack of resources among students to access digital technologies is a "major challenge" to incorporating more digital tools into their teaching; 21% of teachers of the highest income students report that problem
- 49% of teachers of students living in low income households say their school's use of internet filters has a major impact on their teaching, compared with 24% of those who teach better off students who say that
- 33% of teachers of lower income students say their school's rules about classroom cell phone use by students have a major impact on their teaching, compared with 15% of those who teach students from the highest income households

## There are notable generational differences in how teachers experience the impact of digital technologies in their professional lives

As is the case among the full adult population, differences in technology use emerge between older and younger teachers. Specifically:

- Teachers under age 35 are more likely than teachers age 55 and older to describe themselves as "very confident" when it comes to using new digital technologies (64% vs. 44%)
- Conversely, the oldest teachers (age 55 and older) are more than twice as likely as their colleagues under age 35 to say their students know more than they do about using the newest digital tools (59% vs. 23%)
- 45% of teachers under age 35 have their students develop or share work on a website, wiki or blog, compared with 34% of teachers ages 55 and older
- Younger teachers are also more likely than the oldest teachers to have students participate in online discussions (45% v. 32%) and use collaborative web-based tools such as GoogleDocs to edit their work (41% v. 34%)
- Younger teachers are more likely to "very often" draw on colleagues for ideas about how to use new technologies in the classroom (22% of teachers under age 35 do this), when compared with teachers age 35-54 (16%) and teachers age 55 and older (13%)

## At times, teachers' own use of digital tools can run counter to their concerns about and perceptions of student use

In an earlier report on these data, we found that teachers expressed some concerns about what they saw as students' overreliance on search engines to find information and complete research projects. In their words, their students increasingly "equate research with Googling," and use search engines in lieu of more traditional sources without sufficient ability to judge the quality of information they find online. Regarding students' use of search engines, the survey found:

- 76% of AP and NWP teachers "strongly agree that "search engines have conditioned students to expect to be able to find information quickly and easily"
- 83% agree that "the amount of information available online today is overwhelming for most students"
- 71% agree that "today's digital technologies discourage students from finding and using a wide range of sources for their research"
- 60% agree with the notion that "today's digital technologies make it harder for students to find and use credible sources of information"

Yet, the survey also confirms that search engines, and Google in particular, are key resources for AP and NWP teachers. Specifically:

- 99% of AP and NWP teachers use search engines to find information online
- 90% name Google as the search tool they use most often
- Virtually all AP and NWP teachers (99%) use the internet "to do work or research for their job"

- Almost three-quarters (73%) of AP and NWP teachers are "very confident" in their online search abilities

These results indicate that while these teachers are concerned about how their students use the internet in general—and search engines in particular—to find information, they are confident in their own ability to use these tools effectively.

In a similar vein, AP and NWP teachers use the online encyclopedia tool Wikipedia at much higher rates than U.S. adult internet users as a whole (87% vs. 53%).  Wikipedia relies on user-generated, crowd-sourced content, a process that sometimes calls into question the accuracy of its information.  In focus groups with teachers and students prior to the survey, Wikipedia was often noted as a tool teachers discourage or bar students from using because of concerns about the reliability of its content.

## The internet and digital tools also play a key role in classroom preparation and professional networking

Digital tools are critical to AP and NWP teachers' lesson preparation, networking and professionalization.  Among the key findings in this area:

- 80% of AP and NWP teachers report getting email alerts or updates at least weekly that allow them to follow developments in their field
- 84% report using the internet at least weekly to find content that will engage students
- 80% report using the internet at least weekly to help them create lesson plans

## AP and NWP teachers outpace the general adult population in almost all measures of personal tech use, yet 42% feel their students know more than they do when it comes to using digital tools

AP and NWP teachers are well ahead of national benchmarks in almost all measures of personal technology use:

- 94% of AP and NWP teachers own a cell phone, slightly higher than the national figure of 88% for all U.S. adults
- 58% of these teachers (68% of teachers under age 35) have a smartphone, compared with 45% of all adults
- 93% of teachers own a laptop computer vs. 61% of all adults
- 87% own a desktop computer vs. 58% of all adults
- 39% own a tablet vs. 24% of all adults
- 47% own an e-book reader vs. 19% of all adults
- 78% use social networking sites such as Facebook, LinkedIn or Google+, compared with 69% of adult internet users and 59% of all adults
- 26% use Twitter vs. 16% of adult internet users and 14% of all adults

Despite their heavy tech use, 42% of AP and NWP teachers say their students usually know more than they do when it comes to using new digital technologies.  Just 18% feel they know more than their students.  This is despite the fact that over half of AP and NWP teachers (56%) are "very confident" when it comes to learning how to use the latest digital tools, and another 39% say they are "somewhat confident."

## The basics of the survey

These are among the main findings of an online survey of a non-probability sample of 2,462 middle and high school teachers currently teaching in the U.S., Puerto Rico and the U.S. Virgin Islands, conducted between March 7 and April 23, 2012.  Some 1,750 of the teachers are drawn from a sample of advanced placement (AP) high school teachers, while the remaining 712 are from a sample of National Writing Project teachers.  Survey findings are complemented by insights from a series of online and in-person focus groups with middle and high school teachers and students in grades 9-12, conducted between November, 2011 and February, 2012.

This particular sample is quite diverse geographically, by subject matter taught, and by school size and community characteristics.  But it skews towards educators who teach some of the most academically successful students in the country. Thus, the findings reported here reflect the realities of their special place in American education, and are not necessarily representative of all teachers in all schools. At the same time, these findings are especially powerful given that these teachers' observations and judgments emerge from some of the nation's most advanced classrooms.

In addition to the survey, Pew Internet conducted a series of online and offline focus groups with middle and high school teachers and some of their students and their voices are included in this report.

The study was designed to explore teachers' views of the ways today's digital environment is shaping the research and writing habits of middle and high school students, as well as teachers' own technology use and their efforts to incorporate new digital tools into their classrooms.

## About the data collection

Data collection was conducted in two phases.  In phase one, Pew Internet conducted two online and one in-person focus group with middle and high school teachers; focus group participants included Advanced Placement (AP) teachers, teachers who had participated in the National Writing Project's Summer Institute (NWP), as well as teachers at a College Board school in the Northeast U.S.  Two in-person focus groups were also conducted with students in grades 9-12 from the same College Board school.   The goal of these discussions was to hear teachers and students talk about, in their own words, the different ways they feel digital technologies such as the internet, search engines, social media, and cell phones are shaping students' research and writing habits and skills.  Teachers were asked to speak in depth about teaching research and writing to middle and high school students today, the challenges they encounter, and how they incorporate digital technologies into their classrooms and assignments.

Focus group discussions were instrumental in developing a 30-minute online survey, which was administered in phase two of the research to a national sample of middle and high school teachers. The survey results reported here are based on a non-probability sample of 2,462 middle and high school teachers currently teaching in the U.S., Puerto Rico, and the U.S. Virgin Islands. Of these 2,462 teachers, 2,067 completed the entire survey; all percentages reported are based on those answering each question. The sample is not a probability sample of all teachers because it was not practical to assemble a sampling frame of this population. Instead, two large lists of teachers were assembled: one included 42,879 AP teachers who had agreed to allow the College Board to contact them (about one-third of all AP teachers), while the other was a list of 5,869 teachers who participated in the National Writing Project's Summer Institute during 2007-2011 and who were not already part of the AP sample. A stratified random sample of 16,721 AP teachers was drawn from the AP teacher list, based on subject taught, state, and grade level, while all members of the NWP list were included in the final sample.

The online survey was conducted from March 7–April 23, 2012. More details on how the survey and focus groups were conducted are included in the Methodology section at the end of this report, along with focus group discussion guides and the survey instrument.

## About the teachers who participated in the survey

There are several important ways the teachers who participated in the survey are unique, which should be considered when interpreting the results reported here. First, 95% of the teachers who participated in the survey teach in public schools, thus the findings reported here reflect that environment almost exclusively. In addition, almost one-third of the sample (NWP Summer Institute teachers) has received extensive training in how to effectively teach writing in today's digital environment. The National Writing Project's mission is to provide professional development, resources and support to teachers to improve the teaching of writing in today's schools. The NWP teachers included here are what the organization terms "teacher-consultants" who have attended the Summer Institute and provide local leadership to other teachers. Research has shown significant gains in the writing performance of students who are taught by these teachers.[2]

Moreover, the majority of teachers participating in the survey (56%) *currently* teach AP, honors, and/or accelerated courses, thus the population of middle and high school students they work with skews heavily toward the highest achievers. These teachers and their students may have resources and support available to them—particularly in terms of specialized training and access to digital tools—that are not available in all educational settings. Thus, the population of teachers participating in this research might best be considered "leading edge teachers" who are actively involved with the College Board and/or the National Writing Project and are therefore beneficiaries of resources and training not common to all teachers. It is likely that teachers in this study are developing some of the more innovative pedagogical approaches to teaching research and writing in today's digital environment, and

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[2] More specific information on this population of teachers, the training they receive, and the outcomes of their students are available at the National Writing Project website at www.nwp.org.

are incorporating classroom technology in ways that are not typical of the entire population of middle and high school teachers in the U.S. Survey findings represent the attitudes and behaviors of this particular group of teachers only, and are not representative of the entire population of U.S. middle and high school teachers.

Every effort was made to administer the survey to as broad a group of educators as possible from the sample files being used. As a group, the 2,462 teachers participating in the survey comprise a wide range of subject areas, experience levels, geographic regions, school type and socioeconomic level, and community type (detailed sample characteristics are available in the Methodology section of this report). The sample includes teachers from all 50 states, Puerto Rico, and the U.S. Virgin Islands. All teachers who participated in the survey teach in physical schools and classrooms, as opposed to teaching online or virtual courses.

English/language arts teachers make up a significant portion of the sample (36%), reflecting the intentional design of the study, but history, social science, math, science, foreign language, art, and music teachers are also represented. About one in ten teachers participating in the survey are middle school teachers, while 91% currently teach grades 9-12. There is wide distribution across school size and students' socioeconomic status, though half of the teachers participating in the survey report teaching in a small city or suburb. There is also a wide distribution in the age and experience levels of participating teachers. The survey sample is 71% female.

## About the Pew Research Center's Internet & American Life Project

The Pew Research Center's Internet & American Life Project is one of seven projects that make up the Pew Research Center, a nonpartisan, nonprofit "fact tank" that provides information on the issues, attitudes and trends shaping America and the world. The Project produces reports exploring the impact of the internet on families, communities, work and home, daily life, education, health care, and civic and political life. The Pew Internet Project takes no positions on policy issues related to the internet or other communications technologies. It does not endorse technologies, industry sectors, companies, nonprofit organizations, or individuals. While we thank our research partners for their helpful guidance, the Pew Internet Project had full control over the design, implementation, analysis and writing of this survey and report.

## About the College Board

The College Board is a mission-driven not-for-profit organization that connects students to college success and opportunity. Founded in 1900, the College Board was created to expand access to higher education. Today, the membership association is made up of over 6,000 of the world's leading educational institutions and is dedicated to promoting excellence and equity in education. Each year, the College Board helps more than seven million students prepare for a successful transition to college through programs and services in college readiness and college success — including the SAT® and the Advanced Placement Program®. The organization also serves the education community through research and advocacy on behalf of students, educators and schools. For further information, visit www.collegeboard.org.

## About the National Writing Project

The National Writing Project (NWP) is a nationwide network of educators working together to improve the teaching of writing in the nation's schools and in other settings. NWP provides high-quality professional development programs to teachers in a variety of disciplines and at all levels, from early childhood through university. Through its nearly 200 university-based sites serving all 50 states, the District of Columbia, Puerto Rico and the U.S. Virgin Islands, NWP develops the leadership, programs and research needed for teachers to help students become successful writers and learners. For more information, visit www.nwp.org.

# I.   Introduction

This study is the Pew Research Center's Internet & American Life Project's first extensive examination of *teachers'* perceptions of the positive and negative impacts of a rapidly evolving technological environment on teachers' professional activities and how that new environment has impacted teachers' own tech use.  This research was developed to explore not only teachers' assessments of students' research and writing habits, but also the broad impacts of digital technologies on their students, and the extent to which teachers incorporate digital technologies into classroom pedagogy.  It builds on prior Pew Internet research on the growing use of the internet and digital tools among both adults and teens in the U.S., and looks closely at teachers' technology adoption as it compares to the adult population as a whole.

## Pew Internet's prior research on adult and teen internet use

The current study builds on Pew Internet's extensive research on how U.S. adults and teens gather information online, communicate using digital tools, and use these tools for their own training and education.  Pew Internet's prior surveys have shown that:

- Online information gathering (in the form of search engine use) tops the list of the most popular online activities, along with email
- Adults as well as teens have become increasingly reliant on mobile tools, particularly smartphones, to communicate and engage with online content
- Social networking has become one of the most popular online activities with teens and adults. While teens and young adults initially led the foray into this online social milieu, the past several years have seen particular growth in social network site use among older adults
- Both teens and adults are heavily engaged in consuming and curating online video and pictures, and remixing the content available online into their own creations
- Texting has become the major form of communication among 12-17 year-olds in the U.S., and is growing dramatically among adults as well

Given these trends, we felt it would be useful to examine how teachers as a population are experiencing these digital disruptions.  These are important questions, as educators remain a main point of contact for teens growing up in the new digital ecosystem. The extent to which their teachers use, understand, and are critical of or optimistic about these tools all shape how often and how effectively digital tools are used in today's classrooms.

This is the second of three reports emerging from the study.  Issued in succession, the three reports are guided by the following questions:

**Report One:  How Do Teens 'Do Research' in Today's Digital World? (released October 30, 2012[3])**

- How students define and conduct research in today's tech environment
- If and how new technologies are changing how research is taught
- Whether and how the topics of digital literacy and information literacy are currently being taught in schools
- What are the key skills students need to learn to conduct effective research given today's digital environment
- Potential changes in assessments, curriculum, and the school environment teachers feel are necessary in response to today's evolving digital environment

**Report Two:  Teachers and Technology**

- Teachers' personal use of and attitudes toward different digital technologies
- Whether and how new technologies enable and enhance teacher professional development and collaboration
- The different ways digital technologies are being incorporated into classroom pedagogy
- School policy and resource issues affecting teachers' abilities to incorporate new technologies into their classrooms
- How teachers experience and manage digital access issues among their students

**Report Three:  The State of Teen Writing in Today's Digital World** (forthcoming)

- The specific impacts of digital technologies on student writing skills and habits
- If and how new technologies encourage student collaboration, creativity, and personal expression
- If and how new technologies are changing how writing is taught in middle and high school classrooms

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[3] See "How Teens Do Research in the Digital World," available at http://pewinternet.org/Reports/2012/Student-Research.aspx.

# II.    Teachers' Own Use of the Internet and Mobile Tools

The AP and NWP teachers taking part in this survey are notably more connected to technology than the general adult population.  More than half describe themselves as very confident when it comes to learning how to use new technologies, and this confidence is reflected in the gadgets they own.  These teachers are twice as likely as the typical adult to own an e-reader, and they lead the pack in the mobile revolution.  Almost all are cell phone owners, more than half own a smartphone, and the percent of teachers with a cell phone who use the phone to text (98%) is much higher than the national figure of 80% for all adult cell phone users.  AP and NWP teachers are also more likely than the typical adult to use social networking sites and Twitter, and to engage in every online activity asked about in the survey.

Despite being fairly advanced tech users, these teachers are less confident when comparing their tech savvy to that of their middle and high school students.  Asked how they compare to their students when it comes to knowing how to use new technologies, just 18% say they usually know more than their students while 42% say their students usually know more.

## AP and NWP teachers are ahead of the curve in tech gadget ownership

When compared with the total U.S. adult population, the AP and NWP teachers in this sample are more likely to own each of the seven tech gadgets asked about.  These teachers particularly outpace all adults on laptop ownership (93% of teachers vs. 61% of all adults), desktop computers (87% of teachers vs. 58% of all adults), and iPods (78% vs. 44% of adults).  They also report owning e-readers and tablet computers at much higher rates than the full U.S. adult population.

These teachers' relatively high gadget ownership rates are to be expected, given their education and income levels.  These two demographics have been consistently strong predictors of gadget ownership in Pew Internet's research.

## Teachers and their tech gadgets

*Percent of each group who own each device…*
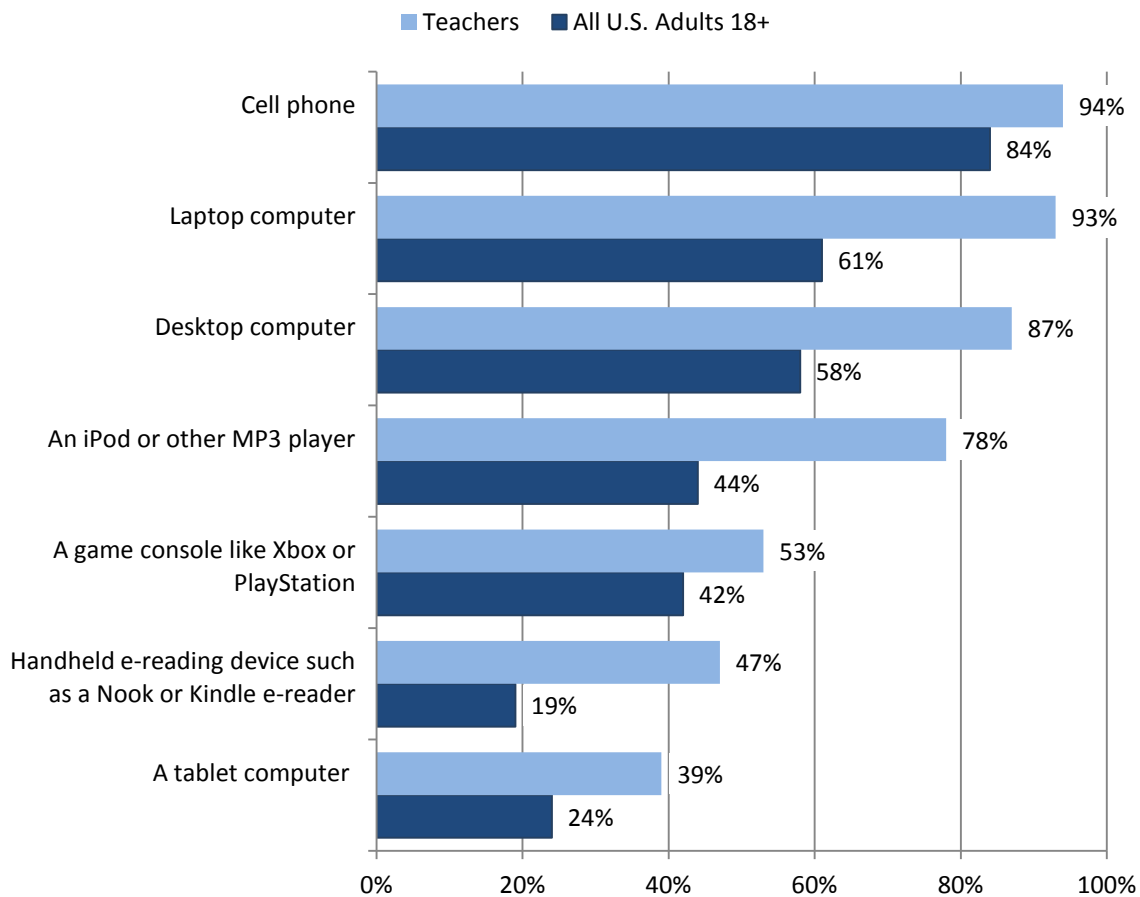


Legend: ■ Teachers  ■ All U.S. Adults 18+

| Device | Teachers | All U.S. Adults 18+ |
|---|---|---|
| Cell phone | 94% | 84% |
| Laptop computer | 93% | 61% |
| Desktop computer | 87% | 58% |
| An iPod or other MP3 player | 78% | 44% |
| A game console like Xbox or PlayStation | 53% | 42% |
| Handheld e-reading device such as a Nook or Kindle e-reader | 47% | 19% |
| A tablet computer | 39% | 24% |

**Source:** Teacher data from the Pew Research Center's Internet & American Life Project Online Survey of Teachers, March 7 to April 23, 2012, n=2,462 middle and high school teachers.  Adult data from Pew Research's Internet & American Life Project Tracking Surveys.

Among this group of AP and NWP teachers, ownership of some gadgets varies considerably by age. Older AP and NWP teachers are more likely to own desktop computers and e-readers, while younger teachers are more likely to have an iPod or a game console.  Laptop and tablet ownership are fairly consistent across age groups.

In some cases, teachers' patterns of tech gadget ownership mirror the adult population as a whole. Among the full U.S. adult population, younger adults are most likely to own iPods and game consoles, and adults ages 30-64 have higher rates of desktop ownership than adults under age 30. However, in the full U.S. adult population, young adults are significantly more likely to be laptop owners, which is not the case among this group of AP and NWP teachers.  And nationally, the youngest adults (ages 18-29) are more likely to be tablet owners than adults ages 50-64.  Again, this pattern does not hold among AP and NWP teachers.

**Older AP and NWP teachers are more likely to own laptops and e-readers, while younger teachers are more likely to own an iPod or game console**

| % of each group who have each device | Desktop computer | E-reader | iPod | Game console |
|---|---|---|---|---|
| **All Teachers** | 87% | 47% | 78% | 53% |
| **Teachers age…** | | | | |
| 22-34 | 78 | 40 | 87 | 64 |
| 35-54 | 88 | 48 | 79 | 58 |
| 55+ | 91 | 49 | 63 | 25 |

**Source:** The Pew Research Center's Internet & American Life Project Online Survey of Teachers, March 7 to April 23, 2012, n=2,462 middle and high school teachers.

## Teachers' smartphone ownership rates are higher than national figures; two-thirds of teachers under age 35 have a smartphone

As with the full U.S. adult population, these AP and NWP teachers are very heavy cell phone users. Overall, 94% say they own a cell phone, which is slightly above the national figure of 88% for all U.S. adults. More notably, among this group of teachers, 58% say their phone is a smartphone. This is more than 10 percentage points higher than the 46% of all adults who report having a smartphone in the most recent Pew Internet survey in December 2012.

Smartphone ownership is highest among the youngest teachers, with 68% of AP and NWP teachers under age 35 owning a smartphone. Just 47% of teachers ages 55 and older say their phone is a smartphone. A similar pattern holds among the full U.S. adult population, with younger adults more likely than older adults to be smartphone owners.

## AP and NWP teachers are slightly more likely to own smartphones, when compared with all U.S. adults

*% of each group who report owning a cell phone or smartphone…*
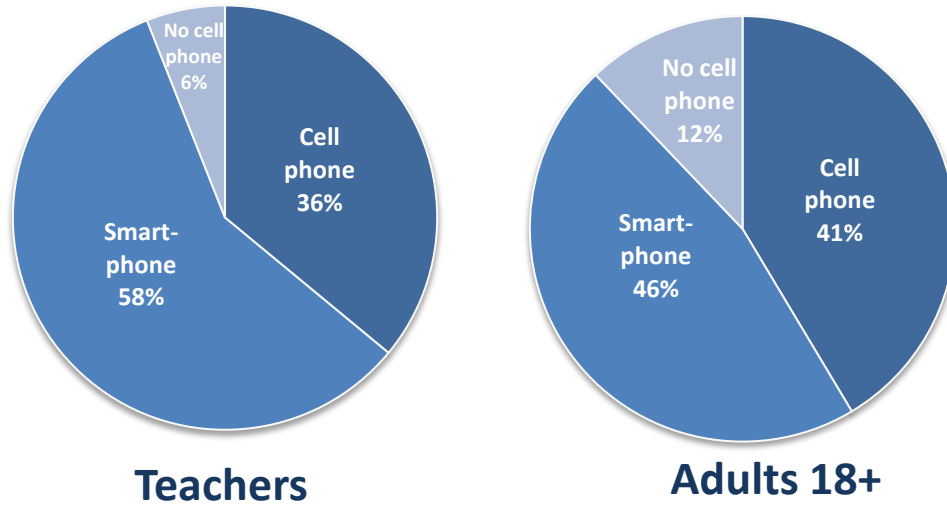


**Teachers**
- No cell phone 6%
- Cell phone 36%
- Smart-phone 58%

**Adults 18+**
- No cell phone 12%
- Cell phone 41%
- Smart-phone 46%

**Source:** Teacher data from the Pew Research Center's Internet & American Life Project Online Survey of Teachers, March 7 to April 23, 2012, n=2,462 middle and high school teachers.  Adult data from Pew Research's Internet & American Life Project Tracking Surveys.

Given the slightly higher rate of smartphone ownership among teachers, it is not surprising that they report using their mobile phones for various activities at higher rates than is the case among all U.S. adults.  Almost all of the teachers in this sample who own a cell phone report using it to send and receive text messages (98%).  And more than six in 10 use their phones to access the internet, send and receive email, and download apps.  These percentages are all higher than those for adult cell phone users as a whole.

## Teachers are heavy texters compared with the full U.S. adult population

*Percent of cell phone owners in each group who use their phone to…*
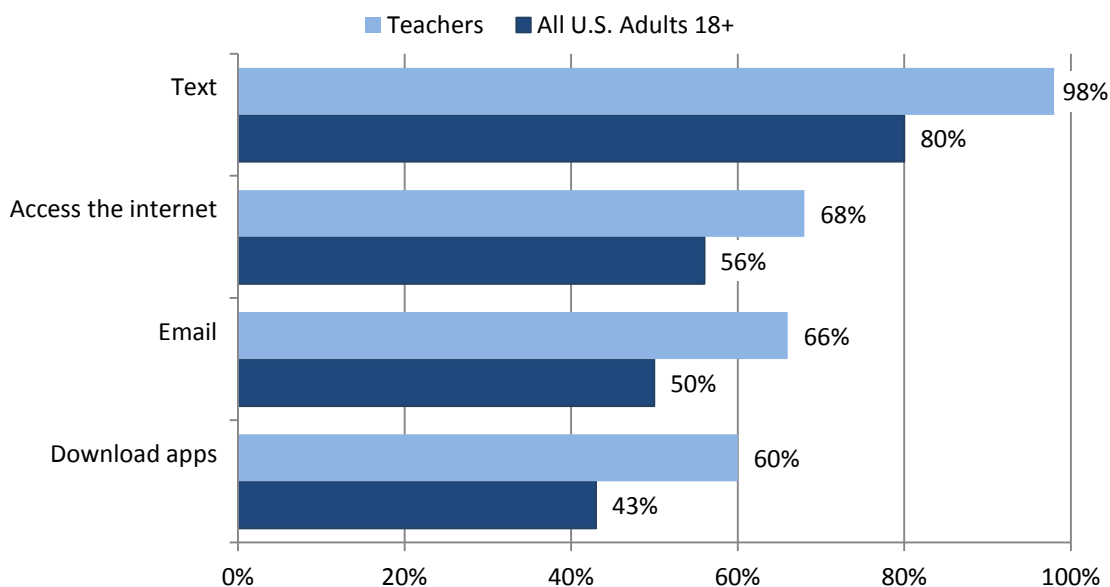
Legend: ▇ Teachers  ▇ All U.S. Adults 18+

| Activity | Teachers | All U.S. Adults 18+ |
|---|---|---|
| Text | 98% | 80% |
| Access the internet | 68% | 56% |
| Email | 66% | 50% |
| Download apps | 60% | 43% |

**Source:** Teacher data from the Pew Research Center's Internet & American Life Project Online Survey of Teachers, March 7 to April 23, 2012, n=2,462 middle and high school teachers.  Adult data from Pew Research's Internet & American Life Project Tracking Surveys.

## Teachers' internet access and use

Given the online format of the survey, all of the participating teachers are internet users.  The same is not true among U.S. adults, for whom overall internet use stands at 85%. Therefore, throughout this section, teachers' figures are compared to all adults but also to just those adults who use the internet.

Among this group of AP and NWP teachers, 97% report having a high-speed internet connection at home. One percent report not accessing the internet at home, while the remaining 2% report having a home connection that is not high-speed.   Nationally, 79% of adult internet users report having high speed connections at home, almost 20 percentage points lower.

## Almost all AP and NWP teachers report having high-speed internet access at home
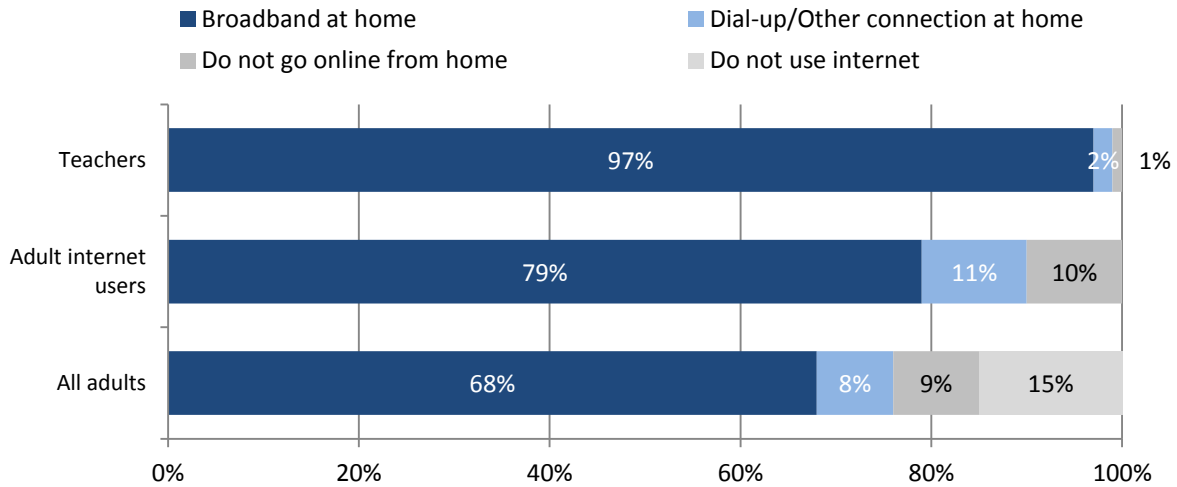
**Legend:**
- ■ Broadband at home
- ■ Dial-up/Other connection at home
- ■ Do not go online from home
- ■ Do not use internet

**Teachers:** Broadband at home 97%, Dial-up/Other connection at home 2%, 1%

**Adult internet users:** Broadband at home 79%, Dial-up/Other connection at home 11%, Do not go online from home 10%

**All adults:** Broadband at home 68%, Dial-up/Other connection at home 8%, Do not go online from home 9%, Do not use internet 15%

(x-axis: 0% 20% 40% 60% 80% 100%)

**Source:** The Pew Research Center's Internet & American Life Project Online Survey of Teachers, March 7 to April 23, 2012, n=2,462 middle and high school teachers. Adult data from Pew Research's Internet & American Life Project Tracking Surveys.

Once online, these teachers' online activities mirror those of the full adult population, and include social networking, information seeking, video and media consumption, and content creation.

## Teachers and online social networking

The percent of AP and NWP teachers in this sample who use social networking sites such as Facebook or LinkedIn, as well as the percent who use Twitter, are considerably higher than the national figures for all U.S. adults. They are also higher than national figures for adult internet users.

As is the case with both teens and adults nationwide, the most popular social networking site among teachers is Facebook, used by 73% of social networking teachers. Ranking a distant second in popularity among this group is YouTube (used by 32%), followed by LinkedIn and Google+ (each used by 28%).

Asked how frequently they use social networking sites, more than six in 10 teachers who use these sites say they use them daily (30% at least once a day, 32% several times a day). Another 23% use these sites at least once a week, while the remaining 15% use them less often.

## Teachers are heavy social network site users when compared with the full U.S. adult population

*Percent of each group who do the following online…*
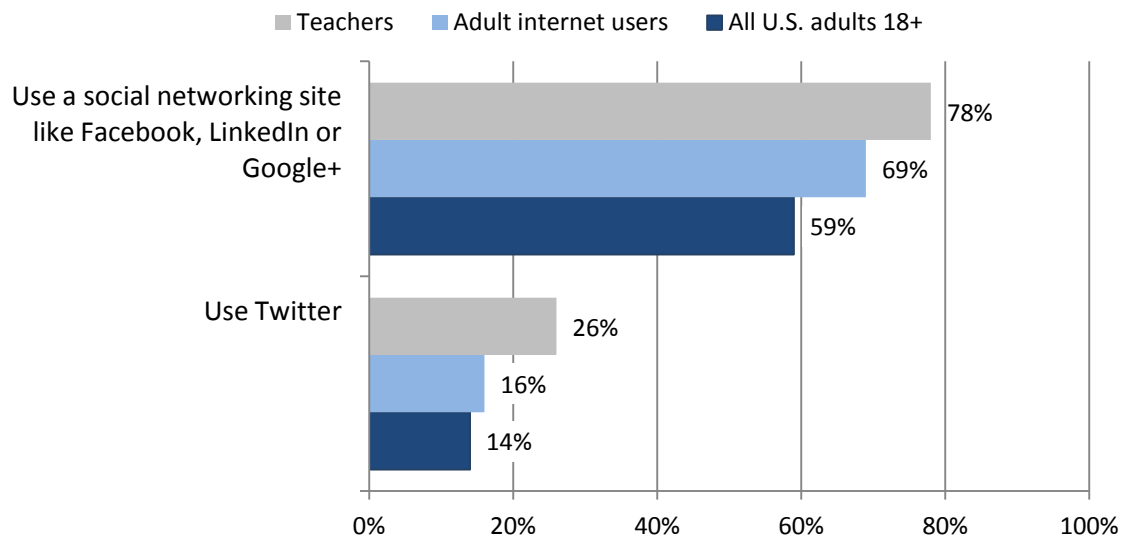
Legend: Teachers | Adult internet users | All U.S. adults 18+

**Use a social networking site like Facebook, LinkedIn or Google+**
- Teachers: 78%
- Adult internet users: 69%
- All U.S. adults 18+: 59%

**Use Twitter**
- Teachers: 26%
- Adult internet users: 16%
- All U.S. adults 18+: 14%

(x-axis: 0% 20% 40% 60% 80% 100%)

**Source:** Teacher data from the Pew Research Center's Internet & American Life Project Online Survey of Teachers, March 7 to April 23, 2012, n=2,462 middle and high school teachers. Adult data from Pew Research's Internet & American Life Project Tracking Surveys.

Among AP and NWP teachers, those most likely to report using these social networking tools are younger teachers (those under age 35). This mirrors the full adult population, in which social networking site use is highest among the youngest adults and lowest among the oldest adults. Female teachers are also slightly more likely to report using social networking sites when compared with their male counterparts, but there is almost no difference in Twitter use across male and female teachers.

Among AP and NWP teachers, there are slight difference in SNS and Twitter use across subject taught (English teachers are most likely to use SNS and Twitter, math teachers least likely) and grade level taught (6th-8th grade teachers have higher rates of SNS and Twitter use than those teaching high school).

## Younger teachers are more likely to use social networking sites

| % of each group who use… | SNS sites such as Facebook, LinkedIn or Google+ | Twitter |
|---|---|---|
| All teachers | 78 | 26 |
| All adult internet users | 69 | 16 |
| All adults | 59 | 14 |
| **Teacher age** | | |
| 22-34 | 91 | 30 |
| 35-54 | 78 | 27 |
| 55+ | 68 | 19 |
| **Years teaching** | | |
| 15 or fewer | 84 | 30 |
| 16 or more | 72 | 21 |
| **Teacher sex** | | |
| Male | 71 | 25 |
| Female | 81 | 26 |
| **Grade level taught** | | |
| 6-8 | 84 | 34 |
| 9-10 | 78 | 25 |
| 11-12 | 76 | 23 |
| **Subject matter taught** | | |
| English/Language Arts | 81 | 31 |
| History/Social Studies | 78 | 25 |
| Math | 69 | 17 |
| Science | 78 | 21 |

**Source:** The Pew Research Center's Internet & American Life Project Online Survey of Teachers, March 7 to April 23, 2012, n=2,462 middle and high school teachers. Adult data from Pew Research's Internet & American Life Project Tracking Surveys.

## Teachers and online information seeking

Much of the survey of AP and NWP teachers focused on how they see their students using online tools to gather and process information.  Among the major findings:

- Asked to assess the overall impact of the internet and other digital technologies on students' research habits, 77% of AP and NWP teachers say the impact on students has been "mostly positive"
- 76% of teachers surveyed "strongly agree" with the notion that the internet "enables students to find and use resources that would otherwise not be available to them"
- At the same time, 76% of these teachers "strongly agree" with the notion that "search engines have conditioned students to expect to be able to find information quickly and easily"
- Majorities of teachers also agree to some extent that "the amount of information available online today is overwhelming for most students" (83%) and that "today's digital technologies

discourage students from finding and using a wide range of sources for their research" (71%)

- 60% agree with the idea that "today's digital technologies make it harder for students to find and use credible sources of information"
- Asked how likely their students were to use a variety of different information sources for a typical research assignment, 94% said their students were "*very likely*" to use Google or other online search engines, placing it well ahead of the other sources asked about
- Second to search engines was the use of Wikipedia or other online encyclopedias, which 75% of teachers said their students were "*very likely*" to use in a typical research assignment
- Rounding out the top three was YouTube or other social media sites, which about half of teachers (52%) said their students were "*very likely*" to use
- 47% of these teachers "strongly agree" and another 44% "somewhat agree" that "courses or content focusing on digital literacy *must* be incorporated into every school's curriculum"
- Finally, asked to place a value on various skills today's students will need in the future, "judging the quality of information" tops the list, described as "essential" by 91% of the teachers who participated in the survey

Given the focus on students' online information gathering, it is interesting to measure the extent to which their teachers rely on search engines and online encyclopedias for information. The survey finds that the vast majority of AP and NWP teachers use search engines (99%) and Wikipedia (87%) to find information online. The latter is particularly notable, because both teachers and students mentioned in focus groups that teachers commonly bar students from using Wikipedia in their school assignments. The survey also finds that almost all of the teachers surveyed use the internet "to do work or research for their job." The specific ways these teachers use the internet as a tool for professional development and curricular ideas are discussed later in this report.

## Teachers are heavy internet information seekers

*Percent of each group who do the following online…*
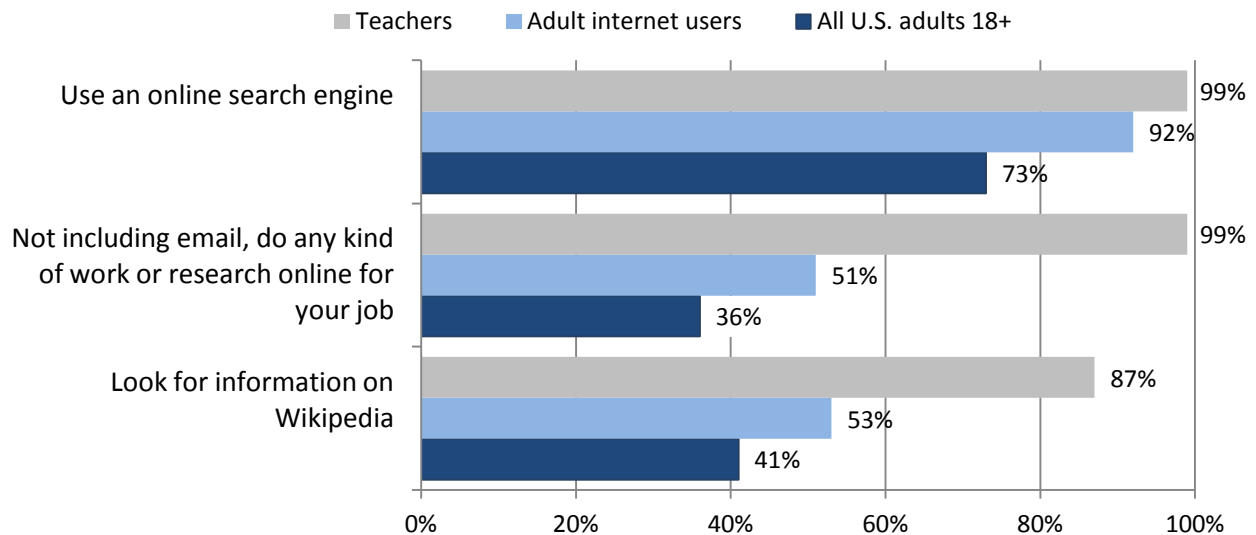
Legend: ■ Teachers　■ Adult internet users　■ All U.S. adults 18+

**Use an online search engine**
- Teachers: 99%
- Adult internet users: 92%
- All U.S. adults 18+: 73%

**Not including email, do any kind of work or research online for your job**
- Teachers: 99%
- Adult internet users: 51%
- All U.S. adults 18+: 36%

**Look for information on Wikipedia**
- Teachers: 87%
- Adult internet users: 53%
- All U.S. adults 18+: 41%

(Chart axis: 0% 20% 40% 60% 80% 100%)

**Source:** Teacher data from the Pew Research Center's Internet & American Life Project Online Survey of Teachers, March 7 to April 23, 2012, n=2,462 middle and high school teachers.  Adult data from Pew Research's Internet & American Life Project Tracking Surveys.

## Teachers are not alone in their reliance on search engines

As noted in our first report based on this survey,[4] adults as well as teens appear to increasingly equate finding information with "Googling."  In Pew Internet surveys, search engine use consistently tops the list of most popular online activities, along with email.  Currently, 92% of online adults use search engines to find information on the web, up from 84% in June 2004. On any given day online, 59% of those who are online use a search engine (up from 30% in 2004).[5]

Among all adult search engine users, Google is far and away the most used search engine and its dominance continues to grow over time. Yahoo places a distant second.  Google is likewise the search engine of choice among AP and NWP teachers, with 90% naming Google as the search tool they use most often.  Yahoo (4%) and Bing (3%) are the only other search engines cited by more than 1% of teachers.

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[4] See "How Teens Do Research in the Digital World," available at http://pewinternet.org/Reports/2012/Student-Research.aspx.

[5] See "Search and Email Still Top the List of Most Popular Online Activities," available at http://www.pewinternet.org/Reports/2011/Search-and-email.aspx

## As with all adult internet users, Google is far and away the search engine of choice among AP and NWP teachers

*Which search engine do you use MOST OFTEN?*
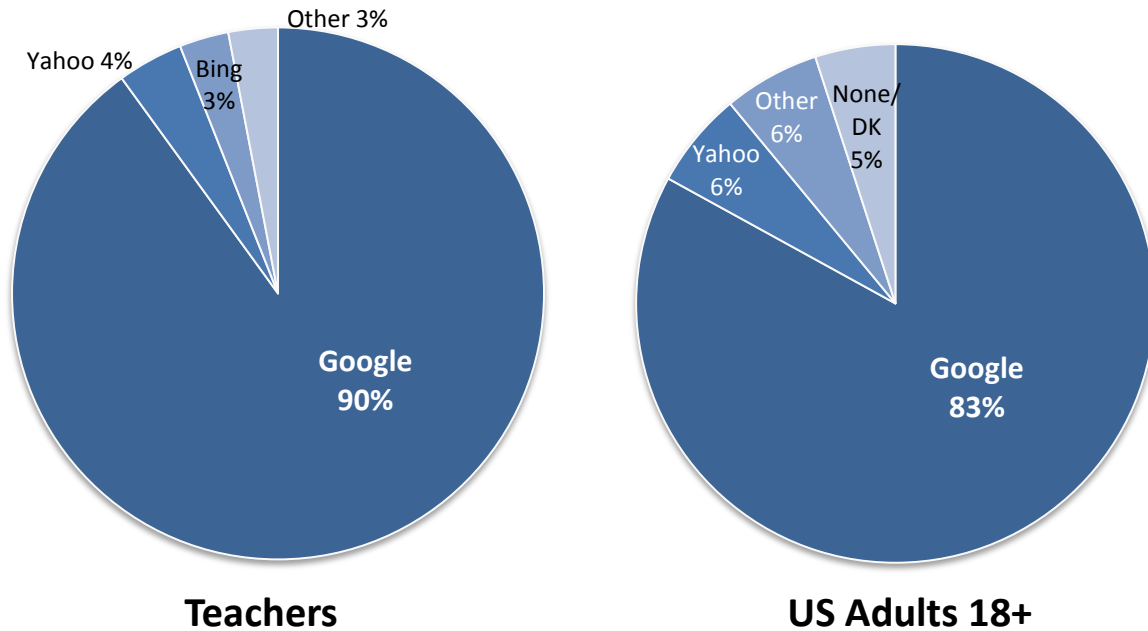


**Teachers**

**US Adults 18+**

**Source:** The Pew Research Center's Internet & American Life Project Online Survey of Teachers, March 7 to April 23, 2012, n=2,462 middle and high school teachers. Adult data from Pew Research's Internet & American Life Project Tracking Surveys.

Not only are U.S. adults in general increasingly reliant on search engines as an information source, but they are very confident in their search abilities and generally trust the results they get.[6]  Specifically, Pew Internet has found:

- 56% of adult search engine users say they are *very* confident in their search abilities, while only 6% say they are *not too* or *not at all* confident
- 73% of adult search engine users say that *most* or *all* of the information they find using search engines is accurate and trustworthy

Compared with these national benchmarks for all adults, this population of teachers is even more confident in their own search abilities.  Almost three-quarters (73%) of these middle and high school teachers say they are "very confident" in their own search abilities, with another 26% saying they are "somewhat confident."  Of the more than 2,000 teachers surveyed, only 1% describe themselves as "not too confident" when it comes to using search engines.

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[6] See "Search Engine Use 2012," available at http://www.pewinternet.org/Reports/2012/Search-Engine-Use-2012.aspx .

These teachers mirror the general adult population in that younger teachers have more confidence than their older counterparts in their search abilities. Eight in ten (80%) of the youngest teachers (those under age 35) say they are "very confident" in their search abilities, compared with 75% of teachers age 35-54 and 63% of teachers age 55 and older.

## AP and NWP teachers are very confident in their search abilities

*How CONFIDENT do you feel about your own searching abilities when using a search engine to find information online?*
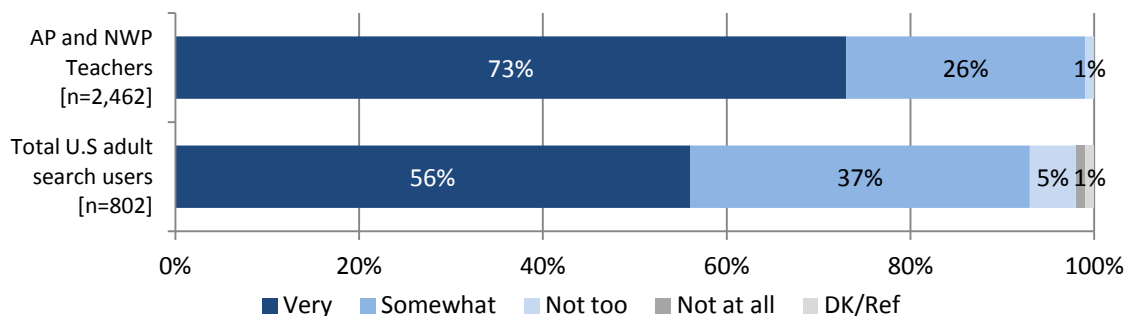


**Source:** Teacher data from Pew Research Center's Internet & American Life Project Online Survey of Teachers, March 7 to April 23, 2012, n=2,462 middle and high school teachers. Adult data from Pew Research's Internet & American Life Project Tracking Surveys.

## These teachers have less faith in the accuracy of the information they find using search engines

*In general, how much of the information you find using search engines do you think is accurate or trustworthy?*
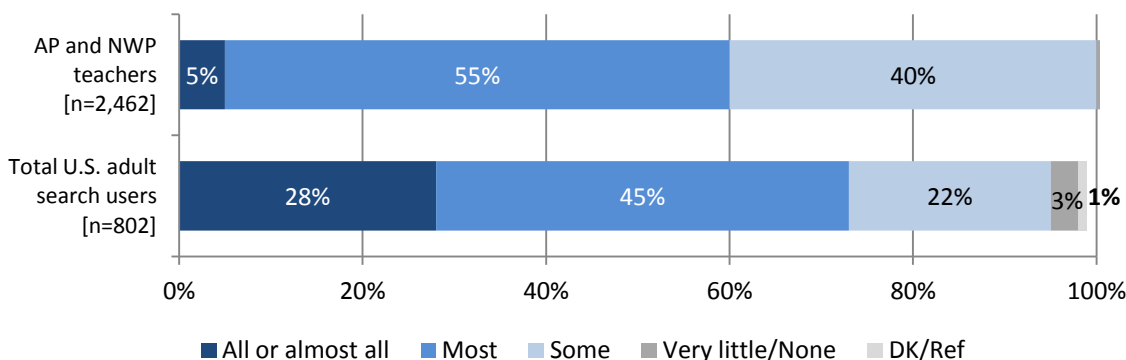


**Source:** Teacher data from Pew Research Center's Internet & American Life Project Online Survey of Teachers, March 7 to April 23, 2012, n=2,462 middle and high school teachers. Adult data from Pew Research's Internet & American Life Project Tracking Surveys.
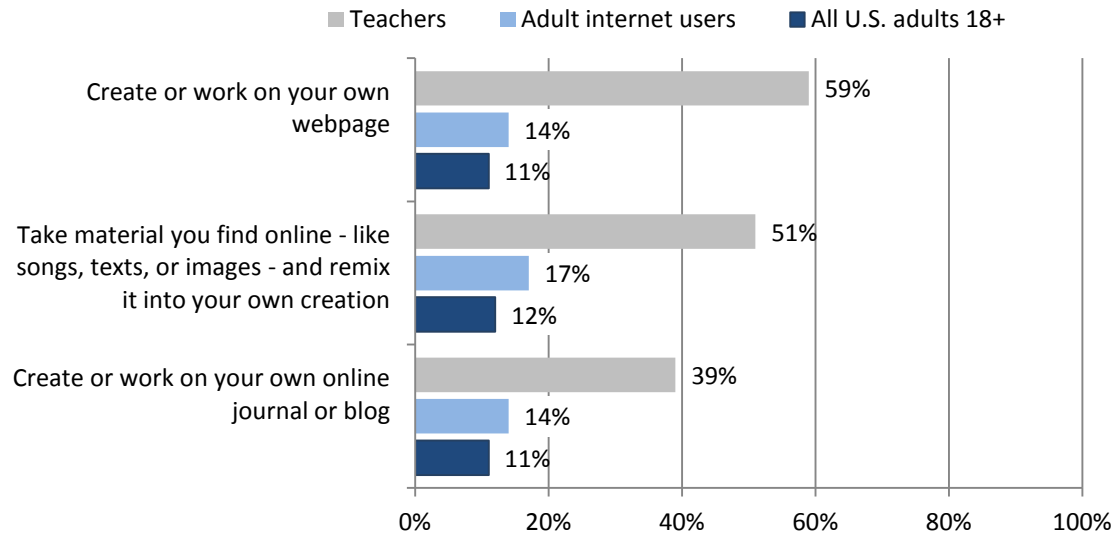
While these teachers have greater confidence than adults as a whole in their search abilities, they have considerably less faith in the accuracy of the information they find using these tools. Just 5% of teachers participating in the survey say that "all or almost all" of the information they find using search engines is accurate or trustworthy, compared with 28% of all U.S. adult search users.

AP and NWP teachers are also very different from adults as a whole in that the youngest teachers have *less* faith in the accuracy of search results. Among the general population, younger adults tend to have *more* faith in the trustworthiness and accuracy of the search results they get. Half (50%) of teachers ages 22-34 say that all or most of the information they find using search engines is accurate or trustworthy, a figure that rises to 61% among teachers ages 35-54 and 68% among those age 55 and older.

## Wikipedia use among teachers

AP and NWP teachers use the online encyclopedia tool Wikipedia at much higher rates than U.S. adult internet users as a whole (87% vs. 53%). Wikipedia relies on user-generated, crowd-sourced content, a process that sometimes calls the accuracy of its information into question. In focus groups with teachers and students prior to the survey, Wikipedia was noted as a tool teachers discourage or bar students from using because of concerns about the accuracy and reliability of user-generated content. Students explained that while teachers often disallow Wikipedia as a formal source on assignments, it is still often their first stop when researching a topic online. Students value Wikipedia as a place to get a short, straightforward summary of a topic at the beginning of an assignment before going to other sources.

Wikipedia use does not vary across teachers of different subjects, grade levels, or community types. There is only the smallest variation in Wikipedia use between younger and older teachers, with younger teachers slightly more likely to use this tool than their older counterparts. Nine in ten teachers under age 35 (90%) say they use Wikipedia, compared with 87% of teachers age 35-54 and 85% of those age 55 and older.

## Teachers' online video and media consumption

Compared with all U.S. adults, AP and NWP teachers are heavy online video consumers and uploaders. However, because Pew Internet has not measured some of these online activities among the full U.S. population since 2009, these differences are likely smaller than the table below indicates. Online video consumption and uploading in all of its forms has grown steadily among all adults since Pew Internet began measuring these behaviors in 2007.[7]

Still, this group of teachers stands out in their online video consumption, with 97% using video-sharing sites like YouTube, 76% watching television shows or movies online, and 74% downloading videos to their computer. Another two-thirds (67%) upload videos for others to consume.

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[7] See "The State of Online Video," http://pewinternet.org/Reports/2010/State-of-Online-Video.aspx. See also "71% of Online Adults Now Use Video-Sharing Sites," http://pewinternet.org/Reports/2011/Video-sharing-sites.aspx, and "Photos and Video as Social Currency Online," http://pewinternet.org/Reports/2012/Online-Pictures.aspx.

## Teachers are heavy consumers of online video

*Percent of each group who do the following online…*
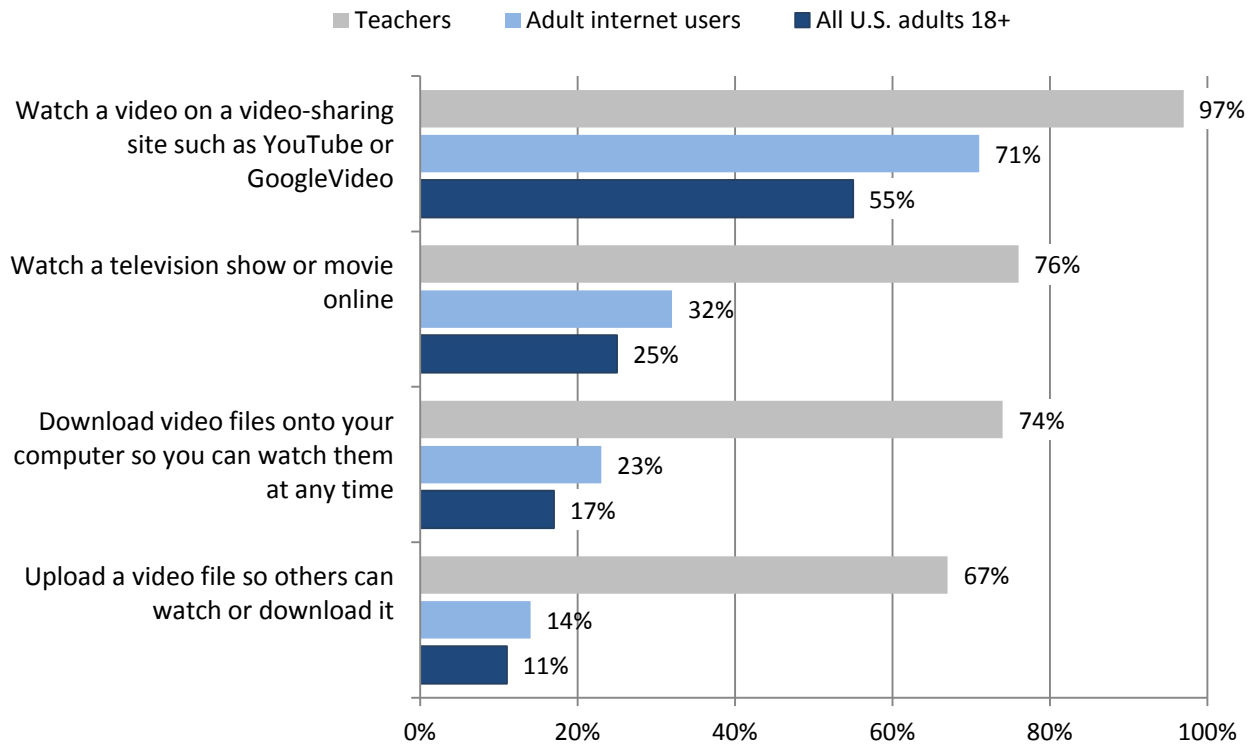
Legend: ■ Teachers  ■ Adult internet users  ■ All U.S. adults 18+

**Watch a video on a video-sharing site such as YouTube or GoogleVideo**
- Teachers: 97%
- Adult internet users: 71%
- All U.S. adults 18+: 55%

**Watch a television show or movie online**
- Teachers: 76%
- Adult internet users: 32%
- All U.S. adults 18+: 25%

**Download video files onto your computer so you can watch them at any time**
- Teachers: 74%
- Adult internet users: 23%
- All U.S. adults 18+: 17%

**Upload a video file so others can watch or download it**
- Teachers: 67%
- Adult internet users: 14%
- All U.S. adults 18+: 11%

(Horizontal axis: 0% to 100%)

**Source:** Teacher data from the Pew Research Center's Internet & American Life Project Online Survey of Teachers, March 7 to April 23, 2012, n=2,462 middle and high school teachers. Adult data from Pew Research's Internet & American Life Project Tracking Surveys.

Patterns in online video consumption among these teachers are different than those for the full adult population. Nationally, young adults (those under age 30) lead the way in all of these online video activities, often by very wide margins over older adults. Yet among AP and NWP teachers, the only pronounced age differences appear for "watching television shows or movies online." The percent of AP and NWP teachers who watch television or movies online drops from 87% among 22-34 year olds to 63% of those ages 55 and older. Still, older teachers in this sample are watching television shows and movies online at much higher rates than other adults their age. In 2009, just 16% of online adults age 50 and older were watching television shows or movies online.

Male teachers slightly outpace female teachers in downloading video, as do History/Social Studies and Science teachers when compared with English and math teachers. Math teachers also report the lowest rates of video uploading when compared with colleagues who teach other subjects, which may be partly due to their lower rates of social network site use.

**Younger teachers are the most likely to watch television shows or movies online, and male teachers are heavier video downloaders than their female colleagues**

| *% of each group who…* | Watch a video on a video-sharing site | Watch a television show or movie online | Download a video to your computer | Upload a video file so others can watch or download it |
|---|---|---|---|---|
| **All Teachers** | 97% | 76% | 74% | 67% |
| **All adult internet users** | 71 | 32 | 23 | 14 |
| **All adults** | 55 | 25 | 17 | 11 |
| **Teacher age…** | | | | |
| 22-34 | 98 | **87** | 75 | 67 |
| 35-54 | 97 | **78** | 74 | 68 |
| 55+ | 94 | **63** | 72 | 62 |
| **Teacher sex** | | | | |
| Male | 96 | 75 | **80** | 66 |
| Female | 97 | 76 | **71** | 67 |
| **Subject taught** | | | | |
| English/Language Arts | 97 | 78 | **71** | **68** |
| History/Social Studies | 98 | 76 | **79** | **67** |
| Math | 95 | 75 | **67** | **56** |
| Science | 96 | 73 | **79** | **68** |

**Source:** Teacher data from the Pew Research Center's Internet & American Life Project Online Survey of Teachers, March 7 to April 23, 2012, n=2,462 middle and high school teachers.  Adult data from Pew Research's Internet & American Life Project Tracking Surveys.

## Teachers and online content creation

The survey shows that AP and NWP teachers are especially likely to engage in online content creation when compared with adults as a whole.  This includes creating their own website, having an online journal or blog, and remixing material they find online into their own creations.

## AP and NWP teachers are into "content creation"

*Percent of each group who do the following online…*

Legend: ▪ Teachers  ▪ Adult internet users  ▪ All U.S. adults 18+

Create or work on your own webpage
- Teachers: 59%
- Adult internet users: 14%
- All U.S. adults 18+: 11%

Take material you find online - like songs, texts, or images - and remix it into your own creation
- Teachers: 51%
- Adult internet users: 17%
- All U.S. adults 18+: 12%

Create or work on your own online journal or blog
- Teachers: 39%
- Adult internet users: 14%
- All U.S. adults 18+: 11%

(x-axis: 0% 20% 40% 60% 80% 100%)

**Source:** Teacher data from the Pew Research Center's Internet & American Life Project Online Survey of Teachers, March 7 to April 23, 2012, n=2,462 middle and high school teachers. Adult data from Pew Research's Internet & American Life Project Tracking Surveys.

In the general population, content creation activities are generally more popular among younger and middle-aged adults. The same is true among AP and NWP for two of the activities asked about in the survey; blogging and creating one's own webpage. Both of these activities are more popular among younger teachers than older teachers. Remixing online content varies only a few percentage points across different age groups of teachers.

Some of the biggest differences in content creation activities are found when comparing teachers who specialize in different subjects. Science teachers have the highest rate of remixing material they find online and creating their own webpage, while English teachers are the most likely to have their own blog.

### Science teachers are most likely to create their own website and remix online material; English teachers are most likely to blog

| *% of each group who use the internet to…* | Create your own webpage | Take material you find online and remix it into your own creation | Create your own online journal or blog |
|---|---|---|---|
| All teachers | 59 | 51 | 39 |
| All adult internet users | 14 | 17 | 14 |
| All adults | 11 | 12 | 11 |
| **Teacher age** | | | |
| 22-34 | **62** | 48 | **46** |
| 35-54 | **60** | 52 | **41** |
| 55+ | **51** | 50 | **30** |
| **Years teaching** | | | |
| 15 or fewer | 62 | 50 | **44** |
| 16 or more | 56 | 52 | **34** |
| **Teacher sex** | | | |
| Male | **65** | **56** | 40 |
| Female | **57** | **49** | 39 |
| **Subject matter taught** | | | |
| English/Language Arts | **55** | 48 | **46** |
| History/Social Studies | **58** | 50 | **40** |
| Math | **61** | 44 | **26** |
| Science | **66** | 55 | **30** |

**Source:** The Pew Research Center's Internet & American Life Project Online Survey of Teachers, March 7 to April 23, 2012, n=2,462 middle and high school teachers. Adult data from Pew Research's Internet & American Life Project Tracking Surveys.

## Most teachers are "very confident" in their ability to use the latest digital technologies, yet many also feel their students know more than they do

Asked how confident they are in their ability to learn to use new digital tools and technologies, more than half of AP and NWP teachers (56%) say they are "very confident."  Another 39% describe themselves as "somewhat confident" while just 5% say they are "not too confident" or "not at all confident" in this area.

A teacher's age has a particularly pronounced relationship with their confidence using new digital technologies.  Younger teachers are much more likely to say they are "very confident" in this area when compared with older teachers.  Male teachers are also particularly confident when compared with their female counterparts, as are teachers who have children under 18 living at home when compared with teachers who do not have young children living at home.

### Overall, how confident are you in your ability to learn how to use new digital technologies?

| | % who are "very confident" |
|---|---|
| **Total sample** | 56% |
| **Age** | |
| 22-34 | 64% |
| 35-54 | 59% |
| 55+ | 44% |
| **Sex** | |
| Male | 67% |
| Female | 52% |
| **Parent of child under 18** | |
| Yes | 60% |
| No | 54% |

**Source:** The Pew Research Center's Internet & American Life Project Online Survey of Teachers, March 7 to April 23, 2012, n=2,462 middle and high school teachers.

Tech use confidence among these teachers also varies by how long they have been teaching, subject matter taught, the type of community in which their school is located, and the socioeconomic level of their students. Science teachers stand out on this question, with 68% saying they are "very confident" in their ability to use digital technologies. Moreover, 63% of teachers in the earlier stages of their careers feel "very confident" in using new technologies. When looking at community type, rural teachers express the most confidence while small town teachers express the least.

**Overall, how confident are you in your ability to learn how to use new digital technologies?**

| | % who are "very confident" |
|---|---|
| **Total sample** | 56% |
| **Years teaching** | |
| 15 or fewer | 63% |
| 16 or more | 48% |
| **Subject matter taught** | |
| English/Language Arts | 53% |
| History/Social Studies | 54% |
| Math | 58% |
| Science | 68% |
| **Community type where school is located** | |
| Metro area/Large city | 59% |
| Small city/Suburb | 56% |
| Small town | 46% |
| Rural area | 63% |
| **Student socioeconomic status is mainly…** | |
| Low income/Below poverty line | 60% |
| Lower middle income | 53% |
| Middle income | 57% |
| Upper middle/Upper income | 57% |

**Source:** The Pew Research Center's Internet & American Life Project Online Survey of Teachers, March 7 to April 23, 2012, n=2,462 middle and high school teachers.

At the same time these teachers express confidence in their ability to learn to use new digital technologies, 42% say they are less knowledgeable than their students in this area. Just 18% of these teachers say they usually know more than their students when it comes to knowing how to use digital technologies, and the remaining 40% feel they and their students are on par when it comes to knowing how to use digital technologies.

Just under one-third of these AP and NWP teachers (30%) say that they "often" or "very often" get ideas from their students for how to incorporate digital technologies into the learning experience, yet this practice appears to have no relationship to whether teachers feel their students are more knowledgeable than they are about these tools. The percent of teachers who regularly get ideas from their students about how to incorporate new technologies into the classroom is consistent across those who feel they know more than their students, those who feel students know more, and those who see themselves and their students on par in this area. It is also consistent across all major demographic subgroups, grade and subject taught, years of teaching, community type and student socioeconomic status.

## When it comes to knowing how to use digital technologies, 42% of AP and NWP teachers say their students know more than they do

| | % who say their students know more than they do |
|---|---|
| **Total sample** | 42% |
| **Age** | |
| 22-34 | 23% |
| 35-54 | 41% |
| 55+ | 59% |
| **Sex** | |
| Male | 35% |
| Female | 44% |
| **Parent of child under 18** | |
| Yes | 38% |
| No | 44% |

**Source:** The Pew Research Center's Internet & American Life Project Online Survey of Teachers, March 7 to April 23, 2012, n=2,462 middle and high school teachers.

## 11th and 12th grade teachers and those who have been teaching many years are particularly likely to say their students know more about digital technologies

| | % who say their students know more than they do |
|---|---|
| **Total sample** | 42% |
| **Years teaching** | |
| 15 or fewer | 31% |
| 16 or more | 54% |
| **Grade level taught** | |
| 6-8 | 23% |
| 9-10 | 42% |
| 11-12 | 49% |
| **Student socioeconomic status is mainly...** | |
| Low income/Below poverty line | 36% |
| Lower middle income | 41% |
| Middle income | 45% |
| Upper middle/Upper income | 45% |

**Source:** The Pew Research Center's Internet & American Life Project Online Survey of Teachers, March 7 to April 23, 2012, n=2,462 middle and high school teachers.

Among this group of teachers, those most likely to feel their students are more knowledgeable about new digital technologies are those age 55 or older (59% say their students know more than they do),

female teachers, and those who do not have young children at home.  These are the same groups who express the least confidence in their ability to learn to use new digital tools.

Also particularly likely to feel their students are more knowledgeable than they are when it comes to using digital technologies are AP and NWP teachers who have taught more than 15 years, those teaching 11th and 12th graders as opposed to younger grades, and those teaching mainly middle and upper income students.

# III.   Bringing Technology into the Classroom

Given the degree to which AP and NWP teachers are embracing and using digital tools, it is not surprising that they are making these tools a key part of their teaching practices.  In addition to desktop and laptop computers and classroom projectors, significant portions of these teachers report cell phones, digital cameras and recorders, e-readers and tablet computers being part of the learning experience.  Yet they also note obstacles they face in using digital tools effectively in the classroom, ranging from time constraints to school internet filters.

## 73% of AP and NWP teachers say cell phones have become part of their classroom teaching and assignments

While laptop and desktop computers, and the projectors connected to them, continue to top the list of digital tools being used by teachers and students, they are now joined by cell phones and smartphones as a fairly common educational tool.  Almost three-quarters of AP and NWP teachers (73%) say that they and/or their students use their mobile phones as a learning device in the classroom or to complete assignments.  This is comparable to the percent who say they and their students make use of computer carts.

In addition to cell phones, about two-thirds of AP and NWP teachers note that digital cameras (other than those on phones) are used in their classes, and just over half say the same is true for video recorders.  Slightly fewer, but still a sizeable percentage, report that they or their students are using e-readers (45%) and tablet computers (43%) in the classroom or to complete assignments.

## Digital tools AP and NWP teachers are using in their classrooms

*Percent of AP and NWP teachers who say they and/or their students use the following digital tools in the classroom or in completing assignments…*
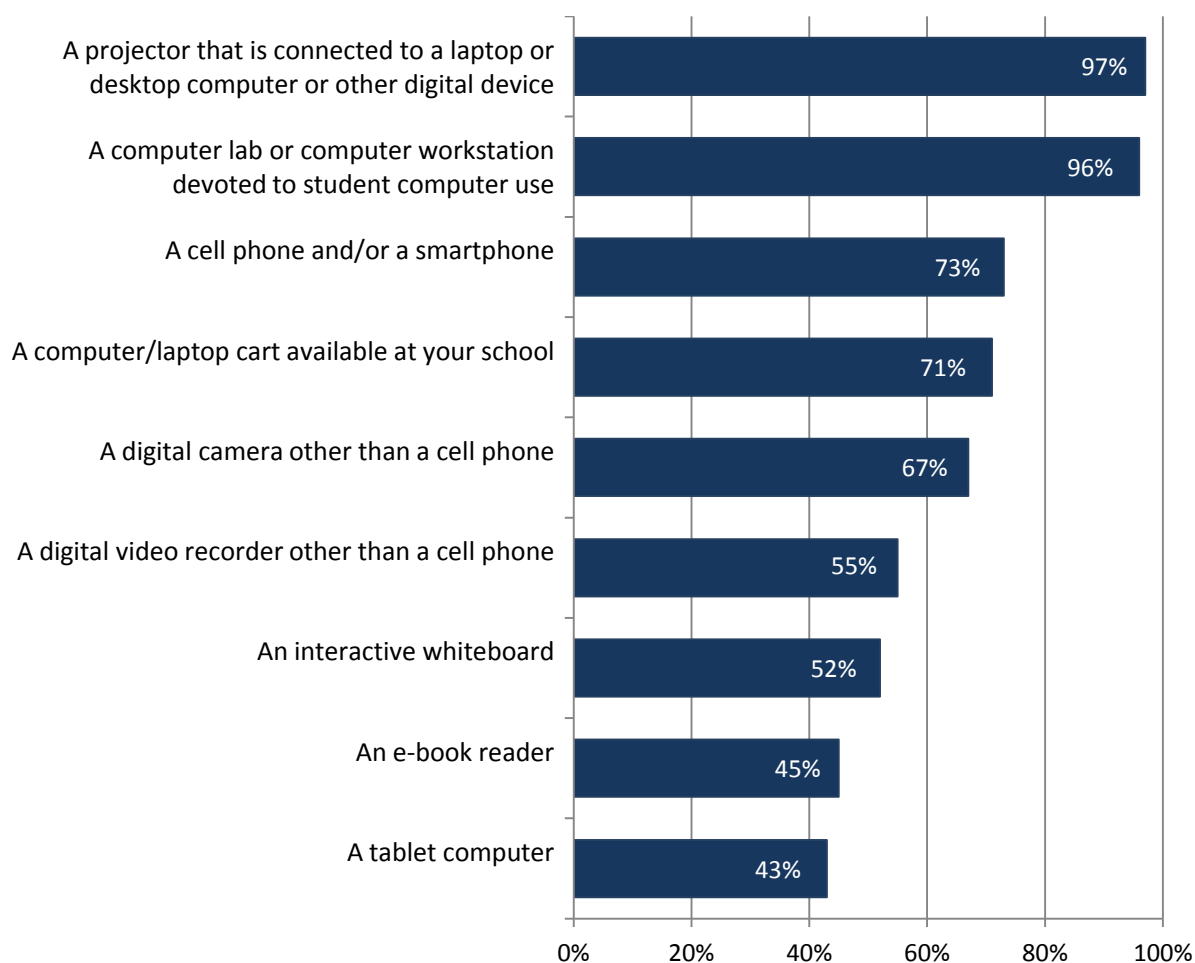
| Tool | Percent |
|---|---|
| A projector that is connected to a laptop or desktop computer or other digital device | 97% |
| A computer lab or computer workstation devoted to student computer use | 96% |
| A cell phone and/or a smartphone | 73% |
| A computer/laptop cart available at your school | 71% |
| A digital camera other than a cell phone | 67% |
| A digital video recorder other than a cell phone | 55% |
| An interactive whiteboard | 52% |
| An e-book reader | 45% |
| A tablet computer | 43% |

**Source:** Teacher data from the Pew Research Center's Internet & American Life Project Online Survey of Teachers, March 7 to April 23, 2012, n=2,462 middle and high school teachers.

The popularity of cell phones as an educational tool coincides with the rising popularity of cell phones among all Americans, including teens. The most recent Pew Internet report on cell phone use among 12-17 year-olds shows that as of July, 2011, 77% of 12-17 had a cell phone.[8] Moreover, some 23% of all 12-17 year-olds say their cell phone is a smartphone.  Smartphone ownership is highest among older teens: 31% of 14-17 year-olds have a smartphone, compared with just 8% of those ages 12-13. At that time, there were no significant differences in smartphone ownership (versus regular cell phones) by the teen's race, ethnicity, or household income. Teens whose parents have a college education were slightly more

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[8] See "Teens, Smartphones and Texting," available at http://pewinternet.org/Reports/2012/Teens-and-smartphones.aspx.

likely than teens whose parents have a high school diploma or less to have a smartphone (26% vs. 19%).

Among AP and NWP teachers, teachers of students from higher income households are more likely to report that they or their students use tablet computers and e-readers as part of the learning process. The difference is particularly pronounced in the case of tablet computers, where more than half of teachers of upper income students (56%) say these tools are used, compared with 37% of teachers of the lowest income students. The difference in e-reader use between lower income students and higher income students is also fairly pronounced, with a 14 percentage point difference between teachers of the highest and lowest income students.

## Tablets, e-readers and cell phones are used more often by teachers and students in higher income areas

| % of each group who say they or their students use this device as part of the learning environment… | Cell Phone | Tablet Computer | E-Reader |
|---|---|---|---|
| All teachers | 73 | 43 | 45 |
| **Teacher age** | | | |
| 22-34 | 70 | **37** | 45 |
| 35-54 | 73 | **43** | 47 |
| 55+ | 75 | **48** | 47 |
| **Subject taught** | | | |
| English/Language Arts | **74** | 44 | **58** |
| History/Social Studies | **76** | 46 | **43** |
| Math | **58** | 40 | **33** |
| Science | **71** | 41 | **33** |
| **Student socioeconomic status is mainly…** | | | |
| Low income/Below poverty line | **71** | 37 | **41** |
| Lower middle income | **73** | 40 | **44** |
| Middle income | **72** | 44 | **48** |
| Upper middle/Upper income | **78** | 56 | **55** |

**Source:** The Pew Research Center's Internet & American Life Project Online Survey of Teachers, March 7 to April 23, 2012, n=2,462 middle and high school teachers.

The use of e-readers and cell phones as a learning tool varies by the subject matter being taught. It is not surprising that English and Language Arts teachers are the most likely to report e-readers being part of the learning environment. Math teachers, in contrast, are particularly unlikely to say that they or their students use cell phones in the learning process.

## Digital tools are being used by students to conduct research, download and submit assignments, edit work, and collaborate with each other

Topping the list of activities students engage in via the internet and digital tools is "doing research or searching for information online" which 95% of teachers say their students do and which was the focus of the first report in this series.[9]  Apart from finding information online, the internet and digital tools are used most often by teachers to have students access (79%) and submit (76%) assignments online.  More interactive online learning activities, such as developing wikis, engaging in online discussions, and editing their own or others' work using collaborative platforms such as GoogleDocs, are employed by fewer teachers in the sample.

### What do AP and NWP teachers have students do online?

*Percent of AP and NWP teachers who say they have students do each of the following…*

| Activity | Percent |
|---|---|
| Do research or search for information online | 95% |
| Access or download asssignments from an online site | 79% |
| Submit assignments online | 76% |
| Develop, share or post their work on a website, wiki or blog | 40% |
| Participate in online discussions | 39% |
| Edit or revise their OWN work using a collaborative web-based tool such as GoogleDocs | 36% |
| Edit OTHERS' work or give others feedback using a collaborative web-based tool such as GoogleDocs | 29% |
| Post their own work online where people OTHER THAN their classmates or teachers can see it | 22% |

**Source:** Teacher data from the Pew Research Center's Internet & American Life Project Online Survey of Teachers, March 7 to April 23, 2012, n=2,462 middle and high school teachers.

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[9] See "How Teens Do Research in the Digital World," available at http://pewinternet.org/Reports/2012/Student-Research.aspx.

Some groups of AP and NWP teachers are more likely to employ the more collaborative online tools asked about in the survey. For instance, the youngest teachers in this group (those under age 35) are the most likely to have students develop or share work on a website, wiki or blog (45% v. 34% of teachers age 55 and older).  They are also more likely than the oldest teachers to have students participate in online discussions (45% v. 32% of teachers age 55 and older) and use collaborative web-based tools such as GoogleDocs to edit work (41% v. 34% of teachers age 55 and older).  Middle school teachers (those teaching grades 6-8) are the most likely to have students develop and share work on wikis, webpages or blogs. Just under half of middle school teachers (47%) have their students use these collaborative tools, compared with 41% of 9th-10th grade teachers and 35% of 11th-12th grade teachers.

One could argue that some subjects lend themselves more easily to these types of online collaborative tools, and survey results reflect this.  English teachers are the most likely to say they have students use these types of tools, often by a wide margin over teachers of other subjects.  Conversely, math teachers are least likely to make use of these tools.

## Do some subjects lend themselves more easily to the use of interactive and collaborative online tools?

| *% of each group who have their students…* | Develop, share or post their work on a website, wiki or blog | Participate in online discussions | Edit or revise their work using a collaborative web-based tool such as GoogleDocs |
|---|---|---|---|
| All teachers | 40 | 39 | 36 |
| **Subject taught** | | | |
| English/Language Arts | **50** | **48** | **47** |
| History/Social Studies | **39** | **41** | **36** |
| Math | **20** | **23** | **18** |
| Science | **33** | **35** | **32** |
| **Teacher age** | | | |
| 22-34 | **45** | **45** | **41** |
| 35-54 | **42** | **41** | **36** |
| 55+ | **34** | **32** | **34** |
| **Grade level taught** | | | |
| 6-8 | **47** | 42 | 40 |
| 9-10 | **41** | 39 | 35 |
| 11-12 | **35** | 40 | 36 |

**Source:** The Pew Research Center's Internet & American Life Project Online Survey of Teachers, March 7 to April 23, 2012, n=2,462 middle and high school teachers.

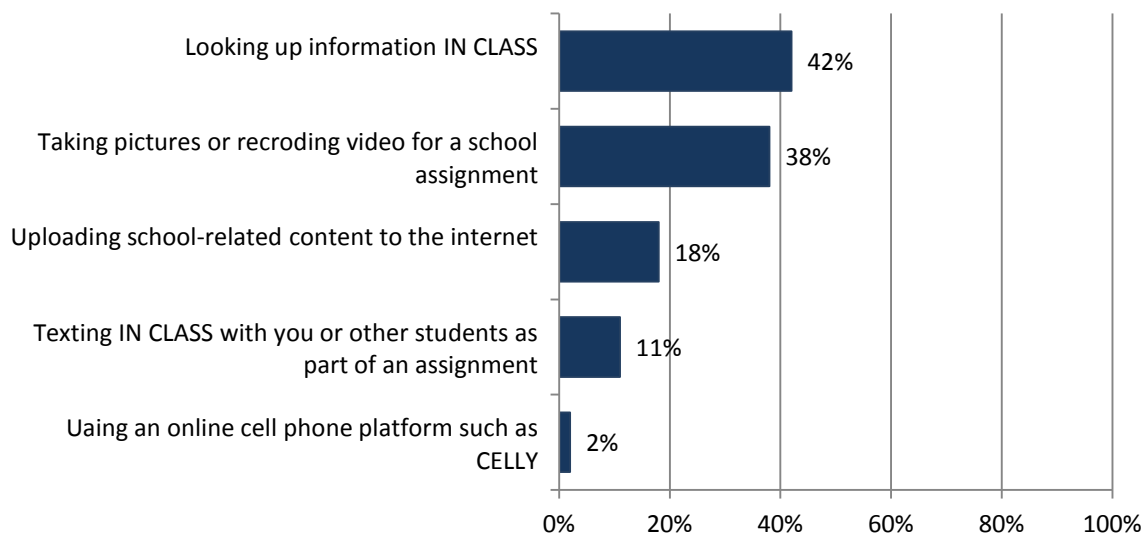## Cell phones as a classroom tool for instant information

As noted in the first report in this series, teachers noted in both the survey and focus groups how cell phones have become part of the learning experience.  Asked whether their students use cell phones for any of five specific learning-related functions, the most popular was students using a cell phone "to look up information in class," cited by 42% of the AP and NWP teachers who completed the survey.  This was

followed closely by students using mobile phones to "take pictures or record video to use in class assignments" (38%).

## How students are using their cell phones in the learning process
*Percent of teachers who say their students use their phones to do each of the following…*

| Activity | Percent |
|---|---|
| Looking up information IN CLASS | 42% |
| Taking pictures or recroding video for a school assignment | 38% |
| Uploading school-related content to the internet | 18% |
| Texting IN CLASS with you or other students as part of an assignment | 11% |
| Uaing an online cell phone platform such as CELLY | 2% |

**Source:** Teacher data from the Pew Research Center's Internet & American Life Project Online Survey of Teachers, March 7 to April 23, 2012, n=2,462 middle and high school teachers.

The impact of cell phones is being felt less by teachers in rural areas than those teaching in urban or suburban schools. Just 28% of teachers in rural schools report students using phones to look up information in class, and fully 64% say students are not permitted to have cell phones in class. In contrast, 47% of AP and NWP teachers in urban schools say their students use cell phones to look up information in class, and just 46% say students cannot have cell phones in class. Likewise, among suburban teachers, 46% report students using cell phones to look things up in class and 45% report students not being permitted to have their phones in class.

In terms of students' socioeconomic status, teachers of upper and upper middle class students are the most likely to say their students use cell phones in class to find information. About half (52%) of these teachers report their students using cell phones this way, compared with just 35% of teachers of the lowest income students.

The grade level and subject matter taught also impact how phones are used in class. Among 6th-8th grade teachers, just 23% say students are using phones in class to look things up, compared with 43% of 9th-10th grade teachers and 49% of those teaching 11th-12th grade. Likewise, while 49% of history/social studies teachers and 45% of English teachers see students use their phones this way in class, the same is true of just 24% of math teachers and 36% of science teachers.
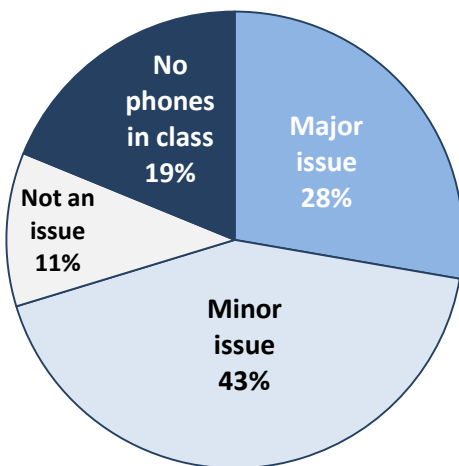
## Do cell phones and other digital tools create a distraction in the classroom?

While many AP and NWP teachers are utilizing cell phones as part of the learning experience, there is often public debate about "cell phone distraction" in the classroom and how best to manage the use of cell phones and other tech devices in class. The AP and NWP teachers surveyed were asked "How much of an issue, if at all, is managing your students' use of cell phones and other technology in your classroom?" While 19% of these teachers say students are not allowed to have these devices in their classrooms, 28% say this is a major issue for them and another 43% say it is a minor issue. The remaining 11% describe the management of students' use of cell phones and other tech devices in class as "not an issue at all."

### 71% of teachers say managing student use of cell phones and other digital tools in class is an issue

*How much of an issue, if at all, is managing your students' use of cell phones and other technology in your classroom?*



**Source:** Teacher data from the Pew Research Center's Internet & American Life Project Online Survey of Teachers, March 7 to April 23, 2012, n=2,462 middle and high school teachers.

The AP and NWP teachers most likely to say that managing student cell phone use is a "major issue" are those teaching in urban areas (37%) when compared with those in rural areas (18%), smaller cities or suburbs (27%) and small towns (26%). Teachers whose students come mainly from low income homes are also slightly more likely than other teachers to describe managing student cell phone use as a "major issue" (31% say this vs. 24% of those whose students are mainly from upper income households).

## Teachers face additional challenges in incorporating digital tools into the classroom

In addition to managing potential tech "distraction" among students, AP and NWP teachers acknowledge a variety of additional challenges to incorporating digital tools more fully into their classrooms. By a wide margin, the most significant challenge these teachers report facing is time constraints; fully six in 10 of these teachers say time constraints are a "major challenge" for them personally in incorporating more digital technologies and digital learning into their classrooms. Another 33% say this is a "minor challenge" for them.
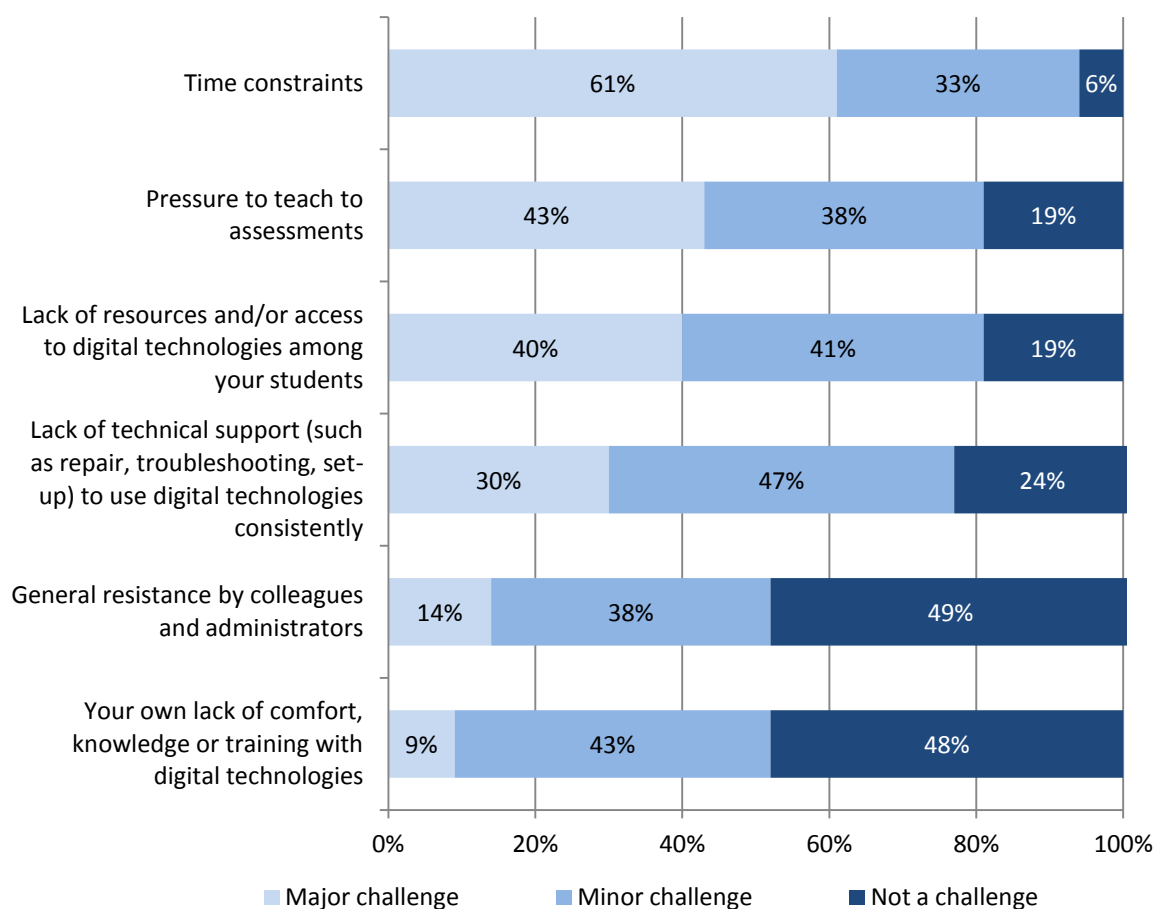
Second only to time is the pressure to teach to assessments. More than four in 10 AP and NWP teachers

describe this as a "major challenge," and almost as many say it is a "minor challenge." Lack of resources and/or access to digital technologies among students and lack of technical support in the classroom rank third and fourth on the list of challenges teachers face, very close behind teaching to assessments. Much less likely to be cited as a "major challenge" are general resistance by colleagues and one's own lack of comfort with new technologies. About half of the teachers completing the survey say each of these is "not a challenge at all" for them personally.

## The top two obstacles to incorporating digital technologies into the classroom are time constraints and pressure to teach to assessments

*Is each of the following a MAJOR challenge, a MINOR challenge, or NOT a challenge at all for you, personally, in incorporating more digital technologies and digital learning into your classroom?*

| Challenge | Major challenge | Minor challenge | Not a challenge |
|---|---|---|---|
| Time constraints | 61% | 33% | 6% |
| Pressure to teach to assessments | 43% | 38% | 19% |
| Lack of resources and/or access to digital technologies among your students | 40% | 41% | 19% |
| Lack of technical support (such as repair, troubleshooting, set-up) to use digital technologies consistently | 30% | 47% | 24% |
| General resistance by colleagues and administrators | 14% | 38% | 49% |
| Your own lack of comfort, knowledge or training with digital technologies | 9% | 43% | 48% |

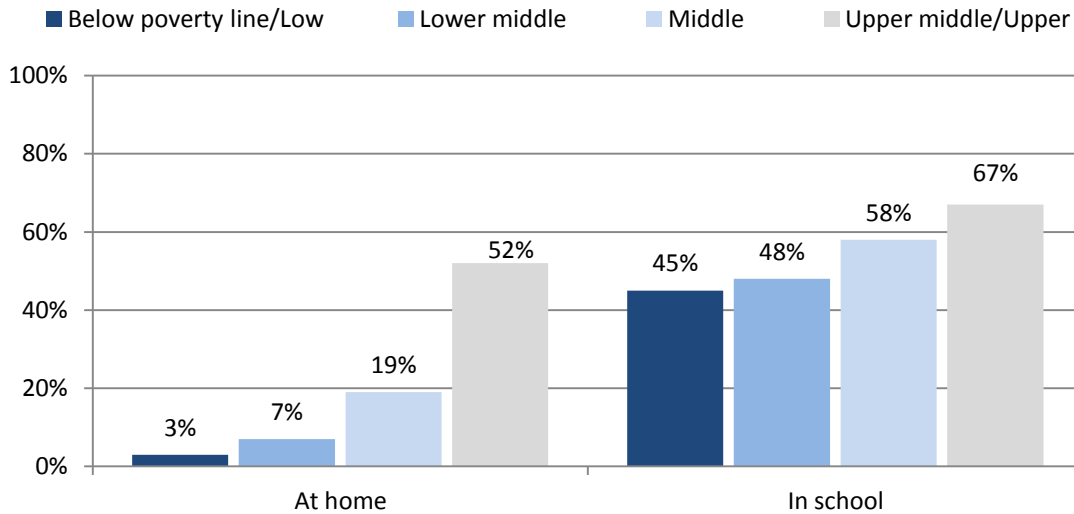■ Major challenge   ■ Minor challenge   ■ Not a challenge

**Source:** Teacher data from the Pew Research Center's Internet & American Life Project Online Survey of Teachers, March 7 to April 23, 2012, n=2,462 middle and high school teachers.

Teachers whose students are mainly low income or living below the poverty line feel the impact of these challenges more than their colleagues who teach in more affluent areas. Teachers of the lowest income students are most likely to say that pressure to teach to assessments, a lack of resources among students, and a lack of technical support are "major challenges" to incorporating more digital tools into

their teaching.

## Teachers of the lowest income students feel the impact of these obstacles more than others

| *% of each group who say each is a "major challenge" to incorporating more digital technology into their classrooms….* | All AP and NWP Teachers | Students mostly lower income/ below poverty line | Students mostly lower middle income | Students mostly middle income | Students mostly upper income |
|---|---|---|---|---|---|
| Pressure to teach to assessments | 43% | 50 | 47 | 37 | 38 |
| Lack of resources or access to digital technologies among your students | 40% | 56 | 48 | 30 | 21 |
| Lack of technical support to use digital technologies consistently | 30% | 35 | 33 | 24 | 28 |

**Source:** The Pew Research Center's Internet & American Life Project Online Survey of Teachers, March 7 to April 23, 2012, n=2,462 middle and high school teachers.
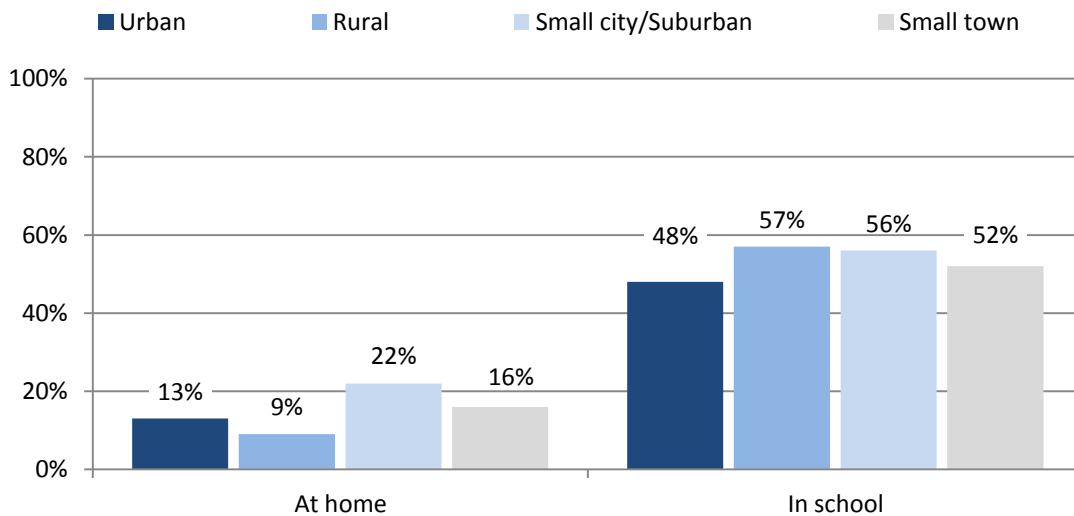
## Teachers must contend with the digital divide, though they disagree about the impact disparate access to digital tools is having on their students

AP and NWP teachers must also contend with the wider digital divide that exists across communities and households in the U.S., and survey results indicate these teachers see disparities in access to digital tools having at least some impact on their students.

Asked how many of their students have sufficient access, both *at home* and *in school*, to the digital tools they need to effectively complete school assignments, more than half of these teachers (54%) say that all or almost all of their students have sufficient access to these tools in school.  However, where home access is concerned, just 18% say all or almost all of their students have access to the digital tools they need.

## 54% of AP and NWP teachers say all or almost all of their students have sufficient access to digital tools while IN SCHOOL, but just 18% say the same is true AT HOME

*How many of your students have sufficient access [INSERT] to the internet and other digital technologies they need to effectively complete school assignments…*

Legend: ■ All or almost all ■ Most ■ Only some ■ Hardly any

**In school:** All or almost all 54% | Most 27% | Only some 15% | Hardly any 5%

**At home:** All or almost all 18% | Most 54% | Only some 26% | Hardly any 2%

(x-axis: 0% 20% 40% 60% 80% 100%)
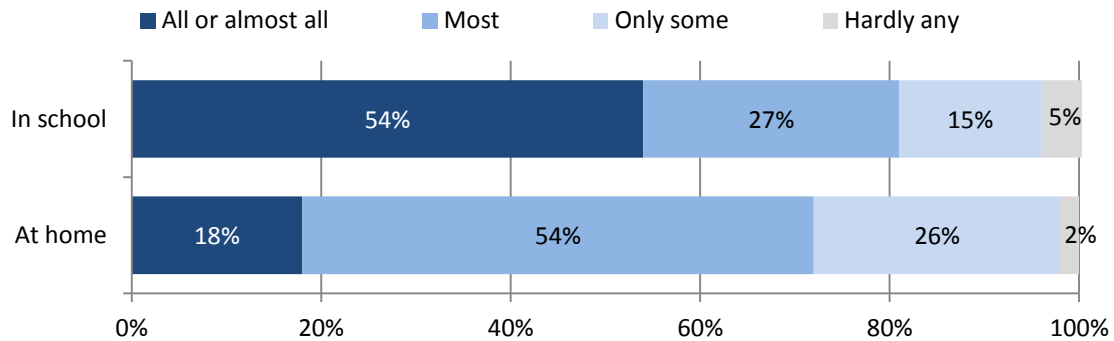
Source: Teacher data from the Pew Research Center's Internet & American Life Project Online Survey of Teachers, March 7 to April 23, 2012, n=2,462 middle and high school teachers.

Not surprisingly, teachers of the lowest income students are the least likely to say their students have sufficient access both IN SCHOOL and AT HOME to the digital tools they need. In terms of community type, teachers in urban areas are the least likely to say their students have sufficient access to digital tools IN SCHOOL, while rural teachers are the least likely to say their students have sufficient access AT HOME.

## Student access to digital tools varies by both student socioeconomic status and community type, according to teachers

*% of teachers who say ALL or ALMOST ALL of their students have sufficient access to the digital tools they need [at home/in school] to effectively complete school assignments, by student socioeconomic status*

■ Below poverty line/Low    ■ Lower middle    ■ Middle    ■ Upper middle/Upper

**At home:** 3%, 7%, 19%, 52%
**In school:** 45%, 48%, 58%, 67%

*% of teachers who say ALL of ALMOST ALL of their students have sufficient access to the digital tools they need [at home/in school] to effectively complete school assignments, by community type*

■ Urban    ■ Rural    ■ Small city/Suburban    ■ Small town

**At home:** 13%, 9%, 22%, 16%
**In school:** 48%, 57%, 56%, 52%

**Source:** Teacher data from the Pew Research Center's Internet & American Life Project Online Survey of Teachers, March 7 to April 23, 2012, n=2,462 middle and high school teachers.
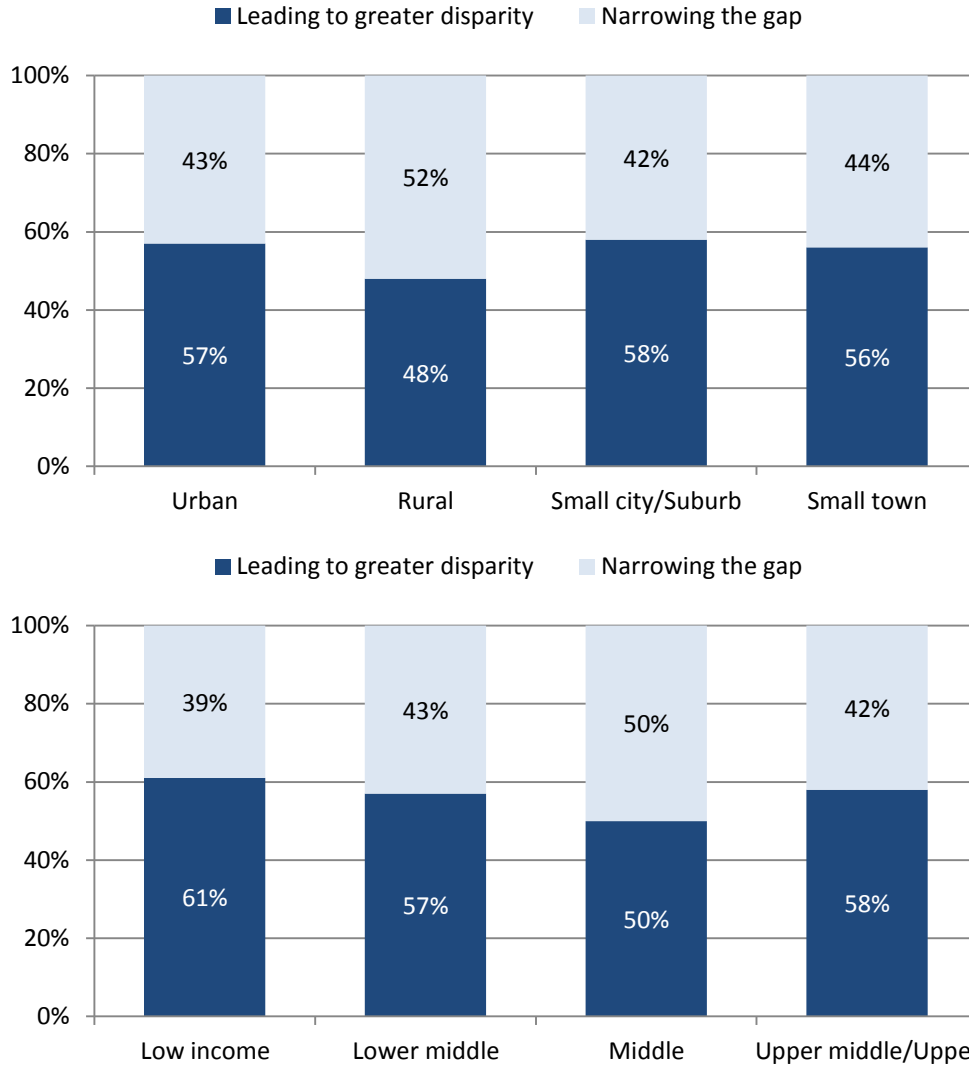
Overall, while many AP and NWP teachers express concern about growing disparities *across schools and school districts*, they are divided as to whether the advent of digital tools is leading to greater disparities *among their students*. A large majority of these teachers (84%) agree to some extent with the statement that "Today's digital technologies are leading to greater disparities between affluent and disadvantaged schools and school districts." However, asked whether today's digital technologies are

narrowing or widening the gap between the most and least academically successful students, 44% say technology is narrowing the gap and 56% say it is widening the gap.

## AP and NWP teachers are concerned about a digital divide across schools, but many also say that technology has "narrowed the gap" between the most and least academically successful students

*Do you agree or disagree with the following statement…Today's digital technologies are leading to greater disparities between affluent and disadvantaged schools and school districts?*

■ Strongly agree  ■ Somewhat agree  ■ Somewhat disagree  ■ Strongly disagree

| 39% | 45% | 13% | 3% |
|---|---|---|---|

*Are today's digital technologies [leading to greater disparity/narrowing the gap] between the most and least academically successful students?*
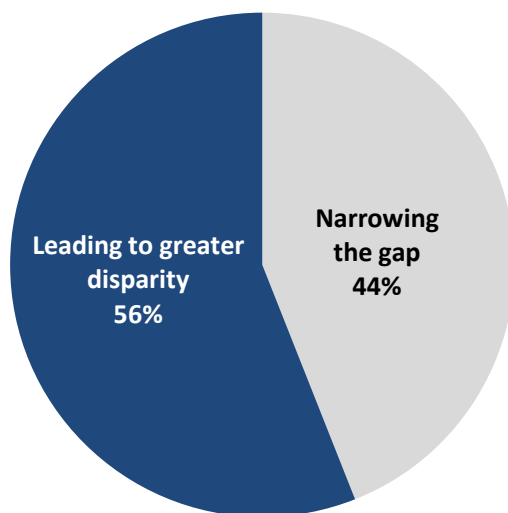


**Source:** Teacher data from the Pew Research Center's Internet & American Life Project Online Survey of Teachers, March 7 to April 23, 2012, n=2,462 middle and high school teachers.

AP and NWP teachers' views of disparities between more affluent and disadvantaged school districts do not vary notably across different types of communities.  Asked whether they agree or disagree that today's digital technologies are leading to greater disparities between affluent and disadvantaged schools and school districts, between 38% and 41% of teachers in all community types (urban, suburban, rural and small town) "strongly agree" this is the case.

However, differences on this question do emerge when looking at the socioeconomic status of the students in their classes.  While teachers of the lowest (44%) and the highest (43%) income students are equally likely to say that digital tools are leading to greater disparity across schools, fewer teachers of

middle income students (33%) say the same.

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## Teachers of both the highest and lowest income students are the most likely to say digital tools are widening the digital divide across schools

*% of teachers in each group who "strongly agree" that today's digital tools are leading to greater disparities between affluent and disadvantaged schools and school districts…*

■ Below poverty line/Low     ■ Lower middle     ■ Middle     ■ Upper middle/Upper
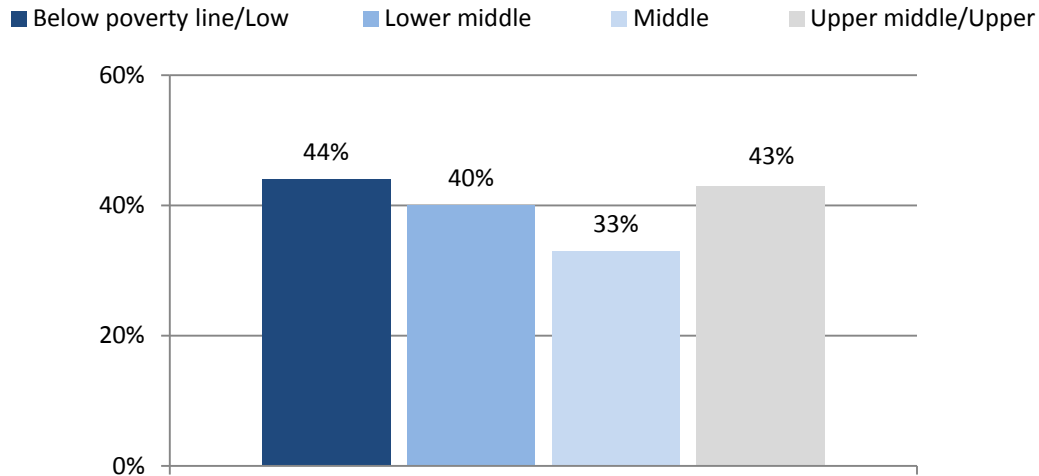


**Source:** Teacher data from the Pew Research Center's Internet & American Life Project Online Survey of Teachers, March 7 to April 23, 2012, n=2,462 middle and high school teachers.

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Teachers working in different community types disagree slightly about the impact of digital technologies on the gap between the highest and lowest achieving students. Among teachers in urban, suburban, and small town settings, slight majorities say that digital tools are leading to greater disparities among students. Only in rural communities does a slight majority of AP and NWP teachers feel that these digital tools are narrowing that gap.

Similar variation is seen on this question across those teaching lower versus higher income students. Teachers whose students are mainly low income or living below the poverty line are the most likely to see these digital tools leading to a wider gap between their highest and lowest achieving students.

## Teachers of low income students are the most likely to feel digital tools are widening the gap between their most and least successful students

*% of teachers who say digital tools are leading to greater disparity/narrowing the gap between the most and least successful students, by student socioeconomic status and community type*

■ Leading to greater disparity    ■ Narrowing the gap

| Community type | Narrowing the gap | Leading to greater disparity |
|---|---|---|
| Urban | 43% | 57% |
| Rural | 52% | 48% |
| Small city/Suburb | 42% | 58% |
| Small town | 44% | 56% |

■ Leading to greater disparity    ■ Narrowing the gap

| Socioeconomic status | Narrowing the gap | Leading to greater disparity |
|---|---|---|
| Low income | 39% | 61% |
| Lower middle | 43% | 57% |
| Middle | 50% | 50% |
| Upper middle/Upper | 42% | 58% |

Source: Teacher data from the Pew Research Center's Internet & American Life Project Online Survey of Teachers, March 7 to April 23, 2012, n=2,462 middle and high school teachers.

## The school environment itself can be an obstacle to effectively using the internet and other digital tools in the classroom

In addition to the above challenges, the survey asked teachers about three elements of the school environment that may impede their ability to use digital technologies effectively in their classrooms and assignments.  These are 1) filters blocking access to particular websites or online content, 2) rules governing the use of cell phones on school grounds, and 3) their school's acceptable use policy (AUP) governing the use of school computers and networks.  Teachers were asked if their school had any of

the three in place, and if so, to what extent they impact teachers' use of digital technologies and content in their teaching.

Virtually all teachers surveyed report working in a school that employs internet filters (97%), formal policies about cell phone use (97%), and AUPs (97%). The degree to which teachers feel these different policies impact their teaching varies, with internet filters cited most often as having a "major impact" on their teaching (32%). About one in five teachers (21%) describe the impact of policies regarding student cell phone use as "major." AUPs seem to have the least impact on teachers in the study, with fully 49% saying that while their school has such policies, they have "no impact" on how they teach their students.

## The school environment sometimes poses challenges to using technology in the classroom

*Does your school currently have any of the following in place? If so, how much of an impact, if any, does it have on your teaching?*
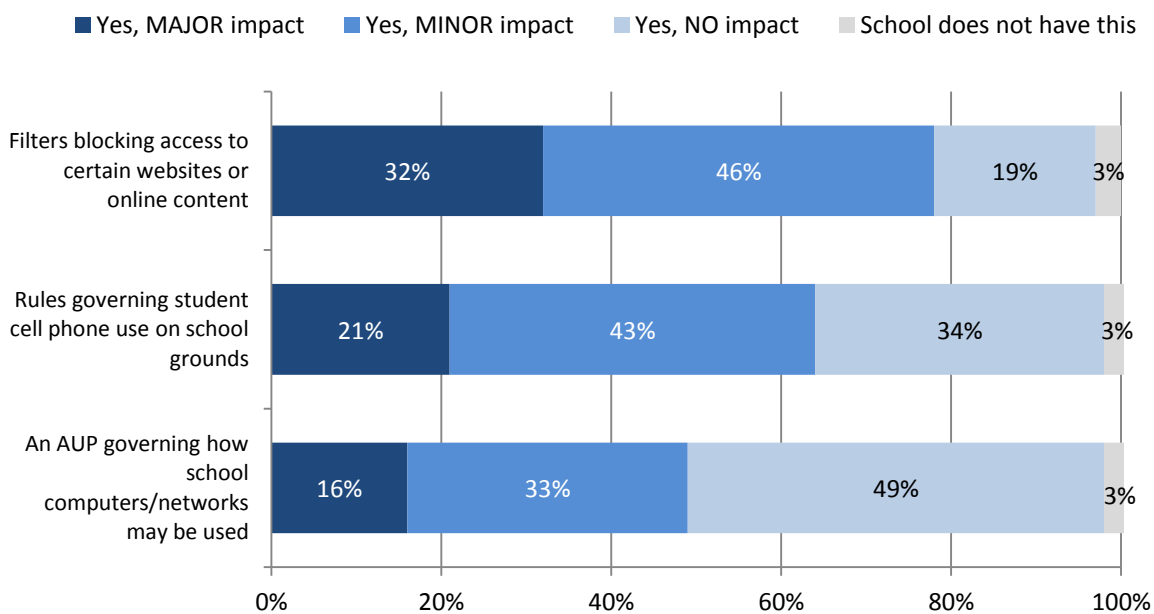


**Source:** The Pew Research Center's Internet & American Life Project Online Survey of Teachers, March 7 to April 23, 2012, n=2,462 middle and high school teachers.

AP and NWP teachers working in urban areas and those teaching the lowest income students are feeling the impact of these restrictions more so than those living in other community types and those teaching students from mainly upper and upper middle income households. In particular, teachers of the lowest income students are at least *twice as likely* as those teaching the most affluent students to report each of these policies having a "major" impact on their teaching.

**Teachers in urban areas and those teaching the lowest income students feel the impact of these policies more than other teachers**

| % of each group who say policy has a "major" impact on their teaching… | All AP and NWP teachers | Students mostly below poverty level | Students mostly upper/ upper middle class | Large metro area or city | Small town |
|---|---|---|---|---|---|
| Filters blocking access to certain websites or online content | 32% | 49% | 24% | 37% | 28% |
| Rules governing student cell phone use on school grounds | 21 | 33 | 15 | 25 | 20 |
| An AUP governing how school computers/networks may be used | 16 | 25 | 10 | 18 | 15 |

**Source:** The Pew Research Center's Internet & American Life Project Online Survey of Teachers, March 7 to April 23, 2012, n=2,462 middle and high school teachers.

## For many teachers, technology must add demonstrable value to justify incorporation into the learning process

A common theme in focus groups was a concern about "tech use for the sake of tech use" without discernible, demonstrable added value to the learning process.  While some teachers view the incorporation of the newest digital technologies into the learning process as valuable, necessary and/or inevitable, others express concern about the trend.  Some noted that the prevailing assumption seems to be that incorporating more digital technologies into the learning process invariably adds value and is, in all cases, preferable to more traditional teaching methods.  There was fairly widespread agreement in focus groups that new technologies *should* be incorporated into classrooms and schools, *as long as they enhance the lesson plan and encourage learning*.  Some teachers expressed concern that technology is sometimes "forced upon them" for the sake of "keeping up" rather than for actually improving learning.

Moreover, most AP teachers participating in focus groups said that as long as a new technology enhances learning, and does not pose excessive burdens on teachers, they *enjoy* incorporating it into their classrooms.  Those who were not incorporating much digital technology into their classrooms at the time of the focus groups noted it was generally a product of being overwhelmed by the undertaking rather than being disinterested or not seeing benefits. This sentiment is not surprising, given that survey respondents ranked time constraints and the pressure to teach to assessments as the top challenges they face in bringing new technologies to bear on the educational process.

Overall, very few teachers in focus groups expressed outright disinterest in bringing new technologies to

their teaching or a belief that digital technologies have no place in the learning process.  Instead, most emphasized the practical constraints in making it happen and/or a desire to make sure it is done with the best interests of the students in mind and only when it clearly improves the learning process.

# IV.    The Impact of the Internet and Digital Tools on Teachers' Professional Development

The AP and NWP teachers in this study not only use digital tools in an effort to improve the learning experience for students, but also use these tools in their own training, development, and professionalization.  For most, the greatest impact of the internet and other digital tools on their role as teachers has been access to more content and material for use in the classroom and a greater ability to keep up with developments in their field.  To a slightly lesser extent, these teachers use digital tools to share ideas and experiences with other teachers.  In terms of professional support and training in how best to use new digital tools in their classrooms, the vast majority of these teachers are satisfied with the support and training schools provide.  At the same time, most say they rely mainly on their own research and experience when developing new ways of bringing technology to the learning process.

## AP and NWP teachers say the internet and other digital tools have had mixed impacts in shaping the lives of educators

 Asked about potential impacts the internet and digital tools might have on teachers, these AP and NWP teachers see both benefits and potential downsides.  The greatest impact they see is increased access to content, resources and materials for their teaching; 92% of these teachers say the internet has had a "major impact" in this regard.  At the same time, three-quarters of these teachers say the internet and other digital tools have had a "major impact" on the range of content and skills they must be knowledgeable about.  Just over two-thirds note "major impact" on their ability to share ideas with other teachers and enabling interaction with parents.

Another area where impact is felt is in the sheer amount of work required from teachers.  This theme emerged in focus groups, where some noted feeling responsible today for not only subject matter expertise, but also expertise in the latest tech gadgets.  In the full survey of AP and NWP teachers, 41% say they have felt a "major impact" in this area and another 42% say they feel a "minor impact."  Thus, more than eight in 10 AP and NWP teachers have felt some increase in workload as the internet and other digital tools become a greater part of the learning process.

## The internet and digital technologies give teachers more access to teaching resources, yet also increase the range of content and skills they must be knowledgeable about

*Have the internet and other digital technologies had a major impact, minor impact, or no impact on you personally in each of the following ways?*

Legend: ■ MAJOR impact ■ MINOR impact ■ NO impact

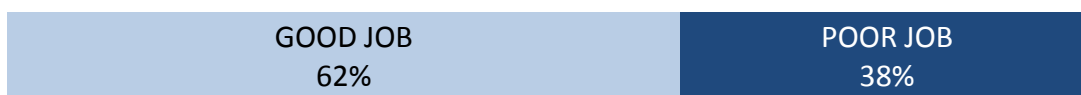| Category | MAJOR impact | MINOR impact | NO impact |
|---|---|---|---|
| Giving you access to more material, content and resources to use in your teaching | 92% | 8% | |
| Increasing the range of content and skills you need to be knowledgeable about | 75% | 22% | 3% |
| Allowing you to share ideas with other educators | 69% | 28% | 4% |
| Enabling interaction with parents | 67% | 30% | 3% |
| Enabling interaction with students | 57% | 37% | 6% |
| Generally requiring more work for you as a teacher | 41% | 42% | 18% |

(x-axis: 0% 20% 40% 60% 80% 100%)
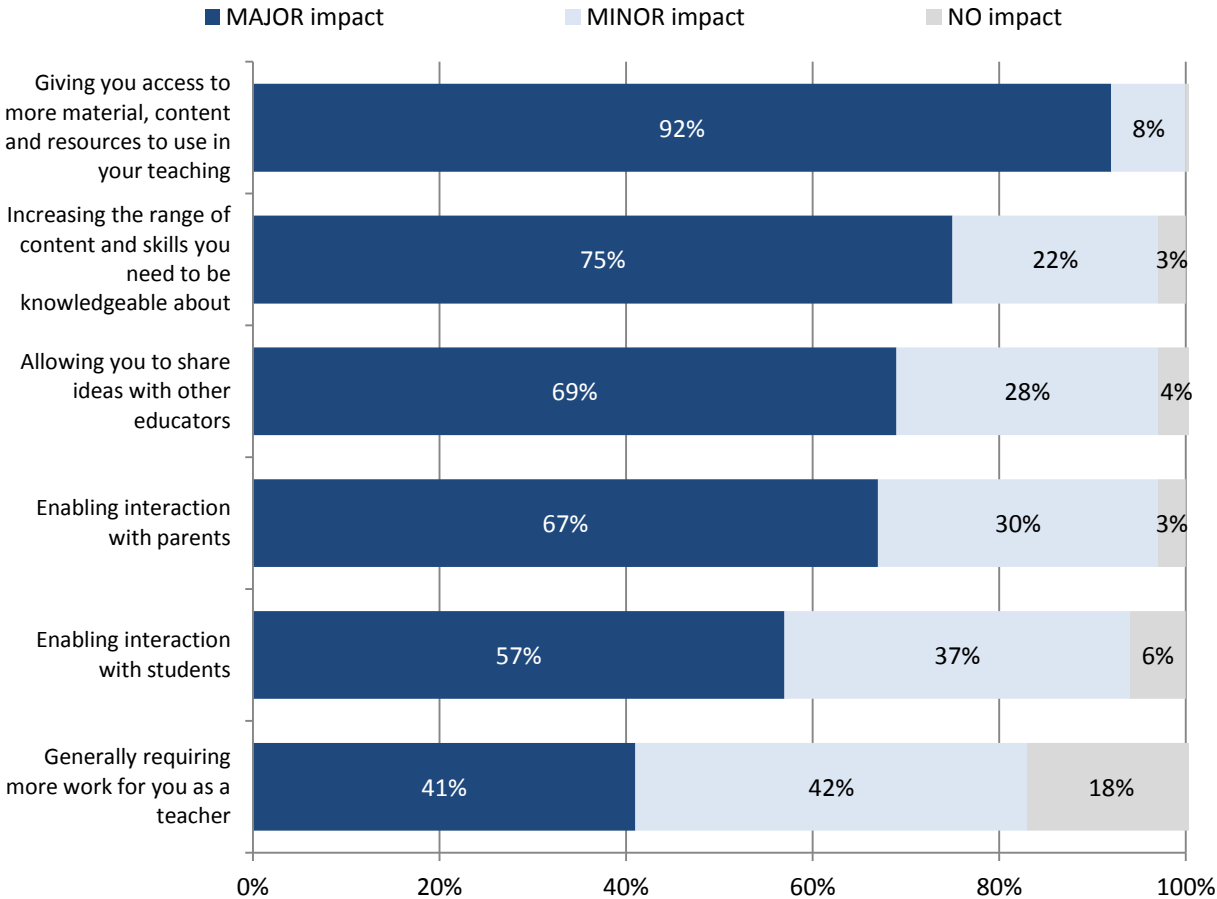
**Source:** The Pew Research Center's Internet & American Life Project Online Survey of Teachers, March 7 to April 23, 2012, n=2,462 middle and high school teachers.

The degree to which AP and NWP teachers feel the impact of the internet on these elements of their professional lives is surprisingly consistent across most subgroups.  Among the few notable differences that emerge are in the degree to which digital tools have impacted teacher/parent interaction, with teachers of higher income students more likely than those teaching the lowest income students to say the internet and digital technologies have had a major impact in this area.  While 75% of teachers of the highest income students feel a "major impact" in this area, the same is true of just 55% of teachers of the lowest income students.

Another impact where some variation is seen is the degree to which the internet and other digital technologies have increased the range of content and skills teachers feel they must be knowledgeable about.  While 78% of English teachers feel a "major impact" in this area, that figure is 71% among

Science teachers and 66% among math teachers.  Similarly, while 81% of teachers in rural areas and 78% of teachers in urban areas feel the internet has had a "major impact" on the range of topics they must master, slightly fewer suburban (73%) and small town (73%) teachers feel the same way.   There is almost no variation on this item across teachers of different ages or different levels of experience.

One might expect more experienced teachers to be more inclined to feel the internet and other digital tools have generally increased their workload as teachers.  While this is true among these AP and NWP teachers, the difference between more and less experienced teachers is small.  While 45% of those who have been teaching 16 years or more feel the internet has had a "major impact" on their overall workload, the same is true of 37% of teachers who have spent fewer years in the classroom.

## The majority of AP and NWP teachers use the internet on a weekly basis to keep up with developments in their field and to find material they can use in lesson plans

Asked how often they use the internet for a variety of work-related tasks, a large majority of AP and NWP teachers (80%) report getting email alerts at least weekly that allow them to follow developments in their field, including 52% who say this happens daily.  A majority also use the internet at least weekly to find content that will engage students (84%) or material to help them create lesson plans (80%).  In contrast, just 18% say they use a social networking site on a weekly basis to exchange ideas with other teachers.

## Most AP and NWP teachers use the internet on a weekly basis to find material for creating lesson plans, keep up with research and developments in their field, and find material that will engage their students

*How often, if ever, do you do each of the following?*

Legend: ■ Daily ■ At least once a week ■ At least once a month ■ Less often

| | Daily | At least once a week | At least once a month | Less often |
|---|---|---|---|---|
| Receive email alerts or online newsletters that follow developments in your field | 52% | 28% | 12% | 8% |
| Look online for content or material that will engage your students | 45% | 39% | 12% | 3% |
| Look for material online to help you create lesson plans | 36% | 44% | 14% | 6% |
| Interact online with other teachers to share advice on handling classroom issues | 22% | 23% | 20% | 34% |
| Look online for the latest research in your field or the subjects you teach | 22% | 35% | 27% | 16% |
| Use a social networking site like Ning or Twitter to exchange ideas with other teachers | 8% | 10% | 10% | 71% |

**Source:** The Pew Research Center's Internet & American Life Project Online Survey of Teachers, March 7 to April 23, 2012, n=2,462 middle and high school teachers.

As is the case with the use of collaborative online tools, it appears that using the internet to find material online to create lesson plans or engage students is more useful for some academic subjects than others. History/social studies teachers are most likely to say they use the internet daily for each of these tasks, while math teachers are the least likely. In both cases, history/social studies teachers are twice as likely as math teachers to use the internet as a resource for content.

## Some academic subjects appear to benefit more than others from the use of online content and material

| % of each group who use the internet daily to… | Look for material online to create lesson plans | Look online for content or material that will engage students |
|---|---|---|
| All teachers | 36 | 45 |
| **Subject taught** | | |
| English/Language Arts | **33** | **44** |
| History/Social Studies | **46** | **55** |
| Math | **23** | **27** |
| Science | **39** | **44** |

**Source:** The Pew Research Center's Internet & American Life Project Online Survey of Teachers, March 7 to April 23, 2012, n=2,462 middle and high school teachers.

## Most AP and NWP teachers say their school is "about average" when it comes to using digital tools effectively

Asked if their school is ahead of the curve, behind the curve, or about average in using digital tools effectively, roughly half of AP and NWP teachers rate their school "about average." The remaining half is evenly divided between rating their school "ahead of the curve" or "behind the curve."

## AP and NWP teachers tend to see their school as "about average" when it comes to using digital technologies effectively

*Overall, compared with other schools, would you say your school is ahead of the curve, about average, or behind the curve when it comes to using digital technologies effectively?*
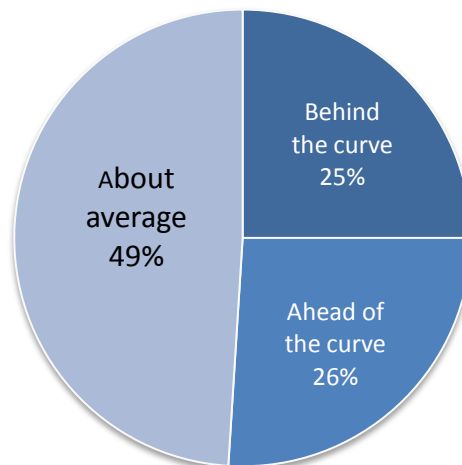


**Source:** Teacher data from the Pew Research Center's Internet & American Life Project Online Survey of Teachers, March 7 to April 23, 2012, n=2,462 middle and high school teachers.

How teachers rate their school in this area is largely a function of the socioeconomic status of the school's students.  In schools that educate the lowest income students, 39% of AP and NWP teachers say their school is "behind the curve" and just 18% put their school "ahead of the curve."  Conversely, in schools that educate mainly upper income students, just 15% of teachers rate their school "behind the curve" and 40% say their school is "ahead of the curve" when it comes to using digital tools effectively.

Most AP and NWP teachers rate their schools well when it comes to providing teachers the support and resources they need to effectively incorporate the newest digital tools into their classrooms.  Fully 62% of AP and NWP teachers say their school does a "good job" in this regard, compared with 38% who believe their school does a "poor job."  Moreover, 68% of these teachers say their school provides formal training in this area to its teachers.

## Does your school do a GOOD JOB or a POOR JOB providing teachers the resources and support they need to effectively incorporate the newest digital technologies into their curriculum and pedagogy?

| GOOD JOB 62% | POOR JOB 38% |
|---|---|

## Does your school or district currently provide teachers with formal training in how to incorporate digital technologies into the learning process?

| YES 68% | NO 32% |
|---|---|
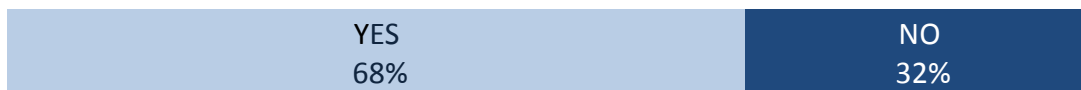
**Source:** Teacher data from the Pew Research Center's Internet & American Life Project Online Survey of Teachers, March 7 to April 23, 2012, n=2,462 middle and high school teachers.

As is the case with overall ratings of their school's use of digital tools, teachers in schools with mainly lower income students tend to be the least positive about the training and resources provided by their school.  They are also the least likely to report receiving formal training from their school or district in how to effectively incorporate digital technologies into the classroom.  Specifically, 50% of AP and NWP teachers in schools serving the lowest income students say their school does a "good job" providing teachers the resources and support they need in this area, and 60% say the school or district provides formal training.  In schools serving the highest income students, 70% say their school does a "good job" and 73% report that formal training is provided.

## Teachers of the lowest income students give their schools lower ratings on providing teachers the support and resources they need to incorporate digital tools into their classrooms

| % of each group who say… | Does your school do a GOOD JOB or a POOR JOB providing teachers the resources and support they need to effectively incorporate new technologies? | | Does your school or district provide formal training in how to incorporate digital technologies into the learning process? | |
|---|---|---|---|---|
| | Good job | Poor job | Yes | No |
| **All Teachers** | 62 | 38 | 68 | 32 |
| **Community type where school is located** | | | | |
| Metro area/Large city | 56 | 44 | 64 | 36 |
| Small city/Suburb | 62 | 38 | 64 | 36 |
| Small town | 66 | 34 | 71 | 29 |
| Rural area | 57 | 43 | 65 | 35 |
| **Student socioeconomic status is mainly…** | | | | |
| Low income/Below poverty line | 50 | 50 | 60 | 40 |
| Lower middle income | 56 | 44 | 65 | 35 |
| Middle income | 71 | 29 | 73 | 27 |
| Upper middle/Upper income | 70 | 30 | 73 | 27 |

**Source:** Teacher data from the Pew Research Center's Internet & American Life Project Online Survey of Teachers, March 7 to April 23, 2012, n=2,462 middle and high school teachers.

## Despite being satisfied with school support and resources, 85% of these teachers seek out their own opportunities to learn more about incorporating digital tools into the learning process

While 62% of AP and NWP teachers feel their school is doing a good job supporting teachers' efforts to bring digital tools into the learning process, and 68% say their school gives them formal training in this area, the vast majority of these teachers (85%) seek out their own opportunities to learn more about effectively incorporating these tools into their teaching. This would suggest that while most teachers are satisfied with school resources, they feel there is more room to learn.

## Have you ever sought out your own opportunities to learn more about incorporating digital technologies into the learning process?

| Yes, 85% | No, 15% |
|---|---|
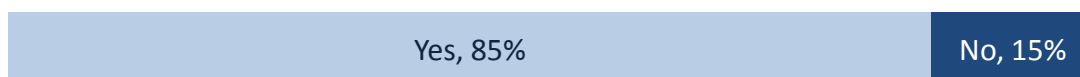
**Source:** Teacher data from the Pew Research Center's Internet & American Life Project Online Survey of Teachers, March 7 to April 23, 2012, n=2,462 middle and high school teachers.

There are very few distinctions across different subgroups of AP and NWP teachers when it comes to seeking out training in this area. Old and young, more and less experienced, and those teaching all subjects and in all types of schools are equally likely to seek out learning opportunities for incorporating digital tools into the learning process.

## AP and NWP teachers most commonly rely on their own research and experience when developing new ways of incorporating digital tools into the classroom

When developing new ways of bringing digital tools into their classrooms, AP and NWP teachers most often get ideas from their own research and experience. More than six in 10 say they "very often" (32%) or "often" (31%) come up with ideas on their own. Colleagues are also a regular source for inspiration in this area, with 17% saying they "very often" get ideas from other teachers and another 39% saying this happens "often." Ideas come less often from students or from formal or informal training.

In terms of where they get new ideas in this area, AP and NWP teachers are fairly consistent. The youngest teachers are slightly more likely to "very often" draw on colleagues for ideas (22% of teachers under age 35 do this), when compared with teachers ages 35-54 (16%) and teachers ages 55 and older (13%). Otherwise, very few differences emerge across teacher subgroups.

As noted earlier, 42% of these teachers feel their students know more than they do about using new digital technologies, thus one might expect students to be a significant source of inspiration in this area. In focus groups with AP teachers, those who said they do get ideas from their students in this area reported that it is not uncommon for students to suggest devices or tools to improve or simplify a task, or to help teachers set up tech tools or assist teachers when using tech tools in the classroom. In addition, some teachers said they often give their students the freedom to decide on their own how to use digital technologies in completing projects.

## AP and NWP teachers rely mainly on their own research when looking for new ways to incorporate digital tools into the learning process

*How often, if ever, do you get ideas for new ways to incorporate digital technologies into the classroom from each of the following sources…*
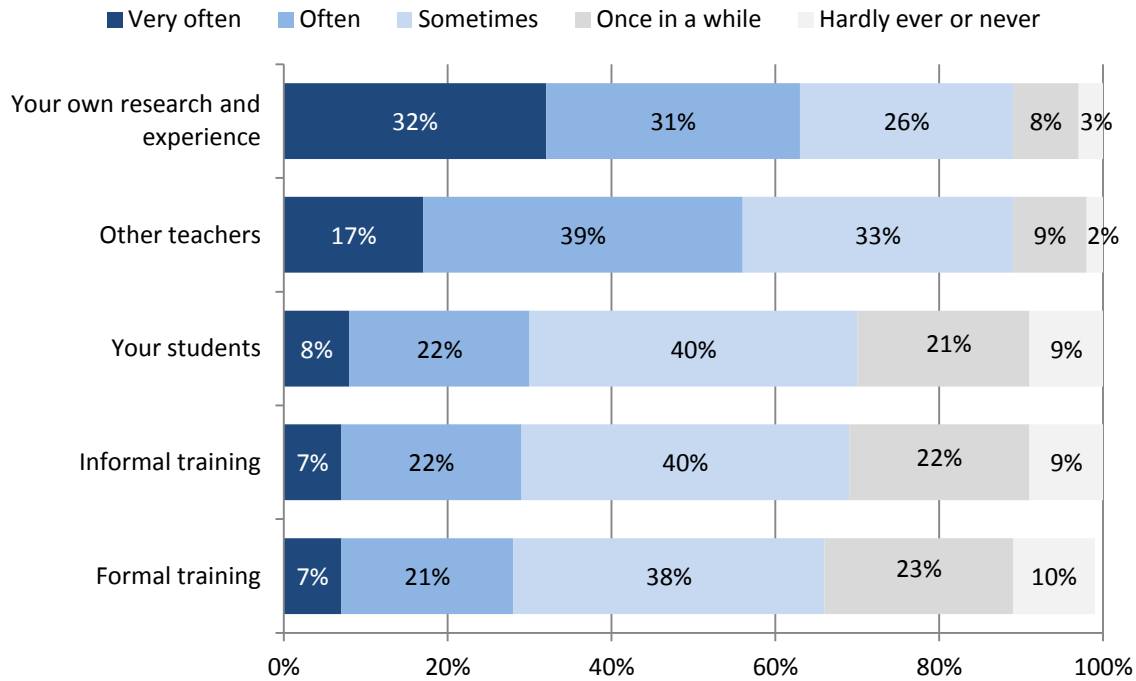
■ Very often  ■ Often  ■ Sometimes  ■ Once in a while  ■ Hardly ever or never

| | Very often | Often | Sometimes | Once in a while | Hardly ever or never |
|---|---|---|---|---|---|
| Your own research and experience | 32% | 31% | 26% | 8% | 3% |
| Other teachers | 17% | 39% | 33% | 9% | 2% |
| Your students | 8% | 22% | 40% | 21% | 9% |
| Informal training | 7% | 22% | 40% | 22% | 9% |
| Formal training | 7% | 21% | 38% | 23% | 10% |

**Source:** Teacher data from the Pew Research Center's Internet & American Life Project Online Survey of Teachers, March 7 to April 23, 2012, n=2,462 middle and high school teachers.

# Methodology

Data collection was conducted in two phases.  In phase one, Pew Internet conducted two online and one in-person focus group with middle and high school teachers, as well as two in-person focus groups with students in grades 9-12. Focus group findings were instrumental in shaping the development of a 30-minute online survey, which was administered in phase two of the research to a national sample of middle and high school Advanced Placement and National Writing Project Summer Institute teachers, drawn from sample files provided by the College Board and the National Writing Project, respectively.

## Phase One — Focus Groups

Focus group discussions were designed to elicit from teachers and students their perceptions of the different ways digital technologies such as the internet, search engines, social media, and cell phones are impacting and shaping students' research and writing habits and skills.  Teachers were also asked to speak in depth about their experiences teaching research and writing to middle and high school students today, any challenges they encounter, how they incorporate digital technologies into their classrooms and assignments, as well as how these technologies play a role in their professionalization.

In-person focus groups were led by two Pew Internet researchers, and were held on-site at a College Board school in the northeastern United States, immediately following school hours.   Each discussion was approximately 1.5 hours in duration, and students and teachers were provided with Barnes & Noble gift cards as a token of appreciation for their participation ($25 for students, $50 for teachers).  Focus group discussions were recorded and transcribed.

Two online focus groups were also held with teachers.  The first utilized an existing online research community of 150 Advanced Placement teachers.  A series of discussion questions or "exercises" designed by Pew Internet were administered to this group by panel administrators using an online, asynchronous platform.  Panel administrators then provided Pew Internet with transcripts of responses to the exercises.

The second online teacher focus group was administered by Pew Internet staff using an online focus group platform.  Participants in this group consisted of 30 National Writing Project teachers recruited by NWP site administrators.  The asynchronous 3-day focus group was moderated by Pew Internet staff, and all participants were able to see and respond to one another's comments as well as questions and comments from the moderators.  Transcripts of the focus group were downloaded following completion of the discussion.

All focus group sessions were analyzed to identify key themes, and discussion guides were revised and adjusted between groups to better probe emergent themes.  All focus group discussion guides are available at the end of this section.

## Phase One: Focus Groups

| | Location | Date(s) | Participants |
|---|---|---|---|
| **Teacher focus groups** | | | |
| Group #1 | Online, asynchronous discussion | November 8-17, 2011 | 150 AP teachers participating in the AP's Insight Community Panel |
| Group #2 | Conducted at a College Board school in the Northeast United States | December 13, 2011 | 8 Grade 9-12 Teachers covering a variety of class levels and subject matter expertise |
| Group #3 | Online, asynchronous discussion | February 26-28, 2012 | 30 NWP teachers recruited by NWP site administrators |
| **Student focus groups** | | | |
| Group #1 | Conducted at a College Board school in the Northeast United States | December 13, 2011 | 9 students in grades 9-10 |
| Group #2 | | December 14, 2011 | 10 students in grades 11-12 |

## Phase Two – Online Survey

Following completion of focus group discussions, Pew Internet designed and fielded a 30-minute online survey with a national sample of middle and high school teachers.  The sample is not a probability sample of all teachers because it was not practical to assemble a sampling frame of this population. Instead, two large lists of teachers were assembled: one included 42,879 AP teachers who had agreed to allow the College Board to contact them (about one-third of all AP teachers), while the other was a list of 5,869 teachers who participated in the National Writing Project's Summer Institute during 2007-2011. A stratified random sample of 16,721 AP teachers was drawn from the AP teacher list, based on subject taught, state, and grade level, while all members of the NWP list were included in the sample.

Email invitations containing a link to the survey and unique username and password were sent to members of the sample; teachers could not opt-in to the sample. The response rate was 12% for the AP teachers and 14% for the NWP teachers. Given the nature of the sampling frames used for the study, no margin of error has been computed.

The online survey was conducted from March 7–April 23, 2012, and was completed at least in part by 2,462 teachers (2,067 teachers completed the entire survey; partial completes were kept, and all percentages reported are based on those answering each question).

| Online Survey Sample Breakout | |
| --- | ---: |
| Invited to participate | 22,590 |
| Known undelivered emails | 2,501 |
| Delivered email invitations (at most) | 20,089 |
| | |
| Unique visitors to the survey | 2,564 |
| Responders | 2,462 |
| Completed surveys | 2,067 |

## The teachers who participated in the survey

The survey results presented here are *not* based on a representative sample of U.S. middle and high school teachers, yet every effort was made to administer the survey to as broad a sample of educators as possible from the samples available.  Overall, the 2,462 Advanced Placement and NWP Summer Institute teachers who participated in the survey comprise a fairly wide range of subject areas, experience levels, geographic regions, school type and socioeconomic level, and community type (full sample characteristics below).

The final sample includes teachers from all 50 states, Puerto Rico and the U.S. Virgin Islands.  All teachers who participated in the survey teach in physical schools/classrooms, as opposed to teaching online or virtual classes.  English/Language Arts teachers make up a significant portion of the sample (36%), reflecting the intentional design of the sample.  Only 9% of the final sample is middle school teachers, with the other 91% reporting that they currently teach grades 9-12.  While half of the teachers participating in the survey report teaching in a small city or suburb, there is fairly wide distribution across school size and students' socioeconomic status.  There is also a wide distribution in terms of teachers' ages and experience levels.

## Who took the survey? *% of survey respondents who fall into each category*

| Teacher's age | |
|---|---|
| 20-34 | 21 |
| 35-44 | 29 |
| 45-54 | 29 |
| 55+ | 23 |
| **Teacher's gender** | |
| Male | 29 |
| Female | 71 |
| **Years teaching** | |
| 5 or fewer | 8 |
| 6 to 10 | 23 |
| 11 to 15 | 23 |
| 16 to 20 | 18 |
| 21 or more | 28 |

**Source:** The Pew Research Center's Internet & American Life Project Online Survey of Teachers, March 7 to April 23, 2012, n=2,462 middle and high school teachers.

## Who took the survey? *% of survey respondents who fall into each category*

| Subjects taught | |
|---|---|
| Arts/Music | 5% |
| Foreign language | 7 |
| History/Social Studies | 17 |
| English/Language Arts/Reading/Composition | 36 |
| Math | 12 |
| Science | 13 |
| Other | 9 |
| **Performance levels taught** | |
| AP/IB courses | 34 |
| ESL | 2 |
| Honors/Gifted/Accelerated | 22 |
| Mixed level courses | 30 |
| Remedial | 6 |
| Special education | 2 |
| Other | 3 |
| **Grade levels taught** | |
| 6-8 | 9 |
| 9-10 | 36 |
| 11-12 | 56 |
| **Type of community in which you teach** | |
| Large metropolitan area or big city | 23 |
| Small city or suburb | 50 |
| Small town | 13 |
| Rural area | 14 |
| **SES of students** | |
| Mostly upper or upper middle class | 17 |
| Mostly middle income | 32 |
| Mostly lower middle income | 24 |
| Mostly low income | 20 |
| Mostly living below the poverty line | 6 |
| **School size** | |
| Fewer than 300 students | 7 |
| 300 to under 1000 | 31 |
| 1000 to under 2000 | 40 |
| 2000 or more | 23 |

**Source:** The Pew Research Center's Internet & American Life Project Online Survey of Teachers, March 7 to April 23, 2012, n=2,462 middle and high school teachers.

## Interpreting the results

There are several important ways the teachers who participated in the survey are unique, which should be considered when interpreting the results reported here.  First, 95% of the teachers who took the survey teach in public schools, thus the findings reported here reflect that environment almost exclusively.  Moreover, and perhaps more importantly, the majority of teachers in this sample (56%) teach AP, honors and accelerated courses, thus the population of middle and high school students they work with skew heavily toward the highest achievers.  These accelerated classes may have resources and support at their disposal—particularly in terms of specialized training and access to digital tools—that are not available in all classrooms.

In addition, it is critical to keep in mind that almost a third of the sample (NWP teachers) has received extensive training in how to effectively teach writing in today's digital environment.  The National Writing Project's mission is to provide professional development, resources and support to teachers to improve the teaching of writing in today's schools.   The NWP teachers included here are what the organization terms "teacher-consultants" who have attended the Summer Institute and provide local leadership to other teachers.  Research has shown significant gains in the writing performance of students who are taught by these teachers.[10]

Thus, the population of teachers participating in this research might best be considered "leading edge teachers" who are actively involved with the College Board and/or the National Writing Project and are therefore beneficiaries of resources and training not common to all teachers.  It is likely that teachers in this study are developing some of the more innovative pedagogical approaches to teaching research and writing in today's digital environment, and are incorporating classroom technology in ways that are not typical of the entire population of middle and high school teachers in the U.S.

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[10] More specific information on this population of teachers, the training they receive, and the outcomes of their students are available at the National Writing Project website at www.nwp.org.

# Survey questions

**Welcome to a national survey of teachers being conducted by Pew Internet, the College Board, and the National Writing Project! The goal of the study is to understand how digital technologies are impacting the research and writing practices of today's middle and high school students, as well as different ways educators are using digital tools in their teaching.**

**Below is some important information about taking the survey...**

- This survey is completely confidential. Results are reported in the aggregate, and responses are never attributed to any individual.

- Most questions ask you to select the single response that best reflects your answer. Other questions are labeled

- SELECT ALL THAT APPLY, and for these you can select more than one response.

- Grid questions list multiple items down the left side of the screen and response choices across the top. Please provide an answer for each item in the grid.

- Some questions are followed by textboxes in which you can type your answer.

- Please move through the survey using the "back" and "next" buttons just below the question box. Do not use your browser's back button.

- Your responses are saved as you move through the survey, but they are not final until you click the "submit" button at the end of the survey. Once you submit your survey, you will not be able to log back in.

- If you need to, you can suspend your session by clicking the "logout" link below the question box. Your answers will be saved, and you can log back in later to finish the survey.

Q1    Which grade level(s) do you currently teach? **(check all that apply)**
      **\*response required**
      PLEASE NOTE THIS SURVEY IS ONLY INTENDED FOR THOSE CURRENTLY TEACHING IN GRADES
      6-12.

|     | CURRENT | |
| --- | --- | --- |
| % | 2 | Sixth |
|   | 3 | Seventh |
|   | 4 | Eighth |
|   | 15 | Ninth |
|   | 21 | Tenth |
|   | 27 | Eleventh |
|   | 29 | Twelfth |
|   | 1 | None of these |

   **\*NOTE: Percentages may add to more than 100% due to multiple response**

   **If Q1="None of these," send to last page of survey**

Q2    Which of the following subjects do you currently teach?  **(check all that apply)**
      **\*response required**

|     | CURRENT | |
| --- | --- | --- |
| % | 5 | Arts and/or Music |
|   | 7 | Foreign Language(s) |
|   | 17 | History and/or Social Studies |
|   | 36 | English/Language Arts/Reading/Composition |
|   | 12 | Math |
|   | 13 | Science |
|   | * | Generalist/All elementary subjects |
|   | 9 | Other (SPECIFY) |

   **\*NOTE: Percentages may add to more than 100% due to multiple response**

Q3    Are you currently teaching… **(check all that apply)**
      **\*response required**

|     | CURRENT | |
| --- | --- | --- |
| % | 34 | AP/IB courses |
|   | 2 | ESL courses |
|   | 22 | Honors, gifted or accelerated courses |
|   | 30 | Mixed level courses |
|   | 6 | Remedial courses |
|   | 2 | Special education courses |
|   | 3 | Other (SPECIFY) |

   **\*NOTE: Percentages may add to more than 100% due to multiple response**

## SECTION II – TECH USE AND ATTITUDES

**The questions in this section are about <u>your own</u> use of digital technologies, including the internet and email, online activities such as social media use or social networking, tech devices such as tablet computers, smartphones and any apps you might download or use on mobile gadgets.**

Q4    First, overall, how confident are you in your ability to learn how to use new digital technologies? Would you say you are…

|  | CURRENT |  |
|---|---|---|
| % | 56 | Very confident |
|  | 39 | Somewhat confident |
|  | 4 | Not too confident |
|  | * | Not at all confident |

Q5    Do you happen to have any of the following items, or not?

|  |  | YES | NO |
|---|---|---|---|
| a. | A desktop computer | 87 | 13 |
| b. | A laptop computer or netbook | 93 | 7 |
| c. | A cell phone, or a Blackberry or iPhone or other device that is also a cell phone | 94 | 6 |
| d. | A handheld device made primarily for e-book reading, such as a Nook or Kindle e-reader | 47 | 53 |
| e. | An iPod or other MP3 player | 78 | 22 |
| f. | A tablet computer such as an iPad, Samsung Galaxy, Motorola Xoom, or Kindle Fire | 39 | 61 |
| g. | A game console like Xbox or PlayStation | 53 | 47 |

Q6    Some phones are called "smartphones" because of certain features they have. Is your cell phone a smartphone or not, or are you not sure?

Based on cell phone owners [N=2,367]

|  | CURRENT |  |
|---|---|---|
| % | 58 | Yes, my phone is a smartphone |
|  | 41 | No, my phone is not a smartphone |
|  | 1 | I'm not sure if my phone is a smartphone |

Q7    Do you ever use your cell phone to…?

Based on cell phone owners [N=2,367]

| | | YES | NO | PHONE CANNOT DO THIS |
|---|---|---|---|---|
| a. | Send or receive email | 62 | 22 | 16 |
| b. | Send or receive text messages | 92 | 6 | 2 |
| c. | Access the internet | 64 | 21 | 14 |
| d. | Download a software application or "app" | 57 | 22 | 20 |

WEBA   Now thinking about how you use the internet in general….Do you ever use the internet to do any of the following things?

| | | YES | NO |
|---|---|---|---|
| a. | Not including email, do any type of work or research online for your job | 99 | 1 |
| b. | Use an online search engine to help you find information on the Web | 100 | * |
| c. | Create or work on your own online journal or blog | 39 | 61 |
| d. | Download video files onto your computer so you can watch them at any time | 74 | 26 |
| e. | Use a social networking site (for example, Facebook, LinkedIn or Google+) | 78 | 22 |
| f. | Take material you find online - like songs, texts or images - and remix it into your own creation | 51 | 49 |
| g. | Watch a video on a video-sharing site (for example, YouTube or GoogleVideo) | 97 | 3 |
| h. | Look for information on Wikipedia | 87 | 13 |
| i. | Use Twitter | 26 | 74 |
| j. | Watch a television show or movie online | 76 | 24 |
| k. | Upload a video file so others can watch or download it | 67 | 33 |
| l. | Create or work on your own webpage | 59 | 41 |

MODEM3B At home, how do you connect to the internet…

| | CURRENT | |
|---|---|---|
| % | 1 | Dial-up telephone line |
| | 97 | High speed connection, such as DSL, cable modem, wireless connection, fiber optic or T1 |
| | * | Don't know what kind of connection I have |
| | 1 | Do not access the internet at home |

Q8    On which of the following social networking sites do you currently have a profile?
      **CHECK ALL THAT APPLY**

      Based on SNS or Twitter users [N=2,367]

|     | CURRENT |                        |
|-----|---------|------------------------|
| %   | 28      | Facebook               |
|     | 12      | YouTube                |
|     | 11      | Google+                |
|     | 10      | Twitter                |
|     | 6       | Edmodo                 |
|     | 4       | Flickr                 |
|     | 4       | Ning                   |
|     | 3       | Delicious              |
|     | 2       | Diigo                  |
|     | 2       | MySpace                |
|     | 2       | Slideshare             |
|     | 2       | Vimeo                  |
|     | 1       | Foursquare             |
|     | 1       | MyYearbook             |
|     | *       | Bebo                   |
|     | *       | Digg                   |
|     | *       | Eventbrite             |
|     | *       | Orkut                  |
|     | 2       | Other (PLEASE SPECIFY) |

      **\*NOTE: Percentages may add to more than 100% due to multiple response**


Q9    About how often do you use social networking sites?

      Based on SNS or Twitter users [N=2,367]

|     | CURRENT |                    |
|-----|---------|--------------------|
| %   | 32      | Several times a day |
|     | 30      | About once a day    |
|     | 10      | 3 to 5 days a week  |
|     | 13      | 1 to 2 days a week  |
|     | 10      | Every few weeks     |
|     | 5       | Less often          |

Q10    Which search engine do you use MOST OFTEN? **(SELECT ONE)**

Based on search engine users [N=2,374]

|     | CURRENT |                       |
| --- | ------- | --------------------- |
| %   | 90      | Google                |
|     | 4       | Yahoo search          |
|     | 3       | Bing                  |
|     | *       | Ask                   |
|     | *       | AOL                   |
|     | *       | MyWebSearch           |
|     | *       | Dogpile               |
|     | *       | WebCrawler            |
|     | 1       | Other (PLEASE SPECIFY) |

Q11    In general, how much of the information you find using search engines do you think is accurate or trustworthy?  Would you say…

Based on search engine users [N=2,374]

|     | CURRENT |                  |
| --- | ------- | ---------------- |
| %   | 5       | All or almost all |
|     | 55      | Most             |
|     | 40      | Some             |
|     | 1       | Very little      |
|     | 0       | None at all      |

Q12    How CONFIDENT do you feel about your own searching abilities when using a search engine to find information online?

Based on search engine users [N=2,374]

|     | CURRENT |                     |
| --- | ------- | ------------------- |
| %   | 73      | Very confident      |
|     | 26      | Somewhat confident  |
|     | 1       | Not too confident   |
|     | *       | Not at all confident |

## SECTION III –TECHNOLOGY IN TEACHING

**This section includes questions about different ways you and your students might use digital technologies (such as the internet and email, social media or social networking sites, tech devices such as tablet computers, smartphones and apps, etc.) as part of the learning process.**

Q13    Please tell us if you or your students ever use any of the following digital tools, either <u>in the classroom</u> or in <u>completing school assignments</u>.  When thinking about your answer, please include digital tools supplied by you or the school, as well as any items students might own themselves.

|  | | YES, I DO THIS | YES, MY STUDENTS DO THIS | YES, BOTH I AND MY STUDENTS DO THIS | NO |
|---|---|---|---|---|---|
| a. | A computer lab or computer workstation (a space devoted to student computer use) available at your school | 7 | 15 | 73 | 4 |
| b. | A computer/laptop cart available at your school | 9 | 19 | 43 | 29 |
| c. | A projector that is connected to a laptop or desktop computer or other digital device | 42 | 2 | 53 | 3 |
| d. | An interactive whiteboard | 16 | 5 | 31 | 48 |
| e. | A digital camera other than a cell phone | 21 | 10 | 35 | 33 |
| f. | A digital video recorder other than a cell phone | 15 | 13 | 27 | 45 |
| g. | A tablet computer | 14 | 18 | 11 | 57 |
| h. | An e-book reader | 12 | 20 | 13 | 55 |
| i. | A cell phone and/or smartphone | 12 | 16 | 44 | 27 |

Q14    Overall, when it comes to knowing how to use digital technologies (such as the internet and email, social media or social networking sites, tech devices such as tablet computers, smartphones or gaming systems, apps, etc.) which of the following statements best describes YOU?

|  | CURRENT | |
|---|---|---|
| % | 18 | I usually know more than my students |
|  | 42 | My students usually know more than I do |
|  | 40 | Our knowledge levels are usually about equal |

Q15 Do you agree or disagree with each of the following statements about today's middle and high school students?

| | STRONGLY AGREE | SOMEWHAT AGREE | SOMEWHAT DISAGREE | STRONGLY DISAGREE |
|---|---|---|---|---|
| a. Compared with previous generations, today's students have fundamentally different cognitive skills because of the digital technologies they have grown up with | 40 | 48 | 9 | 2 |
| b. Today's digital technologies are creating an easily "distracted" generation with short attention spans | 43 | 44 | 11 | 2 |
| c. Today's students are really no different than previous generations, they just have different tools through which to express themselves | 11 | 36 | 40 | 12 |
| d. Today's students are more media savvy than previous generations | 53 | 33 | 12 | 2 |
| e. Today's students are more literate than previous generations | 2 | 18 | 61 | 19 |
| f. Today's students are very skilled at multi-tasking | 9 | 38 | 39 | 14 |
| g. Today's students are too "plugged in" to digital technologies and need more time away from them | 38 | 48 | 12 | 2 |

Q16 Please tell us if you ever have your students to do any of the following…

| | YES | NO |
|---|---|---|
| a. Submit assignments online | 76 | 24 |
| b. Access or download assignments from an online site | 79 | 21 |
| c. Edit or revise their <u>own</u> work using a collaborative web-based tool such as GoogleDocs | 36 | 64 |
| d. Edit <u>others'</u> work or give others feedback using a collaborative web-based tool such as GoogleDocs | 29 | 71 |
| e. Develop, share or post their work on a website, wiki or blog | 40 | 60 |
| f. Participate in online discussions | 39 | 61 |
| g. Do research or search for information online | 95 | 5 |
| h. Post their own work online where people <u>other than their classmates or teachers</u> can see it | 22 | 78 |

Q17 Do your students ever use their <u>cell phones</u> for the following school-related activities, or not?

| | YES | NO | STUDENTS CANNOT HAVE CELL PHONES IN CLASS[11] |
|---|---|---|---|
| a. Looking up information IN CLASS | 42 | 9 | 49 |
| b. Texting IN CLASS with you or other students as part of an assignment or lesson | 11 | 38 | 51 |
| c. Taking pictures or recording video for a school assignment | 38 | 17 | 45 |
| d. Using an online cell phone platform such as Celly | 2 | 49 | 49 |
| e. Uploading school-related content to the internet | 18 | 34 | 48 |

Q18 Do you agree or disagree with each of the following statements about the overall impact of today's digital technologies on middle and high school students?

| | STRONGLY AGREE | SOMEWHAT AGREE | SOMEWHAT DISAGREE | STRONGLY DISAGREE |
|---|---|---|---|---|
| a. Today's digital technologies encourage greater collaboration among students | 23 | 56 | 18 | 2 |
| b. Today's digital technologies allow students to share their work with a wider and more varied audience | 52 | 44 | 3 | * |
| c. Today's digital technologies encourage student creativity and personal expression | 26 | 53 | 20 | 3 |
| d. Today's digital technologies do more to distract students from schoolwork than to help them academically | 17 | 47 | 31 | 5 |
| e. The internet encourages learning by connecting students to resources about topics of interest to them | 31 | 59 | 9 | 1 |
| f. The multimedia content available online today immerses students more fully in topics they study | 24 | 52 | 22 | 2 |
| g. The availability of digital content has broadened my students' worldviews and perspectives | 23 | 49 | 24 | 5 |

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[11] Note that percentages vary for this response category across items because not all teachers responded to each item in this question. Therefore, the base on which the percentages are based changed from item to item, as did the number of teachers selecting this response option.

Q19    How important do you feel each of the following skills is for your students to be successful in life?

|  |  | ESSENTIAL | IMPORTANT BUT NOT ESSENTIAL | ONLY SOMEWHAT IMPORTANT | NOT IMPORTANT |
|---|---|---|---|---|---|
| a. | Writing effectively | 91 | 8 | * | 0 |
| b. | Finding information quickly | 56 | 40 | 4 | * |
| c. | Judging the quality of information | 91 | 9 | * | 0 |
| d. | Communicating their ideas in creative, engaging or interesting ways | 59 | 38 | 3 | * |
| e. | Presenting themselves effectively in online social networking sites | 31 | 41 | 23 | 5 |
| f. | Working with audio, video or graphic content | 23 | 54 | 22 | 2 |
| g. | Behaving responsibly online | 85 | 14 | 2 | 0 |
| h. | Understanding privacy issues surrounding digital and online content | 78 | 20 | 2 | * |

## SECTION IV – THE IMPACT OF DIGITAL TECHNOLOGY ON RESEARCH

**The questions in this section ask about the impact of today's digital technologies (such as the internet and email, social media and social networking sites, tech devices such as tablet computers, smartphones and apps, etc.) on how students are taught and learn to <u>engage in research</u>.**

Q20    First, overall, would you say the impact of the internet on students' research habits has been mostly positive or mostly negative?

| | CURRENT | |
|---|---|---|
| % | 77 | Mostly positive |
| | 23 | Mostly negative |

Q21    Overall, what would you say is the most POSITIVE aspect of students today being able to conduct research online?

**TEXT BOX**

Q22    Overall, what would you say is the most NEGATIVE aspect of students today being able to conduct research online?

**TEXT BOX**

Q23    Thinking about the research habits of your students…

How likely, if at all, are your students to use each of the following sources in a typical     research assignment?

|  |  | VERY LIKELY | SOMEWHATL IKELY | NOT TOO LIKELY | NOT AT ALL LIKELY |
|---|---|---|---|---|---|
| a. | Google or other general online search engines | 94 | 5 | 1 | * |
| b. | Online databases such as EBSCO, JSTOR or Grolier | 17 | 29 | 36 | 18 |
| c. | A research librarian at your school or local public library | 16 | 37 | 34 | 14 |
| d. | Their peers | 42 | 46 | 10 | 2 |
| e. | Textbooks (either print or electronic) | 18 | 48 | 28 | 5 |
| f. | Printed books (other than textbooks) | 12 | 38 | 41 | 9 |
| g. | Wikipedia or other online encyclopedias | 75 | 19 | 4 | 2 |
| h. | YouTube or other social media sites | 52 | 33 | 13 | 3 |
| i. | News sites of major news organizations such as the New York Times or CNN | 25 | 49 | 23 | 3 |
| j. | SparkNotes, CliffNotes, or other study guides | 41 | 34 | 19 | 6 |
| k. | Student-oriented search engines such as Sweet Search | 10 | 34 | 39 | 17 |

Q24    Overall, how would you rate your students on each of the following?

|  |  | EXCELLENT | VERY GOOD | GOOD | FAIR | POOR |
|---|---|---|---|---|---|---|
| a. | Understanding how online search results are generated | 5 | 18 | 29 | 26 | 21 |
| b. | Ability to use appropriate and effective search terms and queries | 6 | 20 | 36 | 29 | 9 |
| c. | Ability to assess the quality and accuracy of information they find online | 3 | 11 | 26 | 37 | 24 |
| d. | Ability to recognize bias in online content | 1 | 7 | 20 | 38 | 33 |
| e. | Patience and determination in looking for information that is hard to find | 1 | 6 | 15 | 35 | 43 |
| f. | Ability to use multiple sources to effectively support an argument | 3 | 12 | 26 | 39 | 20 |

Q25    Do you ever….

| | | YES | NO |
|---|---|---|---|
| a. | Give your students research assignments in which they are NOT permitted to use online search engines | 29 | 71 |
| b. | Develop research questions or assignments that require students to use a variety of sources, both online and offline | 83 | 17 |
| c. | Spend class time discussing with students how to assess the reliability of information they find online | 80 | 20 |
| d. | Spend class time discussing with students how search engines work and how search results are generated/ranked | 35 | 65 |
| e. | Spend class time helping students improve their search terms and queries | 57 | 43 |
| f. | Spend class time discussing with students how to generally conduct research using the internet | 71 | 29 |
| g. | Direct students to specific online resources which you feel are most appropriate for their assignments | 90 | 10 |

Q26    Do you agree or disagree with each of the following statements?

| | | STRONGLY AGREE | SOMEWHAT AGREE | SOMEWHAT DISAGREE | STRONGLY DISAGREE |
|---|---|---|---|---|---|
| a. | The amount of information available online today is overwhelming for most students | 35 | 48 | 15 | 2 |
| b. | Search engines have conditioned students to expect to be able to find information quickly and easily | 76 | 23 | 1 | * |
| c. | The internet enables students to find and use resources that would otherwise not be available to them | 76 | 23 | 1 | * |
| d. | The internet makes students more self-sufficient researchers who are less reliant on adult help | 18 | 47 | 28 | 7 |
| e. | Today's digital technologies discourage students from finding and using a wide range of sources for their research | 25 | 46 | 23 | 6 |
| f. | Today's digital technologies make it harder for students to find and use credible sources | 13 | 47 | 33 | 7 |

## SECTION V – TEACHING WRITING

**The questions in this section ask about the impact of today's digital technologies (such as the internet and email, social media and social networking sites, tech devices such as tablet computers, smartphones and apps, etc.) on how students are taught and learn to <u>write</u>.**

Results for this section to be released at a later date

## SECTION VI – TEACHING PRACTICE AND SCHOOL CONTEXT

**The questions in this section ask about the impact of today's digital technologies (such as the internet and email, social media and social networking sites, tech devices such as tablet computers, smartphones and apps, etc.) on the way teachers engage in their profession.**

Q35    First, has the internet and other digital technologies had a MAJOR impact, MINOR impact, or NO impact on you personally in each of the following ways?

|  |  | MAJOR IMPACT | MINOR IMPACT | NO IMPACT |
|---|---|---|---|---|
| a. | Giving you access to more material, content, and resources to use in your teaching | 92 | 8 | 1 |
| b. | Allowing you to share ideas with other educators | 69 | 28 | 4 |
| c. | Enabling interaction with students | 57 | 37 | 6 |
| d. | Enabling interaction with parents | 67 | 30 | 3 |
| e. | Increasing the range of content and skills you need to be knowledgeable about | 75 | 22 | 3 |
| f. | Generally requiring more work for you as a teacher | 41 | 42 | 18 |

Q36    How often, if ever, do you do the following?

|  |  | EVERYDAY OR ALMOST EVERDAY | AT LEAST ONCE A WEEK | AT LEAST ONCE A MONTH | JUST A FEW TIMES A YEAR | NOT AT ALL |
|---|---|---|---|---|---|---|
| a. | Look for material online to help you create lesson plans | 36 | 44 | 14 | 5 | 1 |
| b. | Look online for the latest research in your field or the subjects you teach | 22 | 35 | 27 | 14 | 2 |
| c. | Receive email alerts or online newsletters that follow developments in your field | 52 | 28 | 12 | 4 | 4 |
| d. | Interact online with other teachers to get or give advice on handling classroom issues | 22 | 23 | 20 | 20 | 14 |
| e. | Look online for content or material you think will engage your students | 45 | 39 | 12 | 3 | * |
| f. | Use a social networking site like Ning or Twitter to exchange ideas with other teachers | 8 | 10 | 10 | 11 | 60 |

Q37    Is there one website or online resource you turn to regularly for resources about teaching writing and/or research?

**INSERT TEXT BOX**

Q38    How often, if ever, do you get new ideas for incorporating digital technologies into the learning experience from each of the following sources?

|  | | VERY OFTEN | OFTEN | SOME-TIMES | JUST ONCE IN A WHILE | HARDLY EVER OR NEVER |
|---|---|---|---|---|---|---|
| a. | Your own research and experience | 32 | 31 | 26 | 8 | 3 |
| b. | Other teachers | 17 | 39 | 33 | 9 | 2 |
| c. | Formal training | 7 | 21 | 38 | 23 | 10 |
| d. | Informal training | 7 | 22 | 40 | 22 | 9 |
| e. | Your students | 8 | 22 | 40 | 21 | 9 |

Q39    Is each of the following a MAJOR challenge, MINOR challenge, or NOT a challenge at all for you, personally, in incorporating more digital technologies and digital learning into your classroom pedagogy?

|  | | MAJOR CHALLENGE | MINOR CHALLENGE | NOT A CHALLENGE AT ALL |
|---|---|---|---|---|
| a. | General resistance by colleagues and administrators | 14 | 38 | 49 |
| b. | Time constraints | 61 | 33 | 6 |
| c. | Pressure to teach to assessments | 43 | 38 | 19 |
| d. | Lack of resources and/or access to digital technologies among your students | 40 | 41 | 19 |
| e. | Your own lack of comfort, knowledge or training with digital technologies | 9 | 43 | 48 |
| f. | Lack of technical support (such as repair, troubleshooting, set-up) to use digital technologies consistently | 30 | 47 | 24 |

Q40    Overall, compared with other schools, would you say your school is AHEAD of the curve, about AVERAGE, or BEHIND the curve when it comes to using digital technologies effectively?

|  | CURRENT | |
|---|---|---|
| % | 26 | Ahead of the curve |
|  | 49 | About average |
|  | 25 | Behind the curve |

Q41    Which of the following two statements best describes the school in which you currently teach?

|  | CURRENT | |
|---|---|---|
| % | 62 | Our school does a GOOD job providing teachers the resources and support they need to effectively incorporate the newest |

digital technologies into their curriculum and pedagogy

38    Our school does a POOR job providing teachers the resources
and support they need to effectively incorporate the newest
digital technologies into their curriculum and pedagogy

Q42    Does YOUR SCHOOL OR DISTRICT currently provide teachers with formal training in
how to incorporate digital technologies into the learning process?

|   | CURRENT | |
|---|---|---|
| % | 68 | Yes |
|   | 32 | No |

Q43    Have you ever sought out on your own opportunities to learn more about incorporating
digital technologies into the learning process?

|   | CURRENT | |
|---|---|---|
| % | 85 | Yes |
|   | 15 | No |

Q44    Does YOUR SCHOOL (not individual employees) currently have any of the following?

|   |   | YES | NO |
|---|---|---|---|
| a. | Its own website | 99 | 1 |
| b. | Its own online community forum or shared space (apart from its own website) using a platform such as NING, Schoology or Edmodo | 27 | 73 |
| c. | A profile or page on a social media site such as Facebook, Twitter, YouTube, or Flickr | 37 | 63 |

Q45    How many of your students…

|   |   | ALL OR ALMOST ALL | MOST | SOME | HARDLY ANY | NONE |
|---|---|---|---|---|---|---|
| a. | Have sufficient access IN SCHOOL to the internet and other digital technologies they need to effectively complete school assignments | 54 | 27 | 15 | 5 | * |
| b. | Have sufficient access AT HOME to the internet and other digital technologies they need to effectively complete school assignments | 18 | 54 | 26 | 2 | * |

Q46    Based on your experience, which of the following comes closest to your view of the impact of digital technologies on students today…

| | CURRENT | |
|---|---|---|
| % | 44 | Today's digital technologies are NARROWING THE GAP between the most and least academically successful students |
| | 56 | Today's digital technologies are leading to even GREATER DISPARITY between the most and least academically successful students |

Q47    Do you agree or disagree with each of the following statements?

| | | STRONGLY AGREE | SOMEWHAT AGREE | SOMEWHAT DISAGREE | STRONGLY DISAGREE |
|---|---|---|---|---|---|
| a. | Today's digital technologies are leading to greater disparities between affluent and disadvantaged schools and school districts | 39 | 45 | 13 | 3 |
| b. | It is imperative for schools to teach and assess today's students using the digital technologies they are most comfortable with | 27 | 53 | 18 | 3 |
| c. | Courses or content that focus on digital literacy must be incorporated into every school's curriculum | 47 | 44 | 8 | 1 |
| d. | Courses or content that focus on how students should behave and treat others online must be incorporated into every school's curriculum | 56 | 36 | 7 | 1 |

Q48    How much of an issue, if at all, is managing your students' use of cell phones and other technology in your classroom?

| | CURRENT | |
|---|---|---|
| % | 28 | Major issue |
| | 43 | Minor issue |
| | 11 | Not an issue |
| | 19 | Students cannot carry or use cell phones in my school |

Q49    Does your school currently have any of the following in place?  If so, how much of an impact, if any, does it have on your teaching?

| | | YES, HAS A MAJOR IMPACT ON MY TEACHING | YES, HAS A MINOR IMPACT ON MY TEACHING | YES, HAS NO REAL IMPACT ON MY TEACHING | NO, SCHOOL DOES NOT CURRENTLY HAVE THIS |
|---|---|---|---|---|---|
| a. | Rules governing the use of cell phones by students on school grounds | 21 | 43 | 34 | 3 |

| | | | | |
|---|---|---|---|---|
| b. Filters blocking access to certain websites or online content | 32 | 46 | 19 | 3 |
| c. An AUP or acceptable use policy governing how school computers and networks may and may not be used | 16 | 33 | 49 | 3 |

## SECTION VIII -- DEMOGRAPHICS

SEX    We have just a few last questions for statistical purposes only.  First, are you male or female?

CURRENT
%    29    Male
     71    Female

AGE    What is your age? PLEASE SELECT FROM THE DROP-DOWN MENU BELOW

CURRENT
%    *    Younger than 22
     *    22-24
     7    25-29
     13   30-34
     13   35-39
     16   40-44
     14   45-49
     15   50-54
     13   55-59
     8    60-64
     2    65 or older

YRS    For how many years have you been teaching?  PLEASE SELECT FROM THE DROP-DOWN MENU BELOW

CURRENT
%    *    This is my first year
     8    2 to 5
     23   6 to 10
     23   11 to 15
     18   16 to 20
     28   21 or more years

STATE In what state do you currently teach?  (DROP-DOWN ALL 50 STATES AND US TERRITORIES)

Q50    Did you participate in a National Writing Project Invitational Summer Institute any time between 2007 and 2011?
       **\*response required**

|   | CURRENT | |
|---|---|---|
| % | 28 | Yes |
|   | 72 | No |

SITE   At what National Writing Project site did you attend the Invitational Summer Institute? If you attended at more than one site, please choose the most recent. (DROP-DOWN LIST OF SITES)

       Based on NWP SI teachers

CT     Would you describe the community in which you teach as…

|   | CURRENT | |
|---|---|---|
| % | 23 | A large metropolitan area or big city |
|   | 50 | A small city or suburb |
|   | 13 | A small town |
|   | 14 | A rural area |
|   | * | Distance or online courses |

SES    Would you describe the students you teach as…

|   | CURRENT | |
|---|---|---|
| % | 17 | Mostly upper or upper middle income |
|   | 32 | Mostly middle income |
|   | 24 | Mostly lower middle income |
|   | 20 | Mostly low income |
|   | 6 | Mostly living below the poverty line |

TYPE   Do you currently teach…

|   | CURRENT | |
|---|---|---|
| % | 95 | At a public school |
|   | 1 | At a private school |
|   | 1 | At a parochial school |
|   | 2 | At a charter school |
|   | * | Distance or online classes |
|   | 1 | Other (PLEASE SPECIFY) |

SIZE    How many students in total are currently enrolled in the school at which you teach?

| CURRENT | |
| --- | --- |
| % | |
| 1 | Fewer than 100 |
| 6 | 100 to under 300 |
| 10 | 300 to under 500 |
| 21 | 500 to under 1000 |
| 22 | 1000 to under 1500 |
| 18 | 1500 to under 2000 |
| 23 | 2000 or more |

EDUC    What is the LAST grade or class you completed in school?

| CURRENT | |
| --- | --- |
| % | |
| * | High school graduate |
| 10 | College graduate (B.A., B.S., or other 4-year degree) |
| 90 | Post-graduate training (toward a Master's or Ph.D., Law or Medical degree) |

PAR    Are you the parent or guardian of any children under age 18 now living in your household?

| CURRENT | |
| --- | --- |
| % | |
| 44 | Yes |
| 56 | No |

HISP    Are you, yourself, of Hispanic or Latino origin or descent, such as Mexican, Puerto Rican, Cuban, or some other Latin American background?

| CURRENT | |
| --- | --- |
| % | |
| 5 | Yes |
| 91 | No |
| 4 | Refused |

RACE    What is your race…

NOTE: If you are Hispanic, please tell us if you consider yourself WHITE Hispanic or BLACK Hispanic

| CURRENT | |
| --- | --- |
| % | |
| 86 | White |
| 2 | Black or African-American |
| 2 | Asian or Pacific Islander |
| 1 | Mixed race |
| 1 | Native American/American Indian |
| 2 | Other (PLEASE SPECIFY) |

5　　　Refused

INC　　Last year, that is 2011, what was your total household income from all sources, before taxes?

| | CURRENT | |
|---|---|---|
| % | 0 | Less than $10,000 |
| | * | $10,000 to under $20,000 |
| | 1 | $20,000 to under $30,000 |
| | 4 | $30,000 to under $40,000 |
| | 7 | $40,000 to under $50,000 |
| | 24 | $50,000 to under $75,000 |
| | 23 | $75,000 to under $100,000 |
| | 24 | $100,000 to under $150,000 |
| | 9 | $150,000 or more |
| | 9 | Refused |

That completes the survey!
Thank you again for participating in this study being conducted jointly by the Pew Internet & American Life Project, the College Board, and the National Writing Project.

**SUBMIT SURVEY BUTTON**

**[After submission, redirect to Pew Internet homepage]**

# Focus group discussion guides

### Online Focus Group with Advanced Placement Teacher Panel

Project Description:

The Pew Internet & American Life Project, the College Board, and the National Writing Project are partnering on a research study exploring how technology is used in classrooms today, as well as how new technologies impact teachers' professional development and interactions with students and parents.  The results will be made available to the public in a report issued next year.  Your responses may be quoted anonymously in the report, but your identity will never be shared with anyone other than the researchers conducting the study.  We understand that some questions may not apply to all teachers.  If you cannot answer a particular question, please feel free to indicate that and move to the next discussion item.  We truly appreciate your participation.

**Activity #1 (Technology and Research Practice)**

Discussion One:  Based on your observations, how do today's high school students (both AP and non-AP) define "research" and what it means to conduct effective research? What are the key ways technology (such as the internet, search engines, online resources, wikis, digital devices such as cell phones and tablet computers, etc.) has impacted the research skills of your students, either positively or negatively?

Discussion Two:  Given today's technologies, what do you think are the most critical research skills students should learn? At what stage in their educational careers should students begin learning these skills?

Discussion Three: How do you approach teaching these critical research skills [link to Discussion Two] to your high school students?  How extensively, if at all, do you incorporate technology (either in the classroom or home assignments) to help students develop the research skills they need?  How do you develop these teaching practices?

Discussion Four:  What have been the biggest challenges or obstacles you have faced in teaching effective research skills to your high school students?  How do you see technology changing and shaping the way research skills are taught? How receptive are students to learning effective research skills?


**Activity #2 (Technology and Writing Instruction)**

Discussion One:  Based on your observations, how do students today define "writing"?

POLL:   Which of the following activities do <u>students</u> think of as writing?

      Formal writing (essays, papers, etc)
      Creative writing
      Blogging
      Texting
      Other (please describe)

POLL:   Which of the following activities do <u>you</u> think of as writing?

      Formal writing (essays, papers, etc)
      Creative writing
      Blogging
      Texting
      Other (please describe)

POLL:   Do today's students do enough writing, both inside and outside of the classroom?


Discussion Two:  What are the key ways technology (such as social networks, blogs, wikis, other forms of social media, and digital devices such as cell phones and tablet computers) has impacted student writing?  Overall, do new technologies help students write better or do they impact student writing in mostly negative ways?

Discussion Three: How do you approach teaching students how to write?  How extensively, if at all, do you incorporate technology (either in the classroom or home assignments) to help students learn writing skills?  How do you develop these teaching practices?

Discussion Four:  What have been the biggest obstacles/challenges you have faced in teaching writing to today's students?  How do you see technology changing and shaping the way writing skills are taught? How receptive are students to learning writing skills?


**Activity #3 (Technology and Professional Practice)**

Discussion One:  How has technology (such as the internet, social networks, blogs, digital devices such as cell phones/tablet computers/laptops, etc.) impacted teacher professionalization and training? How has technology shaped the way teachers communicate and/or collaborate with one another?

Discussion Two:  How has technology shaped the way teachers manage their classrooms and discipline their students?  How has technology shaped the way teachers communicate with students?  Does technology strengthen or weaken communication between teachers and students?

Discussion Three:  Overall, does technology make it easier or harder for you to carry out your professional roles and responsibilities?  What are some examples of how it makes your professional role easier/harder?

Discussion Four:  To what extent does your school encourage or discourage the use of new technologies in the classroom?  Has your school taken any steps to provide *access* to new technologies to teachers and/or students?  Does your school provide any specific *training* or *support* to help teachers use new technologies effectively?

**Activity #4 (Personal Perceptions of Technology/Incorporating Technology into Teaching)**

Discussion One:

POLL:  Do you consider yourself an early adopter of new technologies (such as social media, smartphones, tablet computers, e-readers, apps, etc.)?

      Yes
      No

POLL:  In general, how comfortable are you learning how to use new technologies?

      Extremely comfortable
      Very comfortable
      Somewhat comfortable
      Not comfortable

POLL:  Have your students ever taught you new ways to use certain technologies or about the impact a new technology can have?

      Yes (Please give an example)
      No

Discussion Two: To what extent do you, personally, feel new technologies should be incorporated into the school environment and classroom learning?  Do you *enjoy* incorporating new technologies into your teaching or do you find it burdensome?  Do you ever involve your students in developing new ways to incorporate technology into the classroom?

Discussion Three:  Are you ever concerned that your students are "overexposed" to technology today or have too much "screen time" in their lives?  What are some of the specific ways you see students being personally impacted by today's technologies?  Are the impacts you see mostly harmful or mostly beneficial for students?

Discussion Four:  In your experience, to what extent do new technologies create disparities across classes, schools or districts?  To what extent do new technologies create disparities among your students?  What impact do those disparities have?   How do you and/or your school try to address those disparities?

## Online Focus Group with NWP Summer Institute Teachers

Thank you for participating in this national study of teachers being conducted by the Pew Research Center's Internet & American Life Project, the College Board, and the National Writing Project. You may log in to the discussion as many times as you wish until **6:00 AM EST on Sunday, January 29**, when the discussion will close. If you leave the discussion and then log back in, you will be taken to the last section you completed. Once you have completed all sections, you can move back and forth throughout the discussion to see others' posts and respond to them. **We encourage interaction!**

There are four sections in this discussion, and some questions require responses in order to move forward (marked mandatory). The first section includes some basic questions so we can learn a little more about you. The second section includes questions about the impact of digital technologies on your students' writing and research habits. The third section asks about your own teaching practices. Finally, the last section includes questions about using multimedia assignments. **Please complete all four sections.**

If you have any questions or concerns, or have trouble logging in to the discussion, please contact Pew Internet's Director of Research, Kristen Purcell, at **kpurcell@pewinternet.org**.

SECTION I

1. Which of the following is the HIGHEST grade level you currently teach? (Select one)

> 6
> 7
> 8
> 9
> 10
> 11
> 12

2. What subjects/classes do you currently teach? Please list them below.

3. Are you male or female?

> **Male**
> **Female**

4. What is your age? Please choose a category below.

5. For how many years have you been teaching?  Select answer below.

6. In what state do you currently teach? Please tell us below.

7. Would you describe the community in which you teach as… (Select one)

       A large metropolitan area or big city

       A small city or suburb

       A small town

       A rural area

8. Would you describe the students you teach as… (Select one)

       Mostly upper or upper middle income

       Mostly middle income

       Mostly lower middle income

       Mostly low income

       Mostly living below the poverty line

9. Thinking about all of the classes you are currently teaching, what is the **longest writing assignment** (approximate number of pages) you have given students this year?   Please briefly describe the assignment.

10. Thinking about all of the classes you are currently teaching, which of the following best describes the **longest text** your students have had to read this year?

       A long novel

       A short novel

       A chapter from a textbook

       A short story or play

       An essay or short article

       Other _____

SECTION II – How Technology Impacts Student Writing and Research

1. In your experience, in what ways do the internet and other digital technologies, such as social media, Wikis, tools like GoogleDocs, cell phones and texting, and smartboards, impact your students' writing abilities? Please give examples.

2. Some feel that today's digital technologies (such as social media, Wikis, tools like GoogleDocs, cell phones and texting, and smartboards) provide students more opportunities to write, create their own content and express themselves than was the case in previous generations, thereby encouraging the development of skills such as creativity and the thoughtful articulation of ideas. Based on your experience, do you agree or disagree with this view? Please explain.

3. Some feel that today's digital technologies (such as social media, Wikis, tools like GoogleDocs, cell phones and texting, and smartboards) are undermining students' ability to focus and generally shortening their attention spans. Based on your experience, do you agree or disagree with this view? Please explain.

4. Compared with previous generations, do you feel your current students are more or less skilled at each of the following? Or do you think there is no real difference between present and past generations of students?

- Concentrating on, reading deeply, and thinking critically about long or challenging texts?
- Thoroughly researching an idea or assignment?
- Critically evaluating the information they gather?
- Formulating persuasive and/or well-informed viewpoints and arguments?
- Producing clear and cohesive written material?
- Expressing themselves creatively?

5. Overall, what do you see as the **purpose** or **value** of teaching students how to read and critically examine long or challenging texts? Is this a critical skill for today's students to learn? Why or why not? How do you see it serving them in the future, if at all?

6. Overall, what do you see as the **purpose** or **value** of teaching students how to write long and/or formal texts? Is this a critical skill for today's students to learn? Why or why not? How do you see it serving them in the future, if at all?

Section III – Teaching Writing and Research

1. What has been the **most effective** assignment/classroom lesson/teaching approach you have used to develop your students' writing skills? What specifically made it effective? Did it incorporate or address the use of digital technologies (such as social media, Wikis, tools like GoogleDocs, cell phones and texting, and smartboards), either in class or by students at home?

2. How often, if ever, do you encounter issues with or have to take into account students' **access to digital technologies** when developing your lessons and assignments? Do most of your students have high-speed internet access at home? Do they generally have access to the digital devices they need (laptops, computers, etc.) to complete their assignments?

3. What does it mean to **search for information** in today's digital environment? To what extent do your students have the skills for using a variety of search tools? How do they evaluate the **credibility** of sources? How do you teach them these skills, if at all?

4. How well do your students understand the concepts of **fair use** and **plagiarism**? Do you, personally, spend class time talking about fair use and/or plagiarism? Do you take any active steps to monitor your students' work for plagiarism (for example, online resources such as turnitin.com)?

5. Please complete the following statement… "The **biggest challenge** in teaching my students to write effectively is…..(FILL IN THE BLANK)"

6. Thinking ahead ten years — to the year 2022 — how do you think writing will be taught in middle schools and high schools? What will be different? What will be the same? Will there be radical pedagogical changes over that time, or will writing be taught largely as it is today?

SECTION IV – Multimedia and Mixed Media

1. Have you given your students any assignments this year that required them to present information in a **mixed media** or **multimedia** format?

**Yes**
**No**

**IF NO:**
2. Please tell us below the main reasons you do **NOT** give your students mixed media or multimedia assignments.

**IF YES:**
2. Can you give an **example** of a recent mixed media or multimedia assignment you havegiven your students? Did you feel it was successful? Why or why not?

3. Why did you choose to incorporate multimedia or mixed media assignments into your teaching? What do you see as the **major benefits** of this type of assignment? What are the **major drawbacks**? How do students respond to this type of assignment?

**ASK ALL – RANDOMIZE TEACHERS TO RECEIVE ONE OF THREE VIDEOS**
4a/4b/4c. This is a short video clip with an example of one type of multimedia assignment created by students. Please watch the video and then answer the questions below.

What does this piece of student work say to you about research and writing using digital technologies?
What advice would you give this student about where to go next with this piece?
How would you support the student?
What are the implications of this piece for your own teaching? Specifically...Do you feel producing
        something like this would be a valuable experience for your students and a good use of time and
        resources (both yours and theirs)? Why or why not?
Do you have any concerns about or face any particular obstacles in assigning this type of work? If so, what are they?

**Thank you! That completes all of the specific questions we have. Your insights and experiences will be used to develop a national survey of teachers, to be conducted this spring. If there are any important elements of teaching student writing and research in today's technological environment that you feel we have not addressed, please tell us below.**

## In-Person Focus Group with College Board Teachers

**HAVE TEACHERS FILL OUT QUESTIONNAIRE WHILE THEY ASSEMBLE AT TABLE (at end of guide)**

**I.        INTRODUCTIONS (5 min)**

- Who we are and what the study is about (note that we are building on prior teacher focus groups)
- Confidentiality
- We are taping the discussion, only researchers will have access to the tape
- May quote in report but no names will be used
- Ground rules
    - No wrong answers, interested in all experiences/opinions
    - don't speak over others so we can hear everyone on tape
    - okay to disagree
    - speak loudly so we can hear everyone on tape
    - please turn all cell phones and electronic devices off
- Incentives will be handed out at the end, pizza will be available

**II.     TECHNOLOGY'S IMPACT ON RESEARCH SKILLS (25 min)**

Let's jump right in…

Pull out the green and red cards – Very positive, mostly positive, mostly negative, very negative

When I ask a question, please hold up the card that best represents your opinion, facing out so everyone can see it….

- **QUESTION #1:  Overall, the impact of the internet on your student's RESEARCH HABITS is...?  HOLD UP YOUR CARDS**

  Go around the room and probe answers.  Themes to discuss…
  - Availability of more/better sources
  - Creates laziness, student too reliance on internet/search to produce answers
  - Students want instant answers, give up when they can't find them in five minutes
  - Can't judge the quality of different online sources
  - Too quick to believe everything on the internet
  - Can do research faster
  - Does it make research more interesting for students?  Can dive deeper into topics?
  - Does it make research more fun?
  - Students' overall reading comprehension and tolerance for reading long documents
  - Have trouble synthesizing info into their own arguments?  Too much information?
  - Students cut and paste info and submit it as their own (HOLD FOR LATER)
  - Students' overall online search skills – good or bad?
  - Students' ability to formulate good research questions
  - Students' ability to bring new facts and insights to their teachers and classmates
  - Students' overall passion for exploring a research question in depth
  - Students' ability to contribute their own knowledge and experiences to a subject
  - Students' attention spans
  - Students' ability to accept ambiguity when there is no clear answer
  - Students' overall critical thinking skills
  - Students' ability to see multiple  sides of a topic

III.    **TECHNOLOGY'S IMPACT ON WRITING SKILLS** (25 min total)

- **QUESTION #2:  Overall, the impact of the internet and other digital technologies like cell phones and texting on your student's writing skills is…?  HOLD UP YOUR CARDS (15 min)**

    Go around the room and probe answers.  Themes to discuss…
    - Grammar/Spelling
    - Overall structure/organization/flow of written work
    - Willingness to edit their own work
    - Ability to edit their own work
    - Cohesion of thoughts and ideas in writing assignments
    - Students' ability to find their own voice in their writing
    - Students' ability to develop and understand different writing styles
    - Students' ability to support an argument with facts
    - Students' ability to formulate their own opinions
    - Collaboration with others
    - Creative writing
    - Formal writing
    - ability to discuss a topic at length
    - originality in their thinking and writing
    - awareness of audience
    - word choice

- **How much of an issue is plagiarism?  (10 min)**

    - Do students fully understand what plagiarism is and when they are doing it?
    - Do students view plagiarism as an ethical issue?
    - Do you spend class time on this issue?

**IV. Constructing assignments/Teaching research and writing (35 min total)**

- **Construction of assignments (10 min)**

    Given everything we've just talked about, how does this impact how YOU construct research and writing assignments and effective research and writing skills?

    - First, is it getting harder to create research and writing assignments for students?
    - How much do you find yourself changing/adjusting your…
        - teaching methods
        - assignments
        - expectations in response to students' research and writing habits and behaviors?
    - Enforce rules about sourcing?  Require non-internet sources?
    - Spend class time teaching about how to evaluate online sources and find alternative material/primary sources?  How do you do this?
    - Assuming most research gets done online, are you okay with that?  In general, do you embrace that trend or push against it?
    - Do you regularly vet student papers for plagiarism? How so?
    - Do you allow students to submit things in multi-media formats or via collaborative tools?
    - How do digital divide concerns shape your assignments?

- **What's the MOST SUCCESFUL *research/writing* assignment or lesson you've used? (10 min)**
  - What specifically have you found <u>DOES NOT WORK</u>?
  - How <u>receptive are your students</u> to learning approaches to research that go beyond search engines and online sources?
  - What's the <u>biggest obstacle</u> you face in teaching effective research and writing skills? (Access issues, student impatience, lack of time)

- **What skills do your students come to you with and what do you have to teach them? (10 min)**
  - What skills do you think they should come to your class having already mastered?  How/when should that learning begin?
  - What skills do you think you should be teaching at this level?
  - Should these digital literacy skills be incorporated into existing curricula or be a separate curriculum?
  - Do teachers have time to incorporate these lessons into their teaching?

- **Do your students ever teach you new ways to use certain technologies or the impact a new technology can have?  Do you ever involve your students in developing new ways to incorporate technology into the classroom?  (5 min)**

## V.   OTHER IMPACTS OF TECHNOLOGY ON TEACHERS/STUDENTS (15 min)

**QUESTION:  Overall, technology has a (positive/negative) impact on your ability to do your job well?**

Go around the room and probe answers.  Themes to discuss…

- o  Professionalization and training?
- o  Communicate and/or collaborate with one another? Use online teaching forums to give/seek advice about things like lesson plans, classroom discipline?
- o  Communicate with students?  Does technology strengthen or weaken communication between teachers and students?
- o  Communicate with parents/families?
- o  Disparities across students?
- o  Support from school in providing *access* to new technologies to teachers and/or students?  Training?
- o  Does your school provide any specific *training* or *support* to help teachers use new technologies effectively?
- o  Do things like cell phones, texting, IM, etc distract your students' attention from what's happening in class?  Rules?
- o  Cheating and plagiarism [already covered]

## VI.   CLOSING THOUGHTS (10 min)

Before we end, are there things we didn't talk about that you want to bring up?

One last question….Given the pace of development in digital technologies, where do you see the classroom/school environment 10 or 20 years from now?  How will it be different/similar to today's classrooms?  How will students have changed?

**[INCENTIVES AND PIZZA]**

**Pew Internet/College Board/National Writing Project Focus Group**
**December 13-14, 2011**

1. Which grade level(s) do you currently teach? **(circle all that apply)**

   **6**　　　　**7**　　　　**8**　　　　**9**　　　　**10**　　　　**11**　　　　**12**

2. What subjects/classes do you currently teach?  Please list them below.

   _____
   _____
   _____
   _____
   _____
   _____
   _____
   _____

3.　　Are you….**(circle one)**　　　　**Male**　　　　**Female**

4.　　What is your age?  _____

5.　　How many years have you been teaching?  _____

6.　　How many years have you been teaching *at this school*?  _____

<div align="center">

**(TURN OVER)**

</div>

7.　　What is the <u>single biggest POSITIVE impact</u> digital technologies (the internet, cell phones, etc.)

   have on students today?

   _____

   _____

   _____

   _____

8.　　What is the <u>single biggest NEGATIVE impact</u> digital technologies (the internet, cell phones, etc.)

   have on students today?

   _____

   _____

   _____

# In-Person Focus Group with College Board Students

**STUDENTS FILL OUT QUESTIONNAIRE WHILE THEY ASSEMBLE AT TABLE (at end of guide)**

**I. INTRODUCTIONS (5 min)**

- Who we are/what study is about

- Confidentiality

- We are taping the discussion, only researchers will have access to the tape

- May quote in report but no names will be used

- Ground rules

  o No wrong answers, interested in all experiences/opinions

  o be considerate

  o don't speak over others so we can hear everyone on tape

  o okay to disagree

  o speak loudly so we can hear everyone on tape

  o don't need to raise your hand

  o please turn all cell phones and electronic devices off

- Incentives will be handed out at the end, pizza will be available


**II. TECHNOLOGY AND RESEARCH (50 min total)**

**A. What is research? (10 min)**

Let's start by talking about doing research for school projects. First, when I use the phrase "do research," what's the first thing that comes to mind? This is question #1 in the survey you filled out. Let's go around the room. **[WRITE KEY WORDS ON BOARD]**

- Do you do a lot of research for school assignments?

- Do you ENJOY doing research? Is it fun, challenging, hard? [Probe why/why not]

- What research project you've done recently did you really like? Why?

**B. Online Research (20 min)**

Let's look at the first three items in the large grid, **Q5**…

- **When was last time you did research on the internet?**

  o What does that entail, describe that process for me. Mostly search engines? How do you start?

- What **search engines** do you use most often?
    - Where/How did you **learn** to use those?
    - How do you **decide which search results to look at**?
    - How much **time** does it take to go through search results?
- Are there **other specific sites** online you go to when you have to do research for school?
    - What do you like about those sites?
    - Where/How did you learn about them?
    - Do you ever use library websites?
- When you're doing research online, is that usually at home, at school, or someplace else?  Are you usually alone or working with someone?

- **When was the last time you did research on something NOT using the internet?**

- **When was the last time you did research physically IN A LIBRARY?**
    - Was that using library computers?
    - Working with a librarian?
    - Searching stacks or printed material?

C.     **Deep dive into research process (20 min)**

- **When you have to start researching something, what is usually your FIRST STEP?  What is the <u>very first thing</u> you do?**

- **Let's talk about <u>Q6</u> in the survey....**
  **Take out the <u>red and green cards</u>, and when I read each item, hold up the answer you wrote down....[very easy/easy/difficult/very difficult]**

    - Find trustworthy information on the internet for your school assignments
    - Figure out how trustworthy different online sources are

      **PROBE:  How do you figure it out?**
        - How did you learn how to do this?  Did someone teach you?

- Overall, if you had to say, is most info you find online accurate or not?
  - Use a search engine to find good information on the internet
  - Figure out the original source of online information
  - Sort through online search results to find the best material

    **PROBE:  How much time does this take?**
  - Sort through online content in general to find good material
  - Pull together all of the different online information you find into a cohesive project or paper

- **Overall, what's the <u>BEST</u> part about being able to do research online?**

- **What's the <u>WORST</u> part?**

- **Do you think technology <u>makes your research skills better or worse</u>?**

- **What would it be like to do research without the internet?**

**III.    TECHNOLOGY AND WRITING (30 min total)**

**A.    What is writing? (10 min)**

Let's switch gears and talk a little bit about writing.

- First, look at Q4 in the survey you filled out.  When you hear the term "writing" what's the first word that comes to mind?  **[WRITE KEY WORDS ON BOARD]**
- Altogether, how much writing do you do, in and out of school?  What kinds of writing?
- Do you ENJOY writing?  Is it fun, challenging, hard?  [Probe why/why not]

**B.    Deep dive into writing process (10 min)**

Let's talk about the actual process of writing, when you are working on school writing assignments…

- Tell me about your writing process, when you have an assignment to do.  How do you approach that?
- When writing for school assignments, do you usually write by hand or using a computer or other digital device?  What device do you like to write on?  Why?
- Now, pull out the yellow and blue index cards.  I'm going to list some different things you might use to write and I want you to tell me if they make you a **better (more skillful)** writer -- [BLUE YES] or [YELLOW NO]

- Spell check

- Grammar check

- Digital thesaurus (built into your word processing program)

- Cut and paste

  - **PROBE PLAGIARISM HERE**

- Texting with your friends

  - **PROBE POS/NEG IMPACT OF INFORMAL WRITING HERE**

- Using social network sites

- What if I listed those same things, and asked you if they made the writing process **FASTER**, yes or no? Do they make writing easier?

**C.** **Perceptions of formal writing** <span style="color:darkred">(10 min -- may skip for time)</span>

I've given each of you a set of 5 skills on the purple index cards. Without talking to each other, I want you to quickly sort those by how important you think each will be to your success 20 years from now. Most important on top, least important on the bottom.

- Formal writing

- Synthesizing large amounts of information

- Creative thinking and expression

- Finding information quickly

- Multi-media skills

What did you have on top? Bottom? Where is formal writing and why?

**IV.** **Technology and broader impacts** <span style="color:darkred">(20 min total)</span>

Let's talk about the broad impacts using technology might have on students like yourselves.

- In your opinion, what is the **most positive thing** about being a student in today's technological world, the best impact thing digital technology does for students today?

- What is the **most negative thing**, the worst thing digital technology does for students?

- I want you to use the blue and yellow cards again to tell me if you agree or disagree with each of the following assertions people make....

  **Overall, digital technologies like the internet and cell phones lead students to...**

  - Have short attention spans

- Explore their worlds more fully

- Expect to find information easily and quickly

- Be more creative

- Work together and collaborate with others more

- Spend too much time in front of screens

- Cheat more often and take more shortcuts

## VI.     CLOSING (5 min total)

Thanks so much for participating and sharing your opinions today.  Does anyone have any final thoughts they want to share?

We may do more focus groups like this with students your age….

- Are there things we didn't ask you about or cover today when it comes to technology and research and writing that you think we should?

**[PIZZA AND INCENTIVES]**

**Pew Internet/College Board/National Writing Project Focus Group**
**December 13-14, 2011**

1. What is your grade level? (circle one)        **9        10        11        12**

2. When you hear the term "research," what is the FIRST WORD that comes to mind?_____

3. If you had to define "doing research" in a SINGLE sentence, what would you say?

_____

_____

_____

4. When you hear the term "writing," what is the FIRST WORD that comes to mind? _____

5. When was the LAST time (most recent time) you…

**(PUT A CHECK IN THE COLUMN THAT BEST REPRESENTS YOUR ANSWER)**

|  | Today | Within the past week | Within the past month | More than a month ago | Never |
|---|---|---|---|---|---|
| Used the internet to do research for school? |  |  |  |  |  |
| Did research for school some other way, NOT using the internet? |  |  |  |  |  |
| Read material for school on a desktop or laptop computer? |  |  |  |  |  |
| Read material for school on a handheld device like an iPad, e-reader, or cell phone? |  |  |  |  |  |
| Read material for school in print (hard copy)? |  |  |  |  |  |
| Used digital technology (email, the internet, cell phones, text messages, etc.) to collaborate with other students on a school assignment? |  |  |  |  |  |
| Used digital technology to communicate with friends SOCIALLY while in school? |  |  |  |  |  |
| Used digital technology to kill time or entertain yourself while in school? |  |  |  |  |  |

Q6.    On a scale of 1 to 10, how easy or difficult is it to....

Find trustworthy information on the internet for your school assignments
**1       2       3       4       5       6       7       8       9       10**
**(very easy)**                                                             **(very difficult)**

Figure out how trustworthy different online sources are
**1       2       3       4       5       6       7       8       9       10**
**(very easy)**                                                             **(very difficult)**

Use a search engine to find good information on the internet
**1       2       3       4       5       6       7       8       9       10**
**(very easy)**                                                             **(very difficult)**

Figure out the original source of online information
**1       2       3       4       5       6       7       8       9       10**
**(very easy)**                                                             **(very difficult)**

Sort through online search results to find the best material
**1       2       3       4       5       6       7       8       9       10**
**(very easy)**                                                             **(very difficult)**

Sort through online content in general to find good material
**1       2       3       4       5       6       7       8       9       10**
**(very easy)**                                                             **(very difficult)**

Pull together all of the different online information you find into a cohesive project or paper
**1       2       3       4       5       6       7       8       9       10**
**(very easy)**                                                             **(very difficult)**