



Broadband and Education – Connecting Students in Texas



September 2014

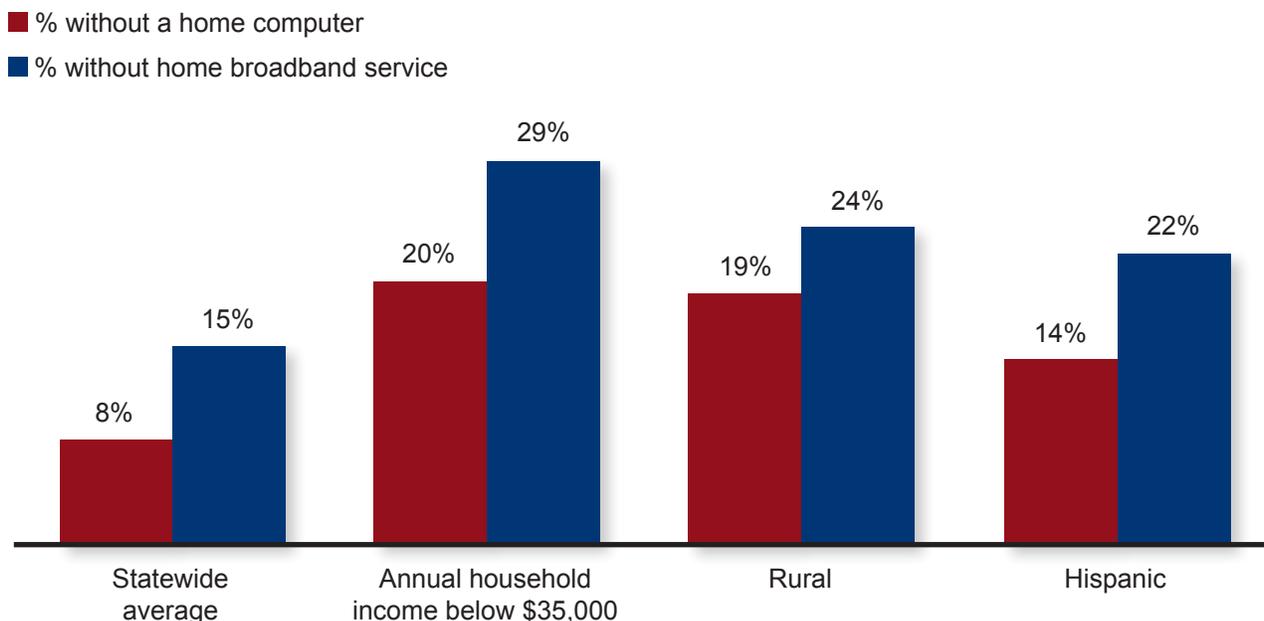
Because broadband is such an important educational tool, it is vital that all students have the ability to access it. Without ubiquitous broadband access for Texas students, the state risks separating its schools into the “haves” and “have nots” and putting children whose families cannot afford broadband at risk of falling behind their peers. Lack of home broadband access also makes it difficult for teachers, who often need to limit the amount of Internet-related homework they assign to avoid setting some children up for failure.

To help explore this issue, Connected Texas conducted a survey of Texas households in 2013 to determine how children are using the Internet, and whether other options are available for those students who do not have broadband access at home. Our research found that many students still do not have broadband access at home, but schools are making an effort to ensure that all students receive the digital literacy training they will need to succeed in college and the workforce.

Internet Use for Schoolwork

Across Texas, the majority of school-age children have a computer at home – only 8% of parents who have school-age children report not having a home computer, while nearly twice that number (15%) say they do not have home broadband service. This means that more than 950,000 school-age children in Texas do not have broadband access at home and have to rely on alternative ways to study or conduct research for school. Among households that earn less than \$35,000 per year, rural households, and among Hispanic families, those percentages are even higher (Figure 1).

Figure 1.
Texas Households with School-Age Children



Among the findings from this report:

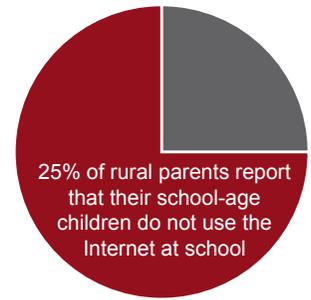
- Only **8%** of Texas households with K-12 students do not own a computer, but more than **950,000** students in the state do not have broadband at home
- Students living in homes with annual household incomes below \$35,000, rural students, and Hispanic students are **less likely** to have home computers or broadband service at home
- Not all students use the Internet at school – **one in four** rural parents of K-12 students in Texas (**25%**) say their child does not use the Internet at school
- The top barrier to broadband adoption among Texas parents of K-12 students is the **parents' own lack of digital literacy skills**
- **One in five** Texas parents of K-12 students (**20%**) say their children's school provides students with laptop or tablet computers; Hispanic parents, those with annual household incomes below \$35,000, and those living in rural parts of the state are more likely to report that their children's schools provide computers to students
- **Over one-half** of parents of K-12 students whose schools provide computers say that they have helped their children's grades, and six out of ten parents who do not have broadband at home agree that having Internet service at home would make it easier for their child to do homework

This lack of home broadband service puts many Texas students at risk – without the ability to go online from home, those students must rely on alternative means to use the Internet for their homework or risk falling behind their peers who have broadband at home.

Across the state, 88% of parents with school-age children say that their children use the Internet at school. Additionally, 10% go online from their local library, while 8% access the Internet from a friend or family member’s home.

Rural schools fall behind in this measurement, though; one in four rural parents of school-age children (25%) report that their children do not use the Internet at school (Figure 2).

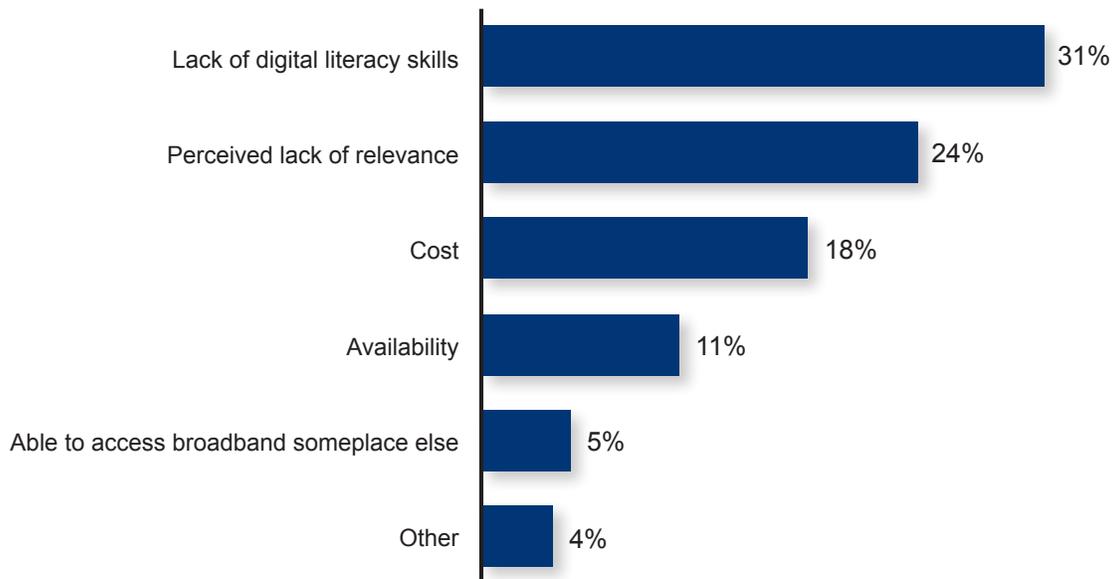
Figure 2.



Barriers to Broadband Adoption among Texas Parents

Parents of Texas school-age children who do not subscribe to home broadband service cite a lack of digital literacy skills as their main barrier to home broadband adoption (Figure 3). This suggests that increasing opportunities for computer training can benefit not only this generation, but also the next.

Figure 3.
Main Barriers to Home Broadband Adoption among Parents of School-Age Children



Nearly one in four (24%) do not subscribe because they do not see the relevance of having home broadband or they do not think it is beneficial, while 18% of these parents say they do not subscribe to home broadband service due to the cost. One in nine non-subscribing parents of school-age children, primarily in rural parts of the state, still report that they do not have home broadband service because it is not available where they live.

Parents who do not subscribe to home broadband service still recognize that having the service at home would benefit their child’s education, though. Six out of ten parents without home Internet service (60%) agree that having Internet service at home would make it easier for their child to do homework.

Texas Schools Are Helping Students Get Connected

Laptop and tablet computers, along with wireless Internet service, have greatly increased the role that technology can have in delivering an education anywhere at any time. The educational opportunities from having broadband access, combined with the difficulty that many students face in trying to access the Internet, have led many school districts to begin providing mobile computing devices such as laptop and tablet computers for their students to use.

Statewide, one in five parents of school-age children (20%) say their children received a laptop or tablet device from their school. That translates into over a million school-age children in the state with mobile computing devices provided by their school. Families who have historically been at the greatest risk for not having broadband are more likely to report that their children's schools provide computers to students, suggesting that Texas schools with larger shares of these students may be promoting these programs to increase broadband access for all their students (Table 1).

Table 1.
Parents of School-Age Children who Report that their Children's School Supplies Computers

	Parents who say their children's schools provide students with laptop or tablet computers
Statewide	20%
Annual household income below \$35,000	26%
Rural	30%
Hispanic	28%

Many parents see the improvement that these school-provided computers can have on their children's education. Across the state, more than one-half of parents (54%) whose children attend schools that provide computers say that those computers have had a positive impact on their children's education. This suggests that computers supplied by schools can have a positive impact on children's learning, particularly among students at the greatest risk for not having broadband available to them at home.

Conclusions

Although most Texas students have access to home broadband service, more than 950,000 still are not connected at home, putting them at a disadvantage. Rural students, in particular, are at risk for not having broadband available to them at home.

Because of these challenges, many schools are providing their students with laptop and tablet computers, and the response from parents has been positive. As such it is important to ensure that all schools across the state have high-quality broadband connections and can provide students with the opportunity to learn the skills that will help keep Texas at the forefront of innovation. Without support for these programs, Texas risks giving a portion of its students a sub-par education, the effects of which will be felt for years to come.

Methodology:

Between November 18 and December 28, 2013, Connected Texas conducted a random digit dial telephone survey of 1,200 adult heads of households across the state. Of the 1,200 respondents randomly contacted statewide, 200 were called on their cellular phones, and 1,000 were contacted via landline telephone. Once the respondent agreed to participate, these surveys took approximately ten (10) minutes to complete.

To ensure that the sample was representative of the state's adult population, Connected Texas set quotas by age, gender, and county of residence, and weighted the results to coincide with 2012 United States Census population estimates. Connected Texas applied rim weighting to correct for minor variations and to ensure that the sample matched the most recent U.S. Census estimates of the state's adult population by age, gender, and the urban/rural classification of each respondent's county of residence. For the purpose of setting quotas and weighting, "rural" respondents are defined as living in a county that is not a part of a Metropolitan Statistical Area (MSA), as designated by the United States Office of Management and Budget.

Thoroughbred Research Group, located in Louisville, KY, conducted the surveys in English and Spanish. Lucidity Research, LLC, provided weighting and research consultation. Connected Texas calculated cross-tabulated results using WinCross 11.0, while weighting and regression analyses were conducted using SPSS Statistics v. 20. Dr. Sharon Strover from the University of Texas at Austin reviewed the results and survey methodology.

The effective post-weighting margin of error = $\pm 3.49\%$ at a 95% level of confidence for the statewide sample. As with any survey, question wording and the practical challenges of data collection may introduce an element of error or bias that is not reflected in this margin of error.

Connected Texas conducted this residential survey as part of the State Broadband Initiative (SBI) grant program, funded by the National Telecommunications and Information Administration. The SBI grant program was created by the Broadband Data Improvement Act, unanimously passed by Congress in 2008 and funded by the American Recovery and Reinvestment Act in 2009.

Definitions:

1. Computer owners are defined as respondents who answered "yes" when asked, "Does your household have a computer?"
2. Broadband subscribers are defined as respondents who answered "yes" when asked, "Do you subscribe to the Internet at home?" and answered, "broadband or high speed Internet service" when asked, "Which of the following describe the type of Internet service you have at home?"
3. Annual household incomes are self-reported in response to the question: "Which of the following categories best describes the total annual household income earned by all wage earners in your household? Please stop me when I read your category."
4. Hispanic respondents are self-identified as those who answered "yes" when asked, "Are you, yourself, of Hispanic, Latino, or Spanish origin or descent?" or provided a similar response when asked, "Which of the following race (or races) do you consider yourself to be?"
5. Households with school-age children are defined as those where respondents answered "yes" when asked, "Do you have any children under the age of 18 living at home?" and gave an answer of one or greater when asked, "And how many of those children are currently enrolled in kindergarten through the 12th grade at school?"
6. Main barriers to home broadband adoption are identified by asking residents who do not subscribe to home broadband service the multiple choice question: "Why don't you subscribe to broadband Internet service at home?" and following that question by probing, "And which one of these is the main reason why you do not subscribe to home broadband service?"

7. Households with school-age children whose schools provide computers are defined as those where respondents answered “yes” when asked, “Do your children’s schools provide them with a laptop or tablet computer to use?”
8. Households with school-age children who deem those computers to have a positive impact on their children’s grades are defined as those where respondents answered, “A positive impact” when asked, “Since the school supplied a computer for schoolwork, how has that affected your children’s grades?”

Select sample sizes:

2013 Connected Texas Residential Assessment	n =
Total	1,200
Households with school-age children	324
With annual household incomes below \$35,000	67
Rural	93
Hispanic	63
Do not subscribe to home broadband service	49
Child's school provides laptop or tablet computers	89

