

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)	
)	
Children’s Television Programming Rules)	MB Docket No. 18-202
)	
Modernization of Media Regulation Initiative)	MB Docket No. 17-105
)	

**COMMENTS OF THE INSTITUTE FOR THE STUDY OF KNOWLEDGE
MANAGEMENT IN EDUCATION, PROJECTED, EVOLVED, AND EXPLORER AT
LARGE**

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SUMMARY

While the unique and vital role that broadcast television can play in a child's education had already been well documented when Congress adopted the Children's Television Act of 1990 ("CTA"), recent research continues to validate and underscore the importance that television maintains in the lives of Americans and its profound ability to improve educational outcomes for the nation's children. For this reason, the Commission must ensure that its efforts to "modify outdated requirements and to give broadcasters greater flexibility" in complying with the CTA serve to enhance, rather than undermine, the learning opportunities made available to America's children.

And while it is true that the way in which viewers consume video programming is shifting, since now many young people watch TV on computers, tablets, or smartphones, broadcast television remains the great equalizer for lower income households and children who have limited access to other platforms and broadband Internet access. Recent data confirms that children who watch the most broadcast television are the same children who have the least access to other platforms and devices. Therefore, the Commission's priority should not be to relieve broadcasters of their obligations to the public good, but rather to ensure that the educational content that these broadcasters make available is keeping pace with the expectations of children and parents, while ensuring that broadcast television continues to play its essential role as the great equalizer.

To accomplish this objective, the Commission should launch a pilot program to gain greater insights into the value of cross-platform learning approaches. Although the field remains in its early stages, research suggests that cross-platform approaches to education may be uniquely effective in improving learning outcomes. With this vision, education may start with a

television show, but then continue onto other platforms like computers, tablets, or smartphones. The Commission's program should be aimed at garnering deeper knowledge that can inform future decision-making for cross-platform learning, and the Commission should incentivize broadcasters to follow this path in fulfilling the mandates of the CTA.

Among other requirements, the pilot program must set ground rules that help to ensure that the online learning extends and enhances the educational experience that begins on an E/I television show, including the following:

1. The cross-platform learning must address the same educational content as the television show;
2. The cross-platform learning must use the same characters to further the learning begun on the television show;
3. The television show must “nudge” viewers to the cross-platform learning opportunity at least once at the end of each episode;
4. The applicant to participate in a pilot program must prepare, submit and implement a robust research plan that seeks to measure, *inter alia*, whether viewers who participate in the cross-learning platform have improved educational outcomes; and
5. The applicant must make its full research results available to the Commission and researchers for analysis, subject to applicable privacy requirements.

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These Comments are filed on behalf of the Institute for the Study of Knowledge Management in Education (“ISKME”), ProjectEd, EvolvED, and Explorer at Large in response to the Commission’s Notice of Proposed Rulemaking (“NPRM”) adopted on July 12, 2018.¹ As described more fully below, each of these educational policy leaders believe that broadcast television plays a unique and vital role in improving the educational outcomes of children. The Commenters, therefore, urge the Commission to ensure that its efforts to “modify outdated requirements and to give broadcaster greater flexibility”² in complying with the Children’s Television Act of 1990 (“CTA”) serve to enhance, rather than undermine, the learning opportunities made available to America’s children. Indeed, while modernizing regulations in a rapidly-changing technological environment is a laudable goal, the Commission should be certain that in giving “greater flexibility” to broadcasters it continues to honor the express will of Congress to ensure that those broadcasters continue to address the needs of children by providing access to quality educational and informational programming.

¹ *In re: Children’s Television Programming Rules, Modernization of Media Regulation Initiative, Notice of Proposed Rulemaking*, MB Docket Nos. 18-202, 17-105, FC 18-93 (July 13, 2018) (“NPRM”).

² *Id.* at 1.

ABOUT THE COMMENTERS

ISKME is an independent, education nonprofit whose mission is to improve the practice of continuous learning, collaboration, and change in the education sector. Established in 2002, ISKME conducts social science research, develops research-based innovations, and facilitates innovation that improves knowledge sharing in education. Based in Silicon Valley, ISKME supports innovative teaching and learning practices throughout the globe and is well-known for its pioneering open education initiatives. ISKME also assists policy makers, foundations, and education institutions in designing, assessing, and bringing continuous improvement to education policies, programs, and practice.

ProjectEd is a mission-driven consulting group, committed to helping educational and philanthropic organizations create exceptional services and products. ProjectEd emerged out of Amplify Education, where team members worked on projects from product ideation through launch and implementation. Team members at ProjectEd come from a huge breadth of industries and disciplines who have all gravitated toward the world of education. Prior experiences include work at Nickelodeon, Scholastic, PBS, and The New York Times.

EvolvED is a committed team of social engineers who serve as the market catalyst to connect the doers, educators and policy makers from both the for-profit and nonprofit community with one another. EvolvEd develops strategies to create sustainable enterprises. EvolvED's team has explored closely the possibility that E/I programming could be connected to deeper, online learning experiences.

Explorer At Large was founded by Josh Bernstein, a television host that starred in series for the History Channel and the Discovery Channel (*Digging for the Truth* (2004-2007) and *Into The Unknown with Josh Bernstein* (2008-2009)), which gave him the life-changing opportunity

to travel the world on a quest to explore some of the biggest mysteries on our planet. From lost cities in the Amazon to Biblical relics of the Holy Land to enduring legends of archaeology, his small documentary crew worked hard to deliver 53 hour/shows that were engaging, entertaining, and educational. Explorer At Large's mission is to bring spirited adventure and insatiable curiosity directly into the formal education system. They do this by producing content that purposefully connects to the curriculum. Explorer At Large is in the process of developing cross-platform education content that approaches education through a problem-based learning (PBL) pedagogy.

DISCUSSION

I. BROADCAST TELEVISION REMAINS A CRITICAL TOOL FOR EFFECTIVELY DELIVERING EDUCATIONAL CONTENT TO AMERICA'S CHILDREN

In enacting the CTA, Congress has recognized that television can benefit society by helping to educate and inform our children. Congress cited research demonstrating that television programs designed to teach children specific skills are effective.³ For example, the Senate Report highlighted research showing that "Mister Rogers' Neighborhood" and "Sesame Street" have been shown to learn task persistence, imaginative play, and letter and number skills.⁴ Congress also recognized the power of other shows to improve mathematics and to encourage reading.⁵

Congress concluded that evidence established that children watch educational programming without being forced to do so and that educational programming effectively reached low-income communities.⁶ Important to Congress's adoption of the CTA was

³ S. Rep. 101-66, 101st Cong., 1st Sess., 1989 WL 230916, at 5-6 (1989).

⁴ *Id.*

⁵ *Id.*

⁶ *Id.*

recognition that “[t]elevision programming can make an important contribution to education at the national level, because television is accessible to all Americans.”⁷

The Commission has also affirmed that “children can benefit substantially from viewing educational television.”⁸ And that the unique reach of broadcast television was particularly important because “nearly all American children have access to television and spend considerable time watching it.”⁹ The Commission also expressly found that the clear objective of the CTA is to “increase the amount of educational and information broadcast television available to children” by “placing on each and every licensee an obligation to provide educational and information programming, including programming designed to educate and inform children, and requiring the FCC to enforce that obligation.”¹⁰

As discussed more fully below, the prior findings of Congress and the Commission remain true today. Educational television continues to play an important and positive role in children’s learning. Further, educational television on public broadcast channels remains a uniquely effective means of reaching all Americans, particularly lower-income communities. Moreover, the evidence demonstrates that educational television programming is a uniquely cost-effective strategy for improving the educational outcomes of children.

A. Educational Television Has Been Proven to Positively Impact Learning

While the valuable role that television can play in a child’s education had already been well documented when Congress adopted the CTA in 1991, more recent research continues to

⁷ *Id.* at 12.

⁸ *In the Matter of Policies and Rules Concerning Children’s Television Programming*, Report and Order, 11 FCC Rcd. 10660, ¶ 10 (1996) (“1996 CTA Order”); *see also In the Matter of Policies and Rules Concerning Children’s Television Programming*, Report and Order and Further Notice of Proposed Rulemaking, 19 FCC Rcd. 22943, ¶ 4 (2004).

⁹ 1996 CTA Order, ¶ 11.

¹⁰ *Id.* at ¶ 22.

validate this conclusion. Two papers published by Professors Melissa S. Kearney and Phillip B. make significant additional contributions to this body of research.

The first paper titled *Media Influences on Social Outcomes: The Impact of MTV's 16 and Pregnant on Teen Childbearing* examines whether an MTV reality television show exploring the realities of teen pregnancies had a measurable impact on the rate of teenagers becoming pregnant in the United States.¹¹ While the show was “not specifically designed as an anti-teen childbearing campaign,” the researchers conclude that “it seems to have had that effect by showing that being a pregnant teen and a new mother is hard – it strains relationships with friends, parents, and the baby’s father, and means physical discomfort, potential health problems, and sleep deprivation.” The analysis concludes that exposure to the show had “a sizeable impact on the rate at which teens give birth in the United States, generating a 4.3 percent reduction in teen births that would have been conceived between June 2009, when the show began, and the end of 2010.”¹² Indeed, the show accounts for 24 percent of the total decline in teen births in the United States during this time period.¹³ Thus, as the study’s authors conclude that “media has the potential to be a powerful driver of social outcomes.”¹⁴

In their second research study, Professors Kearney and Levine returned to one of the most highly-recognized educational television shows, *Sesame Street*, which they described as the first “Massive Open Online Course” or “MOOC”.¹⁵ The researchers sought to evaluate whether

¹¹ Melissa Kearney and Phillip Levine, “Media Influences on Social Outcomes: The Impact of MTV’s 16 and Pregnant on Teen Childbearing” NBER Working Paper No. 19795 (Jan. 2014., rev. Aug. 2015), available at: <http://www.nber.org/papers/w19795>

¹² *Id.* at Section V.

¹³ *Id.*

¹⁴ *Id.*

¹⁵ Melissa Kearney and Phillip Levine, “Early Childhood Education by MOOC: Lessons from Sesame Street,” BNER Working Paper No. 21229 (June 2015), available at: <http://www.nber.org/papers/w21229>

the show had a measurable impact on the education of children. The researchers isolated educational data for areas that had access to the show, and compared that to other areas of the country where the conditions precluded exposure to the show. The key finding from this analysis is that “*Sesame Street* satisfied its goal of preparing children for school entry, especially for black and disadvantaged children” and “[r]emarkably, the show accomplished that at a cost of around \$5 per child per year (in today’s dollars).”¹⁶ *Sesame Street* had a “substantial and immediate impact on test scores, comparable in size to those observed in early Head Start evaluations.”¹⁷ Thus, *Sesame Street* represents “perhaps the biggest, yet least costly, early child intervention” that “costs pennies on the dollar relative to other early childhood interventions.”¹⁸

These and other research findings underscore the unique role that television plays in the lives of Americans and its profound ability to improve educational outcomes for the nation’s children.

B. Broadcast Television Remains a Great Equalizer

Broadcast television, in particular, continues to hold a unique place in the lives of Americans, particularly children. In 2014, 300 million Americans age 2 and older live in households with a television, meaning it continues to be the most ubiquitous media platform in America.¹⁹ By 2018, the estimate had increased to 304.5 million, an increase of 0.9% over the prior year. The increase in Americans owning TVs was credited, in part, to “[i]ncreases in U.S.

¹⁶ *Id.* at 33.

¹⁷ *Id.* at 1.

¹⁸ *Id.*

¹⁹ Pamela Johnson, Devon Steven, Barbara E. Lovitts, David Lowenstein & Jennifer Rodriguez, “Leveraging Transmedia Content to Reach and Support Underserved Children,” *Journal of Children and Media* 10, no. 2 (March 15, 2016), at 268 (citing Nielsen, “Nielsen estimates 116.3 TV homes in the US, up 0.4%” (2014), available at: <http://www.nielsen.com/us/en/insights/news/2014/nielsen-estimates-116-3-million-tv-homes-in-the-us.html>).

Hispanic, black, and Asian households” and was attributed to both “population growth and TV penetration.”²⁰

Despite the increase in TV households, the NPRM focuses primarily on the fact that our society is experiencing a “major shift in the way in which viewers, including children, consume video programming. Appointment viewing has declined *sharply* as viewers increasingly access video programming using time-shifting technology (e.g., DVRs and video on demand).”²¹ To support this statement, the NPRM cites to Colin Dixon, *Live TV and Movie Habits Continue Sharp Decline in 2018*, ScreenMedia (Jan. 2, 2018) and to Rani Molla, *Millennials Mostly Watch TV After It’s Aired*, Recode.net (Sept. 9, 2017).²²

While it is true that television watching is shifting, broadcast television remains the most common platform used by American audiences. For example, Dixon observes that “recent Nielsen data indicate that live TV viewing has been declining between 2% and 6% each year for the last four years in the U.S.”²³ and that “the decline is steeper among younger viewers.” However, Dixon also notes that young viewers will nevertheless continue to watch “9-and-a-half hours per week [of broadcast Television] in Q2 2018.”²⁴

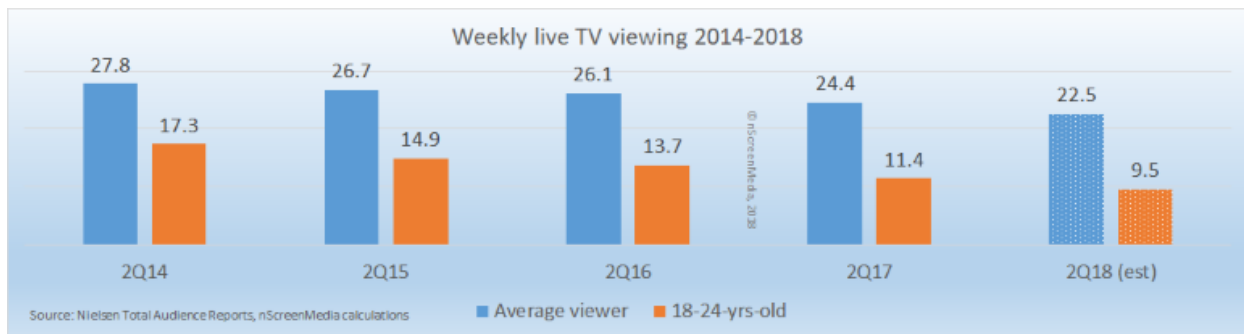
²⁰ Nielsen, “Nielsen estimates 119.6 Million TV homes in the U.S. for the 2017-18 TV Season” (2017), available at: <http://www.nielsen.com/us/en/insights/news/2017/nielsen-estimates-119-6-million-us-tv-homes-2017-2018-tv-season.html>

²¹ Colin Dixon, *Live TV and Movie Habits Continue Sharp Decline in 2018*, nScreenMedia (Jan. 2, 2018), available at: <http://www.nscreenmedia.com/video-viewing-habits-away-from-tv-movie/>

²² NPRM at 16 citing to Colin Dixon, *Live TV and Movie Habits Continue Sharp Decline in 2018*, nScreenMedia (Jan. 2, 2018), available at: <http://www.nscreenmedia.com/video-viewing-habits-away-from-tv-movie/> and Rani Molla, *Millennials Mostly Watch TV After It’s Aired*, Recode.net (Sept. 9, 2017), available at: <https://www.recode.net/2017/9/9/16266854/millennials-watch-tv-livevideo-on-demand>.

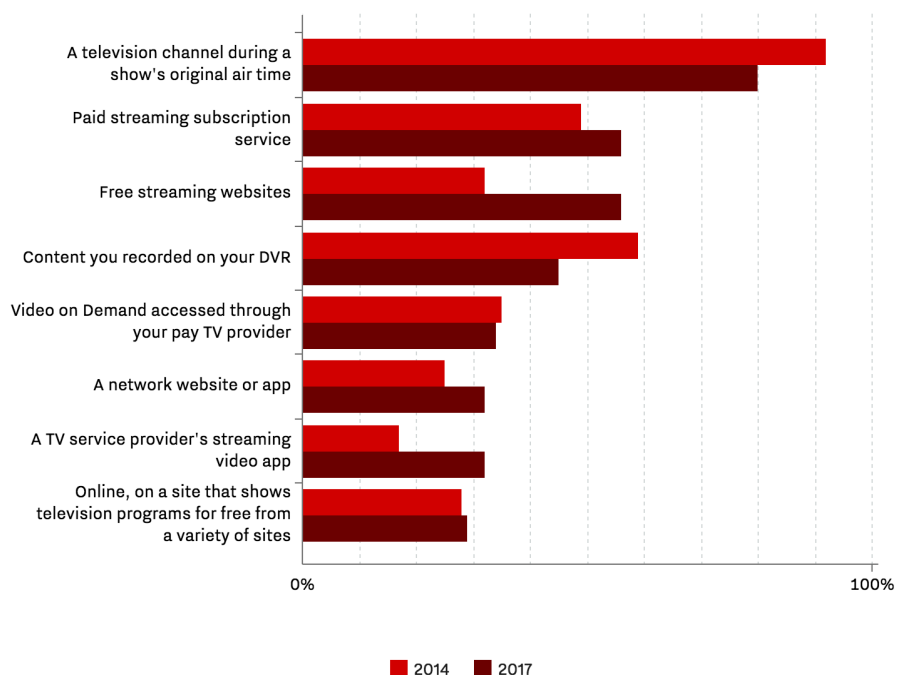
²³ Id.

²⁴ Id.



Moreover, while the shifts observed in NPRM are no doubt significant, there remains a substantial number of Americans that rely exclusively on broadcast television for video content, including children. According to a Consumer Technology Association report, consumers Live TV is the platform most commonly used, despite the growing number of the other available options.²⁵

Share of consumers who watch the following at least once a week

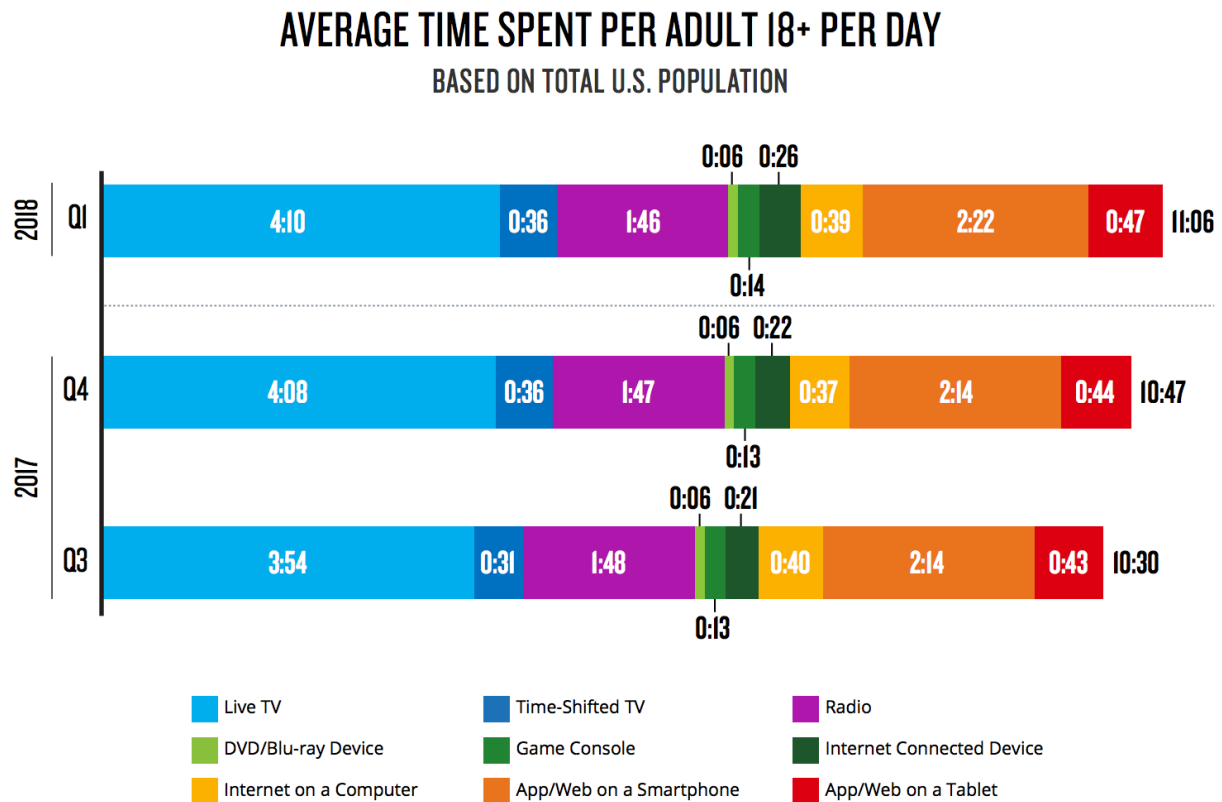


Source: Consumer Technology Association

recode

²⁵ Rani Molla, *Millennials Mostly Watch TV After It's Aired*, Recode.net (Sept. 9, 2017) <https://www.recode.net/2017/9/9/16266854/millennials-watch-tv-livevideo-on-demand>.

A recent Nielsen report also confirms that during the first quarter of 2018, U.S. adults spent more time watching Live TV than any other platform:²⁶

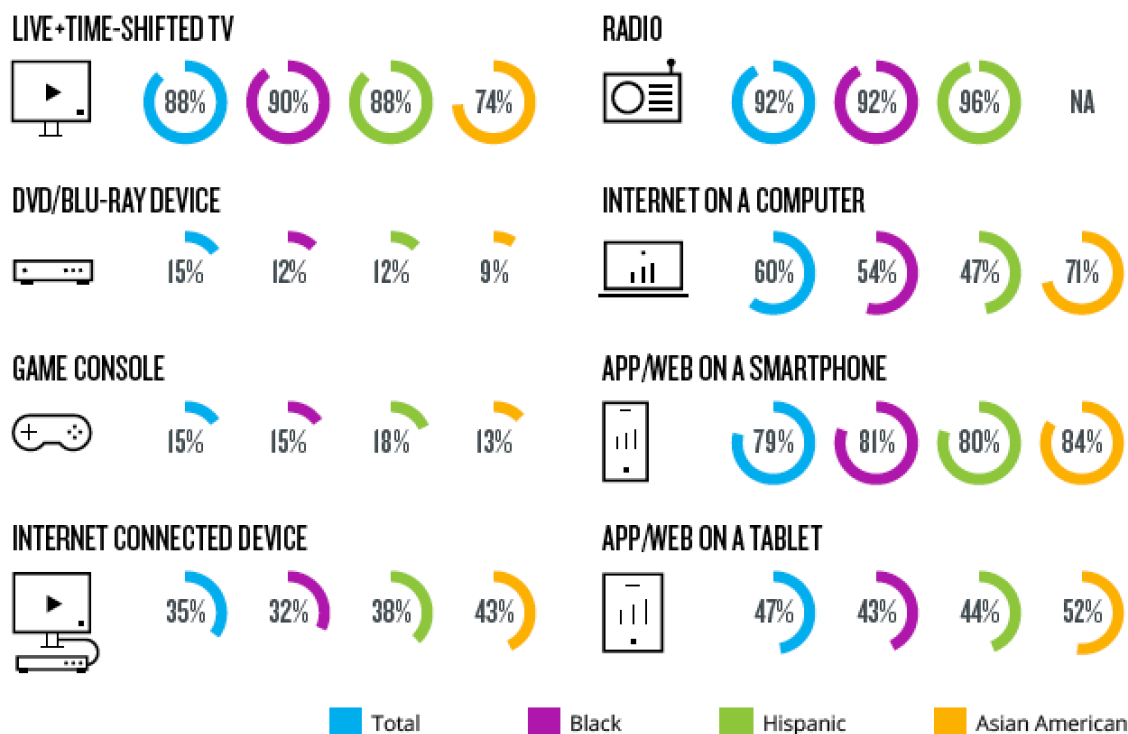


Note: Some amount of simultaneous usage may occur across devices.

The continued prevalence of television in the lives of most American is likely directly correlated to its ubiquity. Penetration rates for television are exceeded only by radio:

²⁶ Nielsen, *The Nielsen Total Audience Report, Q1 2018*, available at: <http://www.nielsen.com/us/en/insights/reports/2018/q1-2018-total-audience-report.html>

Q1 2018 WEEKLY REACH % OF USERS 18+ AMONG U.S. POPULATION



P18+ Total Universe (millions)	247	31	39	16
% of P18+ Total Universe		13%	16%	7%

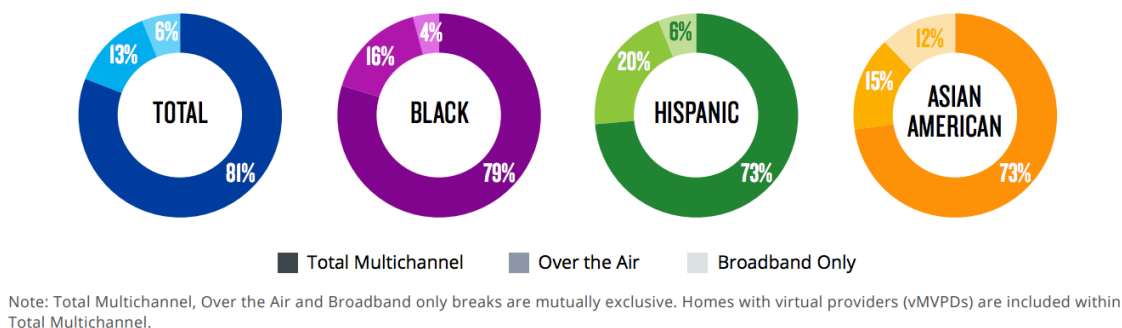
Radio measurement includes Asian Americans but cannot be separated from the total audience at this time

Nielsen's report also recognizes that 13% of television homes rely exclusively on broadcast television ("Over-the-air" homes) with important differences based on ethnicity. Ethnic minorities continue rely on broadcast television at much higher rates than the population as a whole.²⁷ Specifically, 20% of Hispanic households, 16% of black households, and 15% of Asian households rely exclusively on broadcast television, in comparison to the national average of 13%.

²⁷ *Id.* at 11.

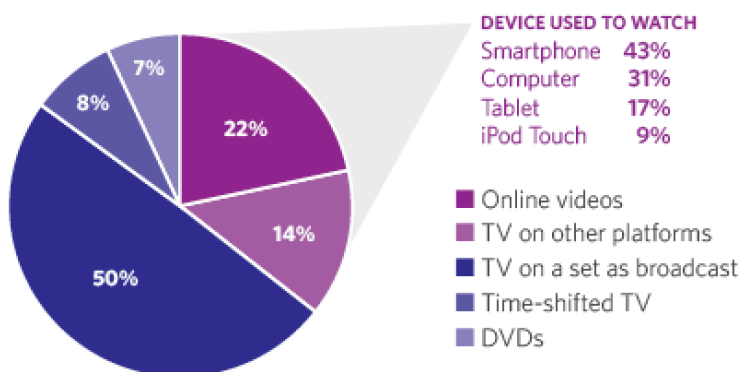
MARCH 2018 TELEVISION DISTRIBUTION STATUS

% OF TV HOUSEHOLDS



Despite the high penetration rates and usage of broadcast television represented in Nielsen report, the methodology did not specifically evaluate children's usage patterns. Other data confirms, however, the importance of broadcast television for young audiences. According to a report by the nonprofit media advocacy group Common Sense, among teens "half (50 percent) of all TV- and video-viewing time consists of watching TV programming on a TV set at the time it is broadcast."²⁸

Figure 6. TV and video viewing among teens, by platform



Note: Percentages may not add to 100% due to rounding.

²⁸

Common Sense, *The Common Sense Census: Media Use by Tweens and Teens* (2015), at p. 16.

Therefore, although many young people watch TV on computers, tablets, or smartphones, this is still far less common than watching TV on a TV set. For example, “on any given day 71 percent of tweens watch TV on a TV set, while only 14 percent watch on any other device; among teens, 64 percent watch on a TV set and 19 percent watch on another device...For teens, the results of the survey also document the proportion of viewing on a TV set that is time-shifted, as opposed to viewed “as broadcast.” *Of all teen viewing on a TV set, 13 percent is time-shifted and 87 percent is not. Therefore, among teens, total TV viewing (online and on a TV set) is now divided such that 70 percent is watching TV as it is broadcast on a TV set, 11 percent is watching time-shifted TV on a TV set, and 19 percent is watching on other devices.*”²⁹

TABLE 19. TOTAL TV VIEWING: DEVICES AND TIME-SHIFTING

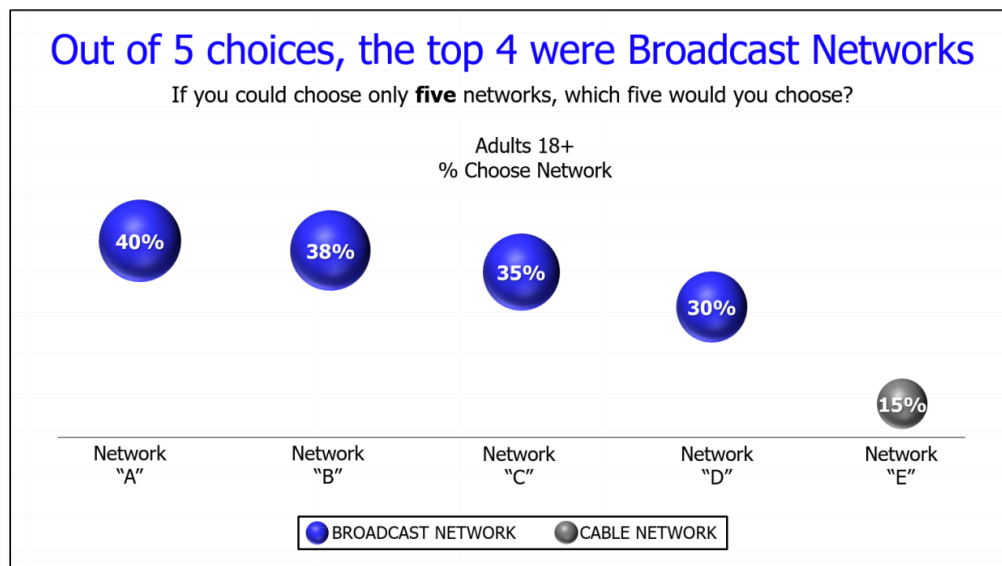
Device	Among Tweens		Among Teens		
	Average time spent watching	Proportion of all TV time	Average time spent watching	Proportion of all TV time	Proportion of TV-set time
TV set	1:29	83%	1:31	81%	—
• Time-shifted*	—	—	:12	11%	13%
• Live*	—	—	1:19	70%	87%
Computer, tablet, or smartphone	:18	17%	:22	19%	—
Total	1:47	100%	1:53	100%	100%

* Question only asked of teens.

Thus, despite the “vast array of children’s programming available,” television remains the preferred choice for children. And, even if the decline of children’s usage of broadcast television continues as alternatives keep growing, it is hard to foresee any future in the near term in which broadcast television will not retain its predominant role in the lives of Americans, including children. Indeed, a recent survey underscores just how critical the major broadcast networks are to the American people. When “respondents were asked to pick only five networks [they could

²⁹ *Id.* at 33.

watch], the top four were broadcast networks by a wide margin, with the fifth choice being a cable network.”³⁰



Source: GfK TVB Media Comparisons Study 2018. Respondents were given 50 choices of Broadcast and Cable Networks with an option to write in a network.

Considering these high audience and penetration rates, broadcast television is a great equalizer for lower income households and children who have limited access to other platforms and broadband Internet access. “Those in households earning less than \$30,000 are more likely than others to say they rely on a digital antenna for TV viewing. Some 14% say this, compared with just 5% who live in households earning \$75,000 or more.”³¹

As a Common Sense report found that:

there is a large “digital equality gap” in ownership of computers, tablets, and smartphones. Children in lower-income families are significantly less likely than their wealthier peers to live in homes with digital technologies. For example, 54 percent of lower-income teens (whose families make less than \$35,000 a year) have a laptop in the home, compared with 92 percent of higher-income teens (\$100,000 a year or more). One in 10 lower-income

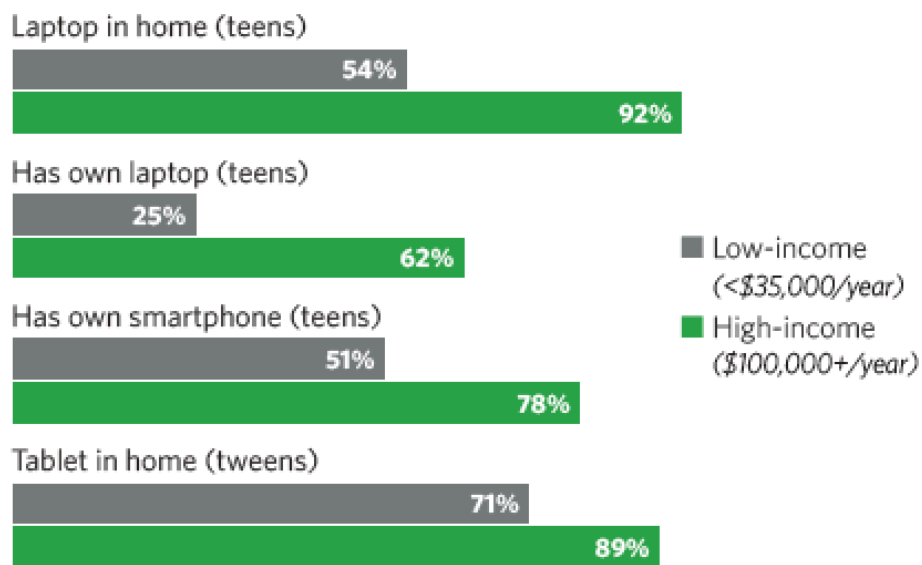
³⁰ TVB Local Media Marketing Solutions, *2018 Media Comparisons Study*, available at: https://www.tvb.org/Portals/0/media/file/TVB_Media_Comparisons_2018_Whitepaper.pdf

³¹ Pew Research Center, *About 6 in 10 young adults in U.S. primarily use online streaming to watch TV*, available at: <http://www.pewresearch.org/fact-tank/2017/09/13/about-6-in-10-young-adults-in-u-s-primarily-use-online-streaming-to-watch-tv/>

teens has only dial-up Internet at home, compared with none of the higher-income teens in our sample. And lower-income teens are much less likely to have their own smartphones as well (51 percent, compared with 78 percent of higher-income teens).³²

Likewise, the Common Sense report concludes that “those in lower-income homes or homes with parents without a college degree are more likely to have TVs in their bedrooms, to watch TV “every day,” and ... lower-income teens watch 59 minutes more than higher-income teens.”³³ Below are two significant charts in the Common Sense report that reflect the gap caused by income and availability of other devices in the household:

Figure 8. Digital inequality: Ownership of devices, by family income



³² Common Sense, *The Common Sense Census: Media Use by Tweens and Teens* (2015), at 17.
³³ *Id.* at 34.

TABLE 14. MEDIA OWNERSHIP AMONG 8- TO 18-YEAR-OLDS, BY FAMILY INCOME

Media Type	Lower Income	Middle Income	Higher Income	%-point difference
In the home:				
• Smartphone	65% ^a	85% ^b	93% ^c	-28
• Tablet	62% ^a	77% ^b	87% ^c	-25
• E-reader	13% ^a	28% ^b	41% ^c	-28
• Video game player	71% ^a	84% ^b	88% ^c	-17
• TV set	89% ^a	96% ^b	98% ^b	-9
Have their own:				
• Laptop (among teens)	25% ^a	44% ^b	62% ^c	-37
• Smartphone (among teens)	51% ^a	69% ^b	78% ^c	-27
• Tablet (among tweens)	48% ^a	53% ^{ab}	56% ^b	-8
• TV in bedroom (among all)	68% ^a	52% ^b	39% ^c	+29
• Video game player in bedroom (among all)	37% ^a	30% ^b	20% ^c	+17

Note: "Lower income" is defined as <\$35,000; "middle" is \$35,000-99,999; and "higher" is \$100,000 or more. "%-point difference" indicates the degree to which the lower-income group differs from the higher-income group. Superscripts (a,b,c) are used to denote whether differences between groups are statistically significant ($p < .05$). Items with different superscripts differ significantly. Items that do not have a superscript, or that share a common superscript, do not differ significantly.

In other words, it can be concluded that children who watch the most broadcast television are the same children who have the least access to other platforms and devices.³⁴ This fact

³⁴ See also Pamela Johnson, Devon Steven, Barbara E. Lovitts, David Lowenstein & Jennifer Rodriguez, "Leveraging Transmedia Content to Reach and Support Underserved Children," *Journal of Children and Media* 10, no. 2 (Mar. 15, 2016), p. 268 ("children with less-educated parents tend to spend more time with television and other screens than their peers with more affluent parents" and "more affluent families tend to be more digitally competent and better leverage new media for their children's learning than families in underserved communities").

underscores the importance of maintaining CTA regulations that ensure an adequate supply of high-quality educational and information programming. The Commission’s priority should not be to relieve broadcasters of their obligations to the public good, but to ensure that the educational content that these broadcasters make available is keeping pace with the expectations of children and parents, while ensuring that broadcast television continues to play its essential role as the great equalizer.

II. THE COMMISSION SHOULD CONSIDER LAUNCHING A PILOT PROGRAM TO GAIN GREATER INSIGHTS INTO THE VALUE OF CROSS-PLATFORM LEARNING APPROACHES

In exploring ways to modernize, without undermining, the CTA, the NPRM seeks comment on how to define “special non-broadcast efforts” that should be considered in evaluating whether a broadcaster has complied with the CTA.³⁵ More specifically, the NPRM asks whether a broadcaster should “receive credit for hosting or participating in an educational website for children that reinforces the themes or lessons in the broadcaster’s Core Programming?”³⁶ To assist the Commission in evaluating the merit of a proposal that would provide credit to broadcasters for hosting an educational website that connects to its E/I programming, the Commenters brings forward relevant research demonstrating that cross-platform approaches to education may be uniquely effective in improving learning outcomes, while also noting that the field continues to evolve. Therefore, the Commenters encourage the Commission to implement a pilot program aimed at garnering deeper knowledge that can inform future decision-making.

“Cross-platform learning” “refers to a child’s learning from combined use of multiple, related media platforms (e.g., television program, digital game, and hands-on materials) that all

³⁵ NPRM ¶ 47.

³⁶ *Id.*

address the same educational concept, using the same characters and world.”³⁷ Cross-platform education is a promising pedagogy that:

Provide[s] multiple entry points to informal educational materials, accommodate children with diverse interests and learning styles, provide repetition and reinforcement of educational content, and allow content creators to match each particular educational concept to the medium through which it can be conveyed most effectively.³⁸

With the increasing use of smartphones and tablets, the interest in cross-platform educational opportunities has expanded significantly in recent years. Important experimentation and innovation continues. Researchers observe that we remain in the early stages of an educational transformation in which students’ learning extends to, and is reinforced by, experiences on different devices and media. As one author stated in a March 2016 special section of the *Journal of Children and Media* titled *Transmedia in the Service of Education*, “the ‘newness’ of the field means that effective models for cross-platform production, and effective approaches to instructional design for such media, are still being identified and developed” and “the design and production of such media more closely resembles an ongoing experiment, with models evolving through deep consideration of the issues involved and considerable experimentation with alternative approaches, informed by extensive formative research.”³⁹

While this transformation is, in many respects, still in its infancy, there are clear signs of the powerful potential that transmedia or cross-platform education holds for children. “Data from several empirical research studies have indicated that cross-platform approaches have the

³⁷ Shalom M. Fisch, “Introduction to the Special Section: Transmedia in the Service of Education,” *Journal of Children and Media*, 10, no. 2 (March 15, 2016), p. 226.

³⁸ *Id.*

³⁹ Shalom M. Fisch, “Introduction to the Special Section: Transmedia in the Service of Education,” *Journal of Children and Media*, 10, no. 2 (March 15, 2016), p. 226.

potential to promote significantly greater learning than use of any one media component in isolation.”⁴⁰

An example of a successful cross-platform educational approach is the show *East Los High*, which had four seasons released on Hulu, with the first season released in 2013. The show is set in a fictional high school in East Los Angeles, a predominantly Latina/o area.⁴¹ The show was designed to “subvert the stereotypes of Latina/o characters as gardeners, maids, and gang members.”⁴² Among the things that sets the show apart from *16 and Pregnant* is that it was designed as a “transmedia edutainment” series, meaning that the series extends beyond the television screen and carried that narrative into other media. Specifically, at the conclusion of each episode, viewers were “nudged” to a dedicated website where they access additional content and resources.⁴³ According to a research study, the show is the “first transmedia program purposefully designed as edutainment to tackle sexual and reproductive health issues.”⁴⁴ In addition to millions of viewers on Hulu, the hundreds of thousands of teens visited the show’s website to access additional content, including health-related information and resources.⁴⁵ Many of the teens that watched the show and accessed the online content reported reduced likelihood to engage in unprotected sex while reporting greater knowledge regarding STD testing and contraception.⁴⁶ Critically, many of those who visited the resources on the website took proactive steps to share the information with peers.⁴⁷ According to researchers, the “tight

⁴⁰ *Id.*

⁴¹ See Wang H., Singhal A, “*East Los High: Transmedia Edutainment to Promote the Sexual and Reproductive Health of Young Latina/o Americans*”, *American Journal of Public Health* 106, no. 6 (June 2016) p. 1003.

⁴² *Id.*

⁴³ *Id.* at 1004.

⁴⁴ *Id.* at 1003.

⁴⁵ *Id.* at 1008.

⁴⁶ *Id.* at 1007.

⁴⁷ *Id.*

connections between the intervention exposure and an infrastructure for follow-up actions (e.g., personalized health information seeking) can greatly boost the efficacy for behavior change.”⁴⁸

A 2011 report prepared by the Corporation for Public Broadcasting and PBS also highlights how cross-platform learning experiences can improve educational outcomes.⁴⁹ The report concludes that educational media is especially effective if used in combination, such that “television shows, Web sites, print materials, and classroom instruction were designed to complement one another,” and, in fact, is “even more powerful than predicted.”⁵⁰ The report highlights research findings from a series of studies conducted by researchers at the University of Pennsylvania.⁵¹ Those studies found that students learned more by watching *Between the Lions* and reading books and print materials based on the same characters than by simply watching the show.⁵² Researchers then found large gains when teachers were also supported with lesson plans, additional learning tools, and coaching and mentoring.⁵³ A 2010 randomized controlled study also found that low-income African-American students in classes where teachers had all of these supports made gains of up to 300 percent on key aspects of early literacy—including tests of oral language and vocabulary, word recognition, and phonemic awareness.⁵⁴

Significant efforts to improve the research and efficacy of cross-platform education is also underway. For example, PBS has developed a prototype “learning analytics platform” (“LAP”) for “collecting, storing, and analyzing data created when children interact with a digital library of transmedia, with the purpose of powering applications that use the resulting

⁴⁸ *Id.* at 1008.

⁴⁹ Corporation for Public Broadcasting & PBS, Findings from Ready to Learn, 2005-2010, p. 19, available at: <http://www.cpb.org/rtl/FindingsFromReadyToLearn2005-2010.pdf>

⁵⁰ *Id.* at 17.

⁵¹ *Id.* at 19.

⁵² *Id.*

⁵³ *Id.*

⁵⁴ *Id.*

information to support children’s learning.”⁵⁵ As PBS recognized, “public media has a unique opportunity to combine strong content with extensive national reach and advanced technology to help children and parents get more out of their engagement with educational interactive content and games.”⁵⁶ The LAP is central to PBS’s envisioned future in which “all stakeholders with a vested interest in a child’s educational outcomes (e.g., parents, caregivers, teachers) are connected to one another, with common visibility into the child’s learning and struggles, in a way that encourages interactions with the child that further support their learning.”⁵⁷ Further PBS “imagines a library of educational informal transmedia that serves as a platform for continuous and obstructive adaptive assessment and instruction in early education.”⁵⁸

In 2015, PBS also undertook a comprehensive literature review and quantitative analysis of its educational offerings. That research revealed that “90 percent or more of the studies within a category showed a significant or positive impact of PBS content on student learning outcomes” and that these results held “true whether students or adults learn at home, in school, or in the community, and whether the learning took place using TV, video, tablet, games, or handheld devices and other interactive technology.”⁵⁹ Indeed, “[a]cross 63 studies about video and television delivery, 99 percent showed statistically significant impact.”⁶⁰ All of the studies

⁵⁵ Jeremy Roberts, Gregory Chung, and Charles Park, “Supporting Children’s Progress Through the PBS KIDS Learning Analytics Platform,” *Journal of Children and Media* 10, no. 2 (March 15, 2016), p. 258.

⁵⁶ *Id.*

⁵⁷ *Id.* at 264.

⁵⁸ *Id.*

⁵⁹ PBS, “PBS: Learn More: The Impact of America’s Largest Classroom on Learning,” *available at: https://bento.cdn.pbs.org/hostedbento-prod/filer_public/PBSLM-EDU/docs/PBS-Learn-More-Report.pdf*

⁶⁰ *Id.* at 13.

“exploring how PBS television and video were combined with web pages and online teacher resources showed positive results.”⁶¹

The vision espoused by PBS is one in which education may start with a television show, but then continues onto other platforms. Equally important, PBS’s vision is one that is research-driven and informed by data. As new devices and platforms gain greater adoption, PBS is clearly providing a path that the FCC could incentivize other broadcasters to follow in fulfilling the mandates of the CTA.

Thus, the Commenters believe that the Commission can and should consider implementing a pilot program that builds on these promising results and helps to further research into how best to leverage the reach of public broadcast television to provide even greater, cost-effective learning outcomes. A pilot program should acknowledge the economic incentives of broadcasters to by enabling broadcasters who develop high-quality cross-platform educational opportunities to receive credit towards their requirements to broadcast E/I content. The pilot program should set ground rules that help to ensure that the online learning extends and enhances the educational experience that is begun on an E/I television show. Among the requirements that the Commenters believe would be appropriate are the following:

1. The cross-platform learning must address the same educational content as the television show;⁶²
2. The cross-platform learning must use the same characters to further the learning begun on the television show;⁶³

⁶¹ *Id.*

⁶² See Shalom M. Fisch, “Introduction to the Special Section: Transmedia in the Service of Education,” *Journal of Children and Media* 10, no. 2 (March 15, 2016), p. 226.

⁶³ *Id.*

3. The television show must “nudge” viewers to the cross-platform learning opportunity at least once at the end of each episode;⁶⁴
4. The applicant to participate in a pilot program must prepare, submit and implement a robust research plan that seeks to measure, *inter alia*, whether viewers who participate in the cross-learning platform have improved educational outcomes; and
5. The applicant must make its full research results available to the Commission and researchers for analysis, subject to applicable privacy requirements.

CONCLUSION

While significant changes in the way in which Americans consume media are underway, broadcast television continues to play a significant role in the viewing habits of American children. Indeed, the major broadcast networks continue to be a predominating force and their ubiquity compels the conclusion that they must continue to provide quality educational and informational programming in compliance with the Congressional mandate clearly established by the CTA. Nevertheless, the Commission can and should consider initiating a pilot program that encourages broadcasters to invest in deepening the learning experience by extending beyond the screen. Such a program should ensure that the Commission and researchers can gain greater insights into the power of cross-platform learning that may inform future rulemakings.

⁶⁴ See Wang H., Singhal A, “*East Los High: Transmedia Edutainment to Promote the Sexual and Reproductive Health of Young Latina/o Americans*”, *American Journal of Public Health* 106, no. 6 (June 2016) p. 1004.

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Respectfully submitted,



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