

Parents' Views of Education and Technology: A Report for Baltimore County Public Schools

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This study investigated three overarching questions about parents' views of their children's home-based learning of reading, writing, math, and science, and the use of technology in education.

Research Question 1: What are parents of children in 1st- 6th grade doing to support their children's reading, writing, math, and science at home?

Research Question 2: What are these parents' views on the use of technology for learning, specifically, digital devices, in the domains are reading, writing, math, and science?

Research Question 3: How important do parents think it is for children to learn cursive handwriting?

Parents were recruited primarily via social media, flyers, and word-of-mouth and through direct solicitation in two Baltimore County schools. We received responses to our questionnaire from 189 parents, of those 34% were from Baltimore County.

Although the sample was demographically diverse, it was predominantly a White (82%), educated sample (77% BA or higher). The majority of participants were mothers (91%). The mean age of parents in our sample was 39 years old ($SD = 6.02$ years). Children (52% female) came from 1st/2nd (37%), 3rd/4th (40%), and 5th/6th grades (23%).

Our findings for each research question are described below. We consider grade differences where relevant. The complete questionnaire is included in an Appendix.

Research Question 1: What Are Parents of Children in 1st- 6th Grade Doing to Support Their Children's Reading, Writing, Math, And Science at Home?

Activities children engage in at home. Children spent the most time at home engaged in reading activities followed by math and the least engaged in science and writing activities. Interestingly, although children spent less time on science than on reading, writing, or math, they enjoyed it the most.

There was a significant decrease in parent- and child-initiated activities and a significant increase in teacher-assigned activities as children progressed from 1st to 6th grade. This suggests that as children age, home learning becomes more driven by school. Preliminary review of the data indicate that homework begins to be more frequently mentioned as children go through school. It will be interesting to probe this phenomenon and reflect on how the home learning environment changes as homework becomes more ubiquitous in children's lives.

Importance of home engagement. Parents rated how important they thought it was for their child to participate in academic activities at home and how important it was to help their children with such activities. The majority of parents rated each domain as *important/very important* to do at home (reading 97%; writing 89%, math 89%, science 77%). The majority also rated it as *important/very important* to help their children in these domains (reading 76%; writing 82%, math 79%, science 66%). Across grades, we observed a decrease in ratings of importance in engaging in activities at home and parents helping with these activities.

Parent confidence. We asked parents to reflect on how confident they felt to support their children's learning. The majority of parents rated themselves as *confident/very confident* (reading 87%; writing 84%, math 67%, and science 66%) However, they were more confident supporting reading and writing than math or science. Moreover, parents' confidence to support math significantly decreased as children entered 5th/6th grade. We did not observe such grade effects for reading, writing, or science.

Research Question 2: What are Parents' Views on the Use of Technology for Learning?

Ninety-four percent of children in this sample had access to the internet at home. Tablets were the most popular form of technology used. On average, children used digital devices more frequently for math and reading than science and writing. For math, children used apps and websites. E-books and search engines were used to support reading. Technology use for science and writing was less common than for math and reading. For science, parents mentioned using YouTube (e.g., to find experiments, watch an experiment) or watching documentaries. Parents reported minimal use of technology for writing. Texting or talking via the chat feature in games was mentioned by a few parents. As we did not specify what we meant by "writing" (i.e., handwriting versus creative writing), our results may underestimate the ways in which children are using technology to engage in writing (e.g., typing creative writing or school work).

Parents were positive about the frequency with which children used devices. Most parents said devices were used "*just the right amount.*" In alignment with recommendations from many professional organizations (e.g., Department of Education, Academy of Pediatrics), parents noted pairing technology with more traditional activities to enhance learning. This provides important evidence that, at least in this fairly affluent sample, technology is being used but has not replaced other modes of learning.

Overall, the majority of parents identified themselves as technologically savvy. Most *agreed/strongly agreed* that they had good basic computer skills (93%), were comfortable working with new technology (89%), and had good overall knowledge of technology (85%). Thus, they had sufficient technological expertise to assist their children, as needed.

We also asked parents to reflect on their feelings about the increased use of technology for learning. Parents mentioned advantages and disadvantages. Seventy-three percent mentioned positive aspects of using technology for language arts, skill gains (18%), opportunities for supplemental instruction (18%), and children being more motivated to work on digital devices (18%), ease of use (14%), the importance of technology for life (9%). However, a large

percentage (59%) gave negative comments about the use of technology, citing concerns about increased screen time (18%) skill losses related to over-dependence on technology (18%), and preferences for paper and pencil (18%).

Research Question 3. How Important Do Parents Think It Is for Children to Learn Cursive?

Most parents viewed instruction in handwriting, cursive, and typing as either “*important*” or “*very important*.” However, far fewer parents rated cursive as “*very important*” than handwriting or typing. When asked how they felt about the elimination of cursive instruction in some U.S. schools, 81% of parents said they believed cursive should be taught. Explanations included emotional reactions (e.g., [removing cursive] is horrible), importance for signing legal documents, and concerns about not being able to read cursive. Parents who agreed with eliminating cursive (19%) said typing was more important and cursive was obsolete because children only needed cursive to sign their names.

Conclusion

These findings provide important insight into the home learning environments of elementary school-aged children and the increasing role of technology in learning. We found that children are engaging in a variety of reading, writing, math, and science activities, and most parents are supportive and confident in their ability to support their children’s learning. Of particular concern is that parents of 5th/6th graders are significantly less confident than those of younger children in supporting their child’s math learning at home. These results have important implications for teachers and for parent support programs. That is, parent confidence to support their child’s learning needs to be considered. Parents want to be engaged in their children’s learning, however, especially in math, they become less confident over time in their ability to do this. Teachers should be aware that not all parents may feel confident to help their child with homework, projects, or studying. It would be helpful for both parents and teachers to communicate with each other about parents’ feelings of confidence and teachers’ expectations of support from parents at home.

The results for science learning are intriguing. Parents thought that their children really enjoy science, but they are not necessarily engaging in as much science at home as reading, writing, or math. It is important to build upon young children’s early interest in science because it will be beneficial for later engagement in STEM fields.

The results of our research support the increasing pervasiveness of technology in learning. Most parents reported that devices were being used “*just the right amount*,” however, many voiced concerns about the increasing role of technology in learning. These findings will contribute to the growing corpus of literature examining the pros and cons of technology-based learning.

It is important to acknowledge that the majority of our sample was fairly affluent. Thus, these findings may not necessarily generalize to a less affluent sample. Future research will need to replicate these findings with a different sample of parents and children. Nevertheless, we think

the results of this study provide important information about children's home-learning environments.

Appendix
Parents' Views of Education and Technology Questionnaire

Start of Block: Consent

Consent INFORMED CONSENT FOR PARTICIPATION IN RESEARCH ACTIVITIES

Parents' Views of Education and Technology

The purpose of this study is to learn what types of reading, math, science, and writing activities children are engaging in at home. We are also interested in your views on the use of technology for learning, specifically in the domains of reading, math, science, and writing. **You must be the parent of a child in 1st through 5th grade as of September 2017 to participate in this study.**

The following survey will take approximately 15-20 minutes to complete. There are no known risks or discomforts associated with this survey. Participation in this study is entirely voluntary. You may withdraw from the study at any time. Your responses will be kept anonymous and digital data will be stored in secure computer files.

Upon completion of the survey, you will be given the option to be entered into a raffle for one of five \$20 Amazon gift cards. If you wish to participate in the raffle you will be redirected a second survey in which your contact information can be entered. Information in this second survey will not be linked in any way to the primary survey and will only be used for the purpose of choosing raffle winners. All information from the second survey will be destroyed once raffle winners are selected.

This study has been approved by UMBC's Institutional Review Board (IRB). If you have any questions before completing this survey, please contact the investigator, Dr. Susan Sonnenschein, by email at sonnensc@umbc.edu or by phone at (410) 455-2361. If you have any questions about your rights, contact the Office of Research Protections and Compliance at (410) 455-2737 or compliance@umbc.edu.

Clicking the "Next" button below indicates that you are 18 years of age or older and indicates your consent to participate in this survey. If you do not wish to participate, please exit the survey now.

End of Block: Consent

Start of Block: Parent/Respondent's Background Information

Thank you for taking the time to complete this survey. We are interested in parents' views of education and the use of technology in school. We are also interested in your child's experiences. If you have more than one child, please respond about your oldest elementary school-aged child (1st through 5th grade) for the remainder of the survey. If you are uncomfortable answering a question you may skip it.

Do you currently live in the United States?

- Yes (1)
 - No (2)
-

In which state do you live?



What is your zip code?

Page Break

Please answer the following questions about yourself and your family.

What is your relation to the focal child?

- Mother (1)
- Father (2)
- Other (please specify): (3) _____



Your date of birth (mm/dd/yyyy):

Your highest level of education:

- Less than high school (specify grade): (1)
- High school graduate (2)
- Some college/vocational/technical (3)
- Associate degree (AA/AS) (4)
- Bachelor's degree (BA/BS) (5)
- Post-graduate (specify degree): (6)

Your occupation:

Page Break

Your total household income (before taxes) in 2016:

- Under \$25,000 (1)
 - \$25,000 - \$49,000 (2)
 - \$50,000 - \$74,999 (3)
 - \$75,000 - \$99,999 (4)
 - \$100,000 - \$124,999 (5)
 - \$125,000 or more (6)
-

Your race/ethnicity (check all that apply):

- African American/Black (1)
 - American Indian or Alaska Native (2)
 - Asian (3)
 - Latino/a (4)
 - Native Hawaiian or Pacific Islander (5)
 - White/Caucasian (6)
 - Other (please specify): (7) _____
-

Primary language/dialect spoken in your home:

- English (1)
 - Spanish (2)
 - Chinese (3)
 - Other (please specify): (4) _____
-

Page Break



Including you, how many people live in your household? (Ex: If you are married with three children, you have a five-person household.)



Including you, how many adults live in your home?

Page Break

We are interested in elementary school-aged children. If you have more than one child, please respond about your oldest elementary school-aged child (1st through 5th grade) for the remainder of the survey. In the following questions, we refer to this child as the focal child.



Including the focal child, how many children live in your home?

Do you have other children than the focal child?

- Yes (1)
- No (2)



Other than the focal child, how many children do you have?



How many of your children are **older** than the focal child?



How many of your children are **younger** than the focal child?

Page Break

Were you born in the U.S.?

Yes (1)

No (2)



Please specify your country of birth.



How many years have you lived in the U.S.?

Which of the following levels of education did you complete in the U.S.? Check all that apply.

- Not schooled in the U.S. (2)
- Elementary school (3)
- Middle school (4)
- High school (5)
- College/University (6)
- Graduate school (7)

Page Break

Please indicate which of the following *you* have at home (check all that apply):

- Computer/Laptop (1)
 - eReader (i.e. Nook, Kindle) (2)
 - Tablet (i.e. iPad, Kindle Fire) (3)
 - Smartphone (phone with internet access) (4)
 - Video Game System (i.e. Xbox, Wii) (5)
 - Television with Internet Connectivity (6)
 - Other Device (please specify): (7)
-
- None of the Above (8)

Please indicate which of the following your *children* have access to at home, supervised or unsupervised. (Check all that apply):

- Computer/Laptop (1)
 - eReader (i.e. Nook, Kindle) (2)
 - Tablet (i.e. iPad, Kindle Fire) (3)
 - Smartphone (phone with internet access) (4)
 - Video Game System (i.e. Xbox, Wii) (5)
 - Television with Internet Connectivity (6)
 - Other Device (please specify): (7)
-
- None of the Above (8)

Do you have internet access at home?

- Yes (1)
- No (2)

Can your children use the internet at home (either supervised or unsupervised)?

- Yes (1)
- No (2)



Please indicate the extent to which you agree or disagree with the following statements.

	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
I think I have good basic computer skills. (1)	<input type="radio"/>				
I am comfortable working with new websites and devices. (2)	<input type="radio"/>				
I think I have a good overall knowledge of technology. (3)	<input type="radio"/>				

End of Block: Parent/Respondent's Background Information

Start of Block: Focal Child's Background Information

Note Reminder, if you have more than one child, please respond about your oldest elementary school-aged child (1st through 5th grade) for the remainder of the survey.



Child's age (in years):

Child's gender:

- Female (1)
- Male (2)

Other (please specify): (3) _____

Child's grade in school as of September 2017:

Does your child have a disability for which he/she receives special services or special education?

Yes (1)

No (2)

Please specify your child's disability

Does your child use assistive technology (i.e., communication software or devices, talking computer software, assistive listening technology, etc.)?

Yes (1)

No (2)

What assistive technology does your child use? (List all that apply.)

Page Break

Child's race/ethnicity (check all that apply):

- African American/Black (1)
- American Indian or Alaska Native (2)
- Asian (3)
- Latino/a (4)
- Native Hawaiian or Pacific Islander (5)
- White/Caucasian (6)
- Other (please specify): (7) _____

Was your child born in the U.S.?

- Yes (1)
- No (2)

Please specify your child's country of birth.



How many years has your child lived in the U.S.?

End of Block: Focal Child's Background Information

Start of Block: Parents' Views of Education and Technology

The first two questions in this section ask about you, the remaining questions in this section are about the focal child. The activities about your child are about the activities your child engages in. Activities refer to both formal activities (e.g., homework, worksheets, practicing reading and writing, etc.) and informal activities (e.g., playing games, reading for fun, daily living activities, etc.).

How enjoyable do *you* find the following activities?

	Not at all Enjoyable (1)	Slightly Enjoyable (2)	Moderately Enjoyable (3)	Very Enjoyable (4)	Extremely Enjoyable (5)
Math (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reading (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Science (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Writing (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How good do you think *you* are at each of the following?

	Very Poor (1)	Poor (2)	Acceptable (3)	Good (4)	Very Good (5)
Math (1)	<input type="radio"/>				

Reading (2)	<input type="radio"/>				
Science (3)	<input type="radio"/>				
Writing (4)	<input type="radio"/>				

Page Break

How enjoyable do you think *your child* finds the following activities?

	Not at all Enjoyable (1)	Slightly Enjoyable (2)	Moderately Enjoyable (3)	Very Enjoyable (4)	Extremely Enjoyable (5)
Math (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reading (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Science (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Writing (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How good do you think *your child* is at each of the following activities?

	Very Poor (1)	Poor (2)	Acceptable (3)	Good (4)	Very Good (5)
Math (1)	<input type="radio"/>				
Reading (2)	<input type="radio"/>				
Science (3)	<input type="radio"/>				

Writing (4) |

How important do you think it is for *your child* to do the following activities at home?

	Not Important (1)	Slightly Important (2)	Moderately Important (3)	Important (4)	Very Important (5)
Math (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reading (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Science (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Writing (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How many *days per week* does your child do the following activities at home during the school year? (If activities overlap choose the subject area that you think best represents the activity.)

	0 (1)	1 (2)	2 (3)	3 (4)	4 (5)	5 (6)	6 (7)	7 (8)
Math (1)	<input type="radio"/>							
Reading (2)	<input type="radio"/>							
Science (3)	<input type="radio"/>							
Writing (4)	<input type="radio"/>							



On a typical day that your child does an activity, how many *minutes per day* does your child engage in the following activities at home during the school year? (If activities overlap choose the subject area that you think best represents the activity.)

	Minutes per day (1)
Math (1)	
Reading (2)	
Science (3)	
Writing (4)	

Page Break

Please describe the typical **math** activities your child does at home.

Please describe the typical reading activities your child does at home.

Page Break

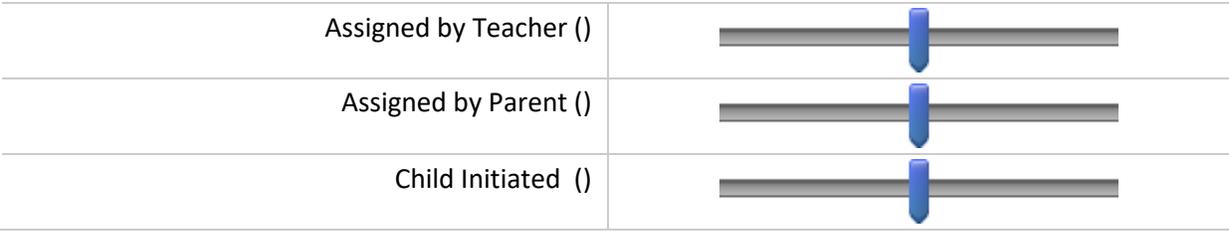
Please describe the typical **science** activities your child does at home.

Please describe the typical writing activities your child does at home.

Page Break

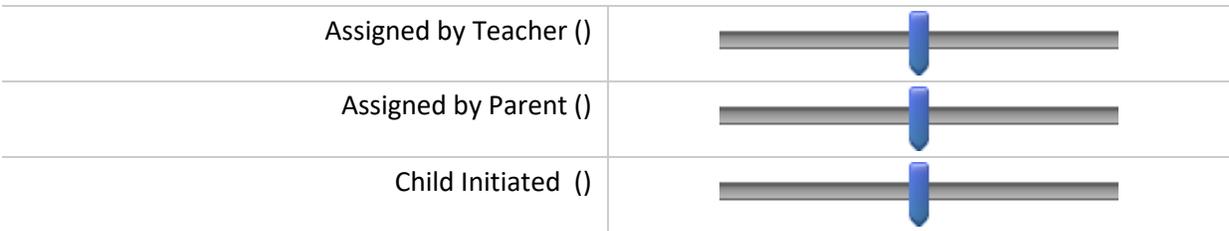
For math, in a typical week, approximately what percentage of home-based activities are:
(Percentages should add up to 100%)

0 10 20 30 40 50 60 70 80 90 100



For reading, in a typical week, approximately what percentage of home-based activities are:
(Percentages should add up to 100%)

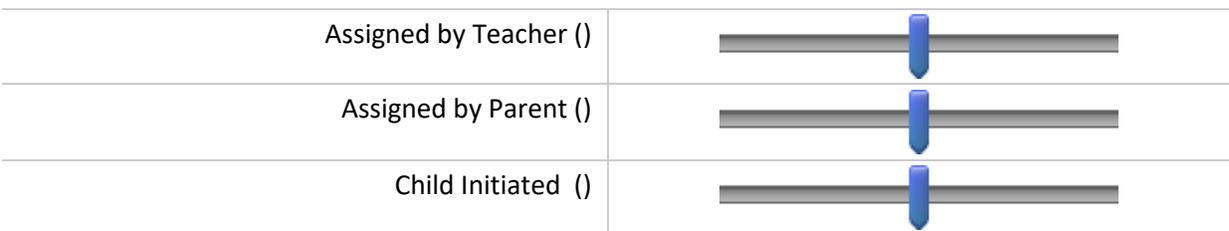
0 10 20 30 40 50 60 70 80 90 100



Page Break

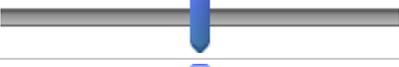
For science, in a typical week, approximately what percentage of home-based activities are:
(Percentages should add up to 100%)

0 10 20 30 40 50 60 70 80 90 100



For **writing**, in a typical week, approximately what percentage of home-based activities are:
(Percentages should add up to 100%)

0 10 20 30 40 50 60 70 80 90 100

Assigned by Teacher ()	
Assigned by Parent ()	
Child Initiated ()	

Page Break

How important is it for you to help your child with the following activities?

	Not Important (1)	Slightly Important (2)	Moderately Important (3)	Important (4)	Very Important (5)
Math (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reading (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Science (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Writing (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How confident are you that you know what to do to support your child's learning in the following areas?

	Not Confident (1)	Slightly Confident (2)	Moderately Confident (3)	Confident (4)	Very Confident (5)
Math (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reading (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Science (3)	<input type="radio"/>				
Writing (4)	<input type="radio"/>				

Page Break

The following questions ask about digital technology. Digital technology refers to: computers, smartphones, tablets, video games, and Kindles/Nooks.

How many *days per week* does your child use a digital device to engage in the following activities (with or without supervision)?

	0 (1)	1 (2)	2 (3)	3 (4)	4 (5)	5 (6)	6 (7)	7 (8)
Math (1)	<input type="radio"/>							
Reading (2)	<input type="radio"/>							
Science (3)	<input type="radio"/>							
Writing (4)	<input type="radio"/>							



When your child uses a digital device, how many *minutes per day* does he/she use a device to engage in the following activities (with or without supervision)?

Minutes per day (1)

Math (1)	
Reading (2)	
Science (3)	
Writing (4)	

What devices does your child use for **math**? List all that apply:

What devices does your child use for **reading**? List all that apply:

Page Break

How do you feel about the amount of time your child uses a digital device to engage in the following activities (with or without supervision)?

	Should be used a lot more (1)	Should be used a little more (2)	Used just the right amount (3)	Should be used a little less (4)	Should be used a lot less (5)
Math (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reading (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Science (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Writing (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How confident are you in your ability to assist with activities for which your child uses a digital device?

	Not Confident (1)	Slightly Confident (2)	Moderately Confident (3)	Confident (4)	Very Confident (5)
Math (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reading (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Science (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Writing (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

What do you think about the use of digital technology for basic subjects like math, reading, science, and writing (with or without supervision)?

Page Break

How important is it to you that your child learns handwriting skills?

- Not Important (1)
- Slightly Important (2)
- Moderately Important (3)
- Important (4)
- Very Important (5)

Does your child's school teach handwriting skills (in your child's grade or other grades)?

- Yes (1)
 - No (2)
 - Don't know/Not sure (3)
-

How important is it to you that your child learn to write in cursive?

- Not Important (1)
 - Slightly Important (2)
 - Moderately Important (3)
 - Important (4)
 - Very Important (5)
-

Does your child's school teach cursive (in your child's grade or other grades)?

- Yes (1)
 - No (2)
 - Don't know/Not sure (3)
-

How important is it to you that your child learn to type?

- Not Important (1)
 - Slightly Important (2)
 - Moderately Important (3)
 - Important (4)
 - Very Important (5)
-

Does your child's school teach typing (in your child's grade or other grades)?

- Yes (1)
- No (2)
- Don't know/Not sure (3)

How confident are you in your ability to assist your child with the following?

	Not Confident (1)	Slightly Confident (2)	Moderately Confident (3)	Confident (4)	Very Confident (5)
Handwriting (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cursive (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Typing (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Page Break

Some schools have begun eliminating instruction in cursive because formal documents are now most often typed. What do you think about this?

Page Break

Is there anything else you would like to tell us regarding the content of this survey?

Raffle

Would you like to be entered into a raffle to win one of five \$20 Amazon gift cards? In order to keep your survey responses anonymous, you will be redirected to a separate survey to input your email if you select "Yes." If you select "No", your responses will be saved and you will be exited from the survey.

Yes (1)

No (2)

End of Block: Parents' Views of Education and Technology
